

# Under Control

Pest Plant and Animal Management News

June 2006

Number 34

## Cash incentive for hunting foxes

Victorian shooters involved in fox hunting on private land will be eligible for a cash prize, Agriculture Minister Bob Cameron announced on 19 April. Mr Cameron said the prize was part of a Bracks Government initiative to promote integrated pest animal control and would further support cooperation between hunters and farmers. The prize was announced at the Avenel property of Colin Tingay and his wife Heather – who are both actively involved in local pest animal management issues.

The Hunter Competition offers a \$2,500 cash prize to a hunter who has been involved in a shooting effort to support community fox management programs. Participants in the competition must be current financial members of either Sporting Shooters Association of Australia (Victoria) (SSAA) or Field and Game Australia (FGA). The shooting effort must have been conducted in Victoria between 19 April 2006 and 29 September 2006.

The State Government has been working closely with FGA and SSAA to develop the concept. “Any financial members of either FGA or SSAA (Victoria) who work with landholders to hunt foxes will be eligible to enter a ballot to win

\$2,500,” Mr Cameron said. “Both organisations are rolling out new accreditation for members who shoot on private land, which is in addition to membership and the rigorous firearm licensing laws. “The State Government will also work with FGA and SSAA (Victoria) in identified areas to link landholders and hunters to achieve integrated fox control that incorporates shooting.”

The competition recognises the role of targeted fox shooting in integrated fox management programs. It is designed to provide an incentive for hunters to be involved in targeted shooting efforts to support community fox management programs. From 1 May 2006, participants will be able to register for the competition through the SSAA and FGA websites. Participants must register on-line by 5pm on Friday, 29 September 2006. The competition winner will then be drawn from the ballot.

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Launch of the Hunter Competition.  
Left to right: Rod Drew (CEO Field and Game Australia Inc.), Bob Cameron (Minister for Agriculture), Ben Hardman (Member for Seymour), Colin Tingay (landholder), Bob Cooper (President, Sporting Shooters' Association of Australia (Victoria) Ltd).



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## Cash incentive for hunting foxes

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Minister Cameron also announced an extension to the 'Community Participation in Fox Management' - Group Competition (announced in March 2006), which offers a \$10,000 prize to the best integrated and coordinated fox control effort. The closing date to enter the group competition has now been extended until 29 September 2006.

"These prizes will reward landholders for planning and undertaking integrated fox management programs and encourage closer relationships between farmers and members of the hunting organisations," he said.

Mr Cameron said the landholder and hunter prizes were also supported by a new 1080 Bait Hotline and six new 1080 bait trailers operated by DPI.

"The 1080 Bait Hotline – 1300 10 1080 – gives landholders a more efficient way to receive advice on the use of 1080 and the available bait products," he said. "DPI also has the added flexibility of using the new trailers to transport larger amounts of bait to groups of landholders undertaking an organised baiting program." The 'Community Participation in Fox Management' program is a key component of the Victorian Government's 'Improving Provincial Victoria's Biosecurity' initiative.

Nomination forms for landholder groups undertaking integrated fox management are available on DPI's website ([www.dpi.vic.gov.au/foxcomp](http://www.dpi.vic.gov.au/foxcomp)). Ballot entry details for members of FGA or SSAA will be available online from 1 May at [www.fga.net.au](http://www.fga.net.au) and [www.ssaavic.com.au](http://www.ssaavic.com.au)

For further information about the hunter or group competitions, visit [www.dpi.vic.gov.au/foxcomp](http://www.dpi.vic.gov.au/foxcomp).

## Fodder industry and private business focus on weed spread

The fodder industry and private business can minimise the risks of spreading weeds with little extra cost, but with significantly increased value to the business, a recent seminar was told. The seminar, held by the Australian Fodder Industry Association (AFIA) at Moama, included two presentations on the impacts of weeds, to an audience of 140 AFIA members and associated businesses.

Mark Farrer, from the Tackling Weeds on Private Land initiative, explained the impacts of weeds on agriculture, the environment and rural communities, as well as the relationship between weed spread and the activities conducted by the fodder industry. The Tackling Weeds on Private Land initiative is being delivered by the DPI on behalf of the Department of Sustainability and Environment. DPI staff is working with the fodder and garden industries to reduce weed spread and protect Victoria's private land and environmental assets from the threat of pest plants.

An example of what can be implemented to reduce the spread of weeds is Powercor's award winning 'Taking

the Lead on Weeds Program' which contains a number of components that can be simply and practically implemented by staff in the field, including:

- a weed risk assessment checklist,
- vehicle wash down protocol,
- weed identification guide and
- a mapping tool.

Greg Payne from Powercor explained how the energy distributor has developed and successfully implemented a business system that minimises the risk of weed spread during 'day to day' operational activities. Enhanced business reputation, marketing as a supplier of clean produce, avoiding costly fines through civil litigation for damages to farming enterprises through spreading weeds and avoiding fines under the Catchment and Land Protection Act 1994 are just some of the benefits that businesses can experience when they undertake weed spread prevention activities.

For further information on the Tackling Weeds on Private Land – Industry Partnership program please contact Mark Farrer, DPI on (03) 5358 1588.

Source: DPI Media Release 28 March 2006.

## National Gorse Taskforce determines containment lines

Finalising the National Priority Action Framework and determining national gorse containment lines were key outcomes of the recent National Gorse Taskforce (NGT) meeting in Ballarat.

The March 2006 NGT meeting was held in collaboration with the Victorian Department of Primary Industries and the Victorian Gorse Taskforce. Gorse is an invasive weed of National Significance and the NGT, established in December 2004 by the Australian Government (with representation from all states and the ACT), supports and coordinates nationally strategic actions including on-ground control works.

To date the NGT has achieved substantial success in progressing the National Gorse Strategic Plan ([www.weeds.org.au/WoNS/gorse](http://www.weeds.org.au/WoNS/gorse)). The NGT has determined national gorse eradication areas (refer web site), engaged and worked with key local, regional, state and national stakeholders and assisted with development of numerous nationally strategic funding proposals.

The 2006 NGT meeting also received presentations on Australian Government funded, Defeating the Weed Menace strategic gorse projects

(National Gorse Best Practice Manual and National gorse seed research and eradication strategies) and from the Victorian Gorse Task Force.

The meeting in Ballarat allowed the NGT to visit projects run by the Victorian Gorse Taskforce. Delegates observed riparian, roadside and agricultural best practice management as well as a gorse grooming machine (see picture). Ian Sauer, Chair of the NGT, said NGT committee members were very impressed with the Victorian partnership projects that had been established, translating to significant control works on areas of weed spread such as roadsides and waterways.

As well as federal and state governments the taskforce has representation from the Australian Conservation Foundation, the Tasmanian Farmers and Graziers Association, the Victorian Gorse Task Force and the community.

The executive officer of the NGT, Sandy Leighton, is the National Gorse Coordinator who is funded by the Australian Government and hosted by the Tasmanian Department of Primary Industries, Water and Environment.

Further information on the National Gorse Task Force is available from Sandy Leighton on 03 6223 3197.



Gorse groomer in action on McCartney's Road, Ballarat.

## Jamie Davies -

### Developing best practice guides for Chilean needle grass & willows

A lack of up-to-date and readily available information can be an obstacle to weed management. Such is the case for Chilean needle grass (CNG, *Nassella neesiana*) and Willows (*Salix* spp.) in Australia, two of the twenty Weeds of National Significance (WONS).

Mr Jamie Davies has recently been employed by the Victorian Department of Primary Industries to produce Best Practice Management Guides for the two WONS. The Guides will contain clear information on:

- The biology and ecology of the weeds, including up-to-date present and potential distribution maps, simple botanical descriptions and visual aids to enable accurate identification, and details on the impacts caused by invasion.

- Options for integrated weed management for various infestation levels and particular land use situations.
- Hygiene measures that will reduce the spread of the weeds.
- Case studies featuring real-life examples of how success has been achieved.

The format and quality of the Guides will be similar to those produced by the Queensland Department of Natural Resources and Mines for other WONS, such as parthenium weed (*Parthenium hysterophorus*) and prickly acacia (*Acacia nilotica* subsp. *indica*). The Guides will also be able to be downloaded from the Weeds Australia website ([www.weeds.org.au](http://www.weeds.org.au)).

DPI Victoria hosts the National Coordinators for Willows, Ms Sarah Holland-Clift, and CNG, Ms Linda



Iaconis. For further information on the project, contact Mr Jamie Davies at DPI, Frankston, phone (03) 9785 0186.

## Update on blue canary-grass – suspected horse killer

David McLaren, DPI Frankston & CRC for Australian Weed Management, Ian Faithfull, DPI Frankston

Since 1987, eleven horse deaths in the Darraweit Guim area near Wallan, north of Melbourne, have been linked to poisoning by blue canary-grass *Phalaris coerulescens*. Horses drop dead suddenly, in some cases within hours of appearing healthy. There is no obvious age, sex or breed association. There may be a short period of hyper-excitability before death but most have died unobserved. In most cases the grass has been the only green feed available or a major component of the pastures in which the horses were grazing before their deaths.

The association between blue canary-grass and horse deaths is however only circumstantial. The precise details of any toxic principle that could kill horses remains unknown and the causal connection between the consumption of suspected alkaloid poisons and deaths has not been established. The autopsies conducted indicate heart failure.

Several species of *Phalaris* have been reported internationally to cause poisoning of sheep and cattle. Toowoomba canary-grass *Phalaris aquatica* and reed canary-grass *P. arundinacea* have caused a motor neurone dysfunction called "staggers", sudden death from a polioencephalomalacia-like condition (brain dysfunction) or death from heart

dysfunction, called cardiac sudden death. The syndromes can have rapid onset and be rapidly reversible or have a delayed onset and be irreversible. Horses have never been affected by staggers from *Phalaris aquatica* and have been reported to graze pasture detrimental to sheep and cattle without harm.

Blue canary-grass originates from the Mediterranean region and Portugal and islands off the north west coast of Morocco – Madeira Island (part of Portugal) and the Canary Islands (an autonomous region of Spain). There it is usually found along rivers and streams or in damp depressions. It was first identified in Australia near Hamilton, Victoria, in 1988 and later at Darraweit Guim, and at Penola in South Australia.

CSIRO investigations have shown that blue-canary grass contains six main alkaloids. Two have been identified in other *Phalaris* species and a third has been found in caltrop *Tribulus terrestris*, another toxic plant and a noxious weed in much of Victoria. The two alkaloids known to occur in other *Phalaris* species are not considered likely to be a cause of sudden death in horses, but the toxicity of the other four alkaloids to horses is not known. Further research is required. Positively linking deaths with blue canary-grass requires

carefully planned feeding trials and cross-seasonal analysis of the grass toxicity. This has not been done to date.

In 2003, horse poisonings similar to those in the Darraweit Guim area were reported in the Moree and Narrabri districts of New South Wales. However, in these cases, the grass responsible appears to be paradoxa grass, *Phalaris paradoxa*. Like blue canary-grass, *P. paradoxa* originates from the Mediterranean region, Canary Islands and Madeira. It is a winter-spring annual grass, naturalised in North America, South America and throughout the Australian mainland, and is a serious weed of cereal crops.

Taxonomically, *P. coerulescens* is more closely related to *P. paradoxa* than to any other *Phalaris* species. Both share the alkaloids phalarine and coerulecine, which are potentially linked to the horse deaths. Physiological differences in gastrointestinal function between ruminants (sheep and cattle) and horses may explain the sensitivity of horses, which have different metabolic pathways for detoxifying plant alkaloids.

*Phalaris* staggers in sheep and cattle results from insufficient cobalt in feed and thus in the rumen, which slows the breakdown of the toxic alkaloids. It can be prevented by

Characteristics of *Phalaris* species naturalised in Victoria.

<i>Phalaris</i> spp.	Common Name	Roots/Stem base	Spikelets	Sap of young stems	Annual/Perennial	Panicle (flower head) - length	Other
<i>P. coerulescens</i>	Blue canary-grass	Spherical bulbous basal internodes	In groups of 5-7, some male or sterile	Clear or green	P	Ovoid-cylindric, 3-12 cm	Stem base with red veins. Blue-green leaves
<i>P. aquatica</i>	Toowoomba canary-grass	Elongated tuberous rhizomes	All bisexual	Red	P	Cylindric, 5-15 cm	Glumes not serrated. Widely cultivated
<i>P. paradoxa</i>	Paradoxa grass	Fibrous roots	In groups of 5-7, some male or bisexual		A	Cylindric, 3-10 cm	Glumes elongated toothed. Leaf sheath swollen around developing panicle
<i>P. arundinacea</i>	Reed canary-grass	Long rhizomes	All bisexual		P	Spreading branches at maturity	Mostly grows in water or wet areas
<i>P. canariensis</i>	Canary grass	Fibrous	All bisexual		A	Ovoid 1.5-5 cm	Glumes widest in upper third. Grown for bird seed
<i>P. minor</i>	Lesser canary-grass	Fibrous	All bisexual		A	Cylindric, 2-6 cm	Glumes serrated
<i>P. lemmonii</i>	Lemmon's canary-grass	Fibrous	All bisexual		A	Cylindric-slightly lobed, 4-12 cm	Glumes unwinged

dosing each animal orally every three years with two cobalt 'bullets'. Polioencephalomalacia-like sudden death in sheep can be reduced by not grazing new phalaris growth during periods of moisture stress and by managing other known risk factors, e.g. the increased susceptibility of hungry sheep.

People grazing horses should identify the *Phalaris* species growing in pastures they intend to use for grazing and avoid those containing blue canary grass and paradoxa grass. If horses die suddenly in a particular paddock containing species of *Phalaris*, it is advisable to arrange for a post mortem to confirm the cause of death, and that paddock should not be grazed with horses again until the cause of death has been determined.

### References

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Blue canary-grass has red veins on the stem (arrowed) just above the tuberos basal internodes (Photo: Rex Oram, CSIRO).

## Identification of blue canary-grass

Blue canary-grass is a short lived perennial, surviving 3 to 4 years. The leaves are dark green/bluish green in colour and generally stand upright. It grows up to 150 cm tall, reproduces by seed and looks very similar to the common pasture grass *Phalaris aquatica*, Toowoomba canary-grass and similar in some respects to paradoxa grass, *P. paradoxa*.

Both *P. coerulescens* and *P. paradoxa* have spikelets in groups of 5-7 with one spikelet bisexual and the rest male or sterile, the group of spikelets falling together when mature. In *P. aquatica* and the other *Phalaris* species naturalised in Victoria all the spikelets are bisexual, except some near the base of the inflorescence, and persist on the flowering stem. *P. paradoxa* is an annual with hairy flower stems whereas *P. coerulescens* is perennial with hairless flower stems.

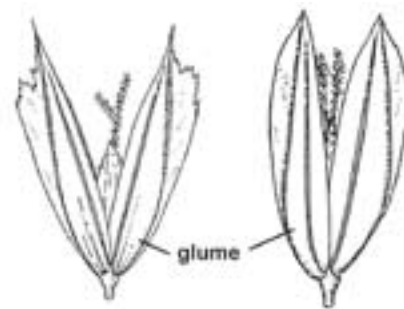
*P. coerulescens* possesses several distinctive characters:

1. spherical, bulbous basal internodes on the stem, generally located above ground;
2. the basal 1 cm of stem joining the tuberos internodes has red veins;
3. young stems when squeezed produce clear or green sap.

In contrast, *P. aquatica* has elongated tubers that occur below ground and young stems that produce a red sap when squeezed, while *P. paradoxa* stems are not tuberous.

*P. coerulescens* has a cylindrical flower head (panicle) 3-11 cm long and 1-2 cm wide. The spikelets are green with blue or purple coloured tips. In contrast, *P. aquatica* flowers are all green, or with a reddish tip.

The flower-head is composed of numerous spikelets, each enclosed by two glumes. The wings on the upper outer sides of the glumes of *P. coerulescens* have distinctive serrated edges, whereas those of *P. aquatica* have smooth, rounded edges. *P. coerulescens* seeds are 2-4 mm long and 0.7-1.4 mm wide. They are hairless (glabrous) and shiny in appearance. Seeds of *P. aquatica* are of similar dimensions but hairy (hirsute) and lustreless while those of *P. paradoxa* are virtually glabrous.



Flowers (spikelets) of blue canary-grass (left) and Toowoomba canary-grass (Drawings: Riccardo Baldini).



Seeds of blue canary-grass (left) and Toowoomba canary-grass.



Toowoomba canary-grass (a) has elongated tuberos rhizomes that are located underground, while blue canary-grass (b) has spherical tuberos basal stem internodes above the ground.



Inflorescence of blue-canary-grass.

## Good baiting practices assist rabbit control

Jason Riethmuller, DPI Horsham

DPI is urging landholders not to take short cuts on rabbit and fox baiting programs. DPI staff have noticed through their contact with landholders that some are not following correct baiting practices when conducting rabbit control programs. This could seriously compromise the effectiveness of the program.

'Directions for Use' are put in place to ensure the best results are achieved from a baiting program, in a manner that is safe for users, neighbours and the environment. It is very important that if you are going to bait, you do it well.

Rabbits are a threat to 84 different species of flora and fauna nationally, including 13 mammals and 54 plant species. Poor baiting practices can be a further threat to some native animals. If free feed and bait are not laid according to directions, it could result in rabbits not being exposed to the bait, while increasing exposure of native animals to poisonous bait. Free feeding (with non-poisonous bait) allows landholders to monitor for signs of native animals so they can avoid laying poisoned bait in these areas. Free feeding also allows the landholder to estimate the correct amount of bait to lay for the rabbits on their property, while getting the rabbits used to going to the feed-trail to eat.

Now is the best time to undertake rabbit reduction programs, which are vital for economic and environmental sustainability. Rabbits currently cost Australian landholders an estimated \$200 million a year in agricultural losses, and are estimated to cost Victoria's agriculture industry over \$24 million every year.

Baiting alone should not be considered by landholders to be a way of solving their rabbit problems. Continual warren destruction and harbour management, complemented by baiting and fumigation, are the most effective techniques for achieving long term control.

If landholders begin to rely solely on baiting for their rabbit control, without taking an integrated approach, rabbits will be the big winners in the long run.



### DPI's new 1080 hotline service

The 1080 hotline service will provide landholders with a more effective and efficient service to find out about the use of 1080, available bait products and to make an appointment for the purchase of baits from any one of 58 currently serviced DPI locations around the State. To access the service dial 1300 10 1080 any time between 8.00 am and 8.00 pm Monday to Friday. Bait will be available at each location at a designated time each week. By ringing the 1080 hotline you can locate your nearest location, identify the bait issuing time and make an appointment to be issued bait.

### Change from carrots to oat bait for rabbits

DPI will no longer be issuing 1080 carrot bait to landholders. There are a number of reasons why DPI is making the switch to oat bait. These include:

- There is no recorded difference in the success of carrot and oat bait in reducing rabbit populations when they are used according to directions and no evidence to suggest that oat bait is less successful than carrot bait for the poisoning of rabbits. A major factor is correct bait placement so that all rabbits are exposed to the bait.
- Oats are easier to store, transport, handle and far more convenient to use than carrot bait.
- Oats are highly palatable to rabbits and less palatable to some off target native species such as possums and macropods.
- Oats are a more consistent quality bait product, which more easily conforms to the required standards.
- Requirements to streamline the bait supply program and supply a commercially manufactured bait product available to purchase during a fixed

period of time, rather than to mix bait on demand.

### Changes required to use oat bait

Very little will change with the switch to oat bait. The main difference is that oat bait is laid at one third of the density of carrot bait. The openings on bait layers need to be closed down compared to carrot bait. The table below gives an estimate of the comparative length of trail and amount of bait required at different rabbit densities. This table is a guide. However, the most accurate method of assessing the amount of bait that should be laid is still proper monitoring of free feed trails prior to poisoned oats being laid. Three free feeds are recommended. You can use your own oats for this. If there are concerns about potential off target uptake, free feed oats may need to be treated with dye prior to laying. All free feeds need to be monitored. Special attention needs to be paid to the quantities of free feed required and areas where bait is planned to be placed, to check if these are appropriate. To help obtain maximum bait uptake, adjustments to quantities of free feed and the amount and location of trail may be required as a result of the observations you have made.

Experience suggests free feeds should be 3-5 days apart to get rabbits used to feeding on the bait.

The Landcare Note on laying 1080 oat bait is available at [www.dpi.vic.gov.au](http://www.dpi.vic.gov.au) or alternatively contact your local DPI Pest Management Officer for further direction or information.

Estimated quantities of bait required (kg per kilometre of trail) for 1080 oat control programs.

No. rabbits per spotlight km	Trail Length km /100ha.	Kg Bait/ per km (oat)
40-50	25	9
30-40	15-20	5-8
10-30	10-15	4-5
<10	10	3

Check trails daily and adjust bait quantity laid according to take. All rabbits must be able to get the free feeds and poison feed.

### Cost and supply of 1080 oat bait

1080 oat bait costs \$10 per 10 kg container for group control programs and \$22 per 10 kg for individual programs. These costs are currently subsidised by the Victorian Government. The intention of providing a discounted price for group control programs is to encourage landholders to work together in a coordinated manner. With this in mind, a group discount will only be provided where 7 or more adjoining landholders are participating in a coordinated baiting program.

1080 oat bait will not be issued in bulk and must not be stored for consecutive baiting campaigns. The same restrictions on carrot bait apply to oat bait – the bait must be used in the period specified on the application form. After this period, all remaining bait must be disposed of as per the directions on the label. DPI officers will be able to advise you on the amount of oat bait required in your situation. If you have not baited before, a property inspection may be required before you will be issued with bait.

### Possible off-target damage to native fauna

Evidence from South Australia and Western Australia, where oat bait continues to be used for rabbit baiting, suggest that the risk of off target impact is low if the product is used according to directions. DPI takes the following steps to minimise the risk of off-target impacts:

- Oat bait is mixed at a concentration of 0.04%, a dose that is fatal to rabbits but provides sub-lethal doses (which have no long term effect) to many native animals, which generally have higher 1080 tolerances.
- DPI staff must ensure that landholders have a genuine need for the use of bait.
- 'Directions for Use' state that landholders must use at least two free feeds before poisoned bait is laid. This is to ensure that the appropriate amount of bait is laid for the poison feed, reducing the risk of excess bait being left over.
- Landholders must monitor the area prior to poison baiting to ascertain rabbit numbers and rabbit feeding areas and identify non-target species that may be at risk. Monitoring of the free feed trails for tracks and signs of potential at-risk species is strongly recommended.
- All oat bait is dyed blue/ green

in colour. Research indicates that non-target species do not identify green/blue coloured articles as food. Avoidance of blue/ green coloured food by birds is particularly common.

- Landholders are advised to lay bait in rabbit feeding areas late in the afternoon and evening, which reduces the chance of granivorous birds locating and consuming the bait.
- Landholders are advised to dispose of any remaining bait and rabbit carcasses the morning after baiting to limit exposure to non-target species.
- If landholders observe non-target species in the vicinity of the planned baiting area that they feel could be at risk, DPI recommends that alternative control techniques such as ripping and fumigation be used.

Oat bait is more palatable to granivorous birds than carrot bait, but the risk of poisoning is low if product 'Directions for Use' and DPI advice is followed. Most granivorous birds eat only the kernel of oat grain and leave the husk behind, and as 1080 poison remains on the husk, the risk to this group of birds is significantly reduced. Different species have differing tolerances to 1080. In general native animal species are considered to have a higher tolerance to 1080 than rabbits.

Some members of the community in areas of the state where populations of Mallee fowl and bustards occur have expressed concern that the switch to oat baiting may potentially threaten these species. Evidence suggests that the poisoning of either of these species as a result of 1080 baiting is unlikely. All baits laid for rabbits should be laid just before sunset

and if the correct amount of bait has been laid, little bait should remain the morning after. As bustards and Mallee fowl feed during the day, the potential exposure period for these species is low. Rabbit baiting is unlikely to be occurring in Mallee fowl habitat. Mallee fowl occupy wooded areas with abundant litter and low shrubs. They are occasionally known to wander out onto open areas to feed and are known to feed on grain. If baiting programs in susceptible areas are undertaken well away from likely Mallee fowl habitat, the chances of the species finding the trail are very low. A Mallee fowl would need to consume every grain in 100 metres of a poisoned oat trail to be affected by 1080 poisoning, a total of 0.4 kg of bait. It is unlikely that this species would eat that much in one feeding event. All of these factors combine to mean that the threat to Mallee fowl and bustard populations from oat baiting is very low.

For more information on an integrated rabbit management program contact your local DPI Pest Management Officer or to make an appointment for bait supply contact the 1080 hotline on 1300 10 1080.



Preparation of carrot bait in the 1950s. Carrots are bulky, tedious to prepare and more difficult to store than oat bait.



The opening on bait-laying machines needs to be closed down when changing from carrot bait to oat bait.

# Implementation of the VPMF Public Land Pest Management Strategy

Michael Rosier, Pest Management Branch, DSE

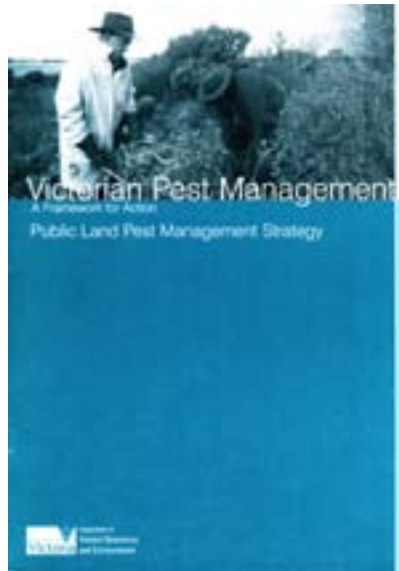
Approximately one third of Victoria is Crown land. This public land is managed for a variety of uses, including parks and reserves (49%), forests (45%) and community, conservation or operational uses (6%). The Victorian State Government, statutory authorities and municipalities also manage freehold land to which they have title, which is also considered public land.

Pest management is a major component of the management of public land – it contributes to ecologically sustainable development, enhanced biodiversity, improved natural resource management and effective community involvement in decision making. Public land pest management is also an integral part of the sustainable and integrated management approach to Victoria's catchments that includes both public and private land.

The community expects that Government and those delegated with responsibility to effectively manage public land minimise the impact of pests on biodiversity and other public land values, and the agricultural values on adjoining private land. The VPMF Public Land Pest Management Strategy has been included among the range of management strategies that support the overarching VPMF policy framework to provide a strategic and integrated approach to pest management on public land across Victoria. Its aims are:

- Minimise the impact of pests on public land management values, including biodiversity, forestry and recreation and community use.
- Minimise the impact of pests that have originated on public land and spread to adjacent private land.

Agencies involved in pest management on public land include Department of Sustainability and Environment (DSE) – Resources and Regional Services Division, Biodiversity and Natural Resources Division, Conservation and Recreation Division, Parks and Forests Division, Parks Victoria (PV), Victorian Catchment Management Council, Catchment Management Authorities, local governments,



Waterway managers and VicRoads.

A wide range of programs, projects and initiatives are currently being implemented throughout Victoria to improve pest management on public land – some of which are highlighted below.

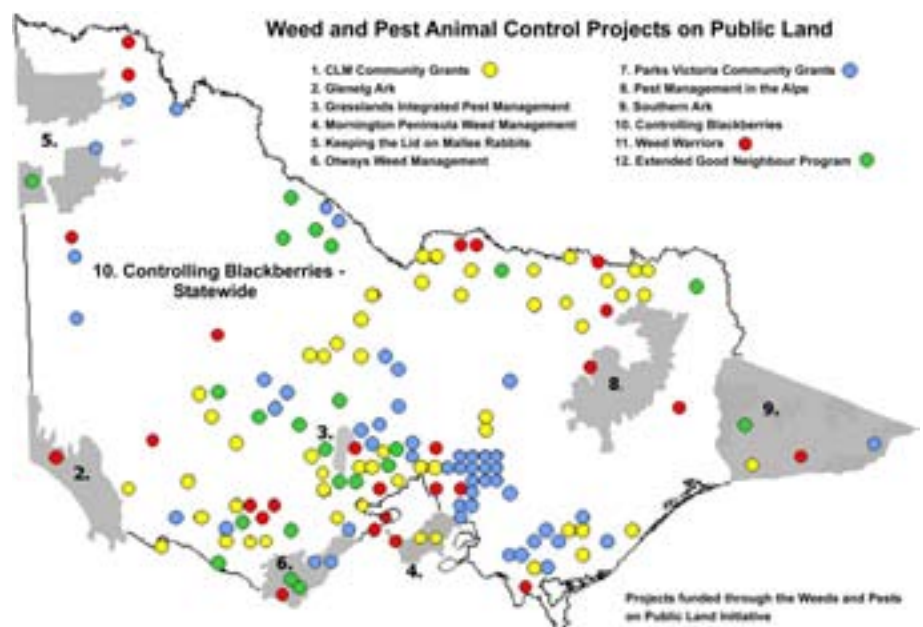
## Natural Values Management Program

Victoria's extensive system of National Parks and reserves represents around 17%, or 3.9 million hectares, of the State. They contain a significant proportion of Victoria's biodiversity values and are one of our most precious assets – enjoyed by

millions of visitors every year.

Victoria's parks system comprises two complementary estates: protected areas parks and open space parks. Protected area parks include National, State, wilderness, coastal and marine National Parks and marine sanctuaries and conservation reserves – which together protect the natural environment and biodiversity for the benefit of current and future generations. Open space parks include regional and metropolitan parks – which primarily provide for the health and well-being of the community in provincial and urban environments.

The natural values of Victoria's parks are derived from native plants and animals, soils, water, waterways and other physical features. The most significant risks to natural values are from introduced weeds and pest animals that have invaded significant areas of the National Parks system and threaten to invade even further. Most National Parks have serious weed and pest animal problems that reduce native biodiversity, detract from recreation and tourism and impact on surrounding agricultural land. Up to 20% of the parks system has been identified as being at high risk in the short term (ie. 3 to 10 years) from rabbits, foxes, weeds and catchment issues. Without greater effort, these problems will



only increase, leading to a further reduction in biodiversity and higher management costs in the future.

The Natural Values Management (NVM) Program is a \$19 million, four-year initiative that includes provision for the development of new and expansion of existing weed and pest management projects to ensure the biodiversity values of parks and reserves are maintained and enhanced. NVM Program projects will be part of an integrated approach to land stewardship across lands managed by different public agencies (as currently demonstrated through the Weeds and Pests on Public Land Initiative) and aim to contribute to the following outcomes:

1. Increased protection of identified key priority assets from the threat of weeds and pest animals.
2. An integrated approach to the protection of assets on public land managed by different public agencies.
3. A boost in recreational and tourism opportunities.
4. The building of good relationships between public land managers and neighbouring property owners and local communities across Victoria.

### Weeds and Pests on Public Land Initiative

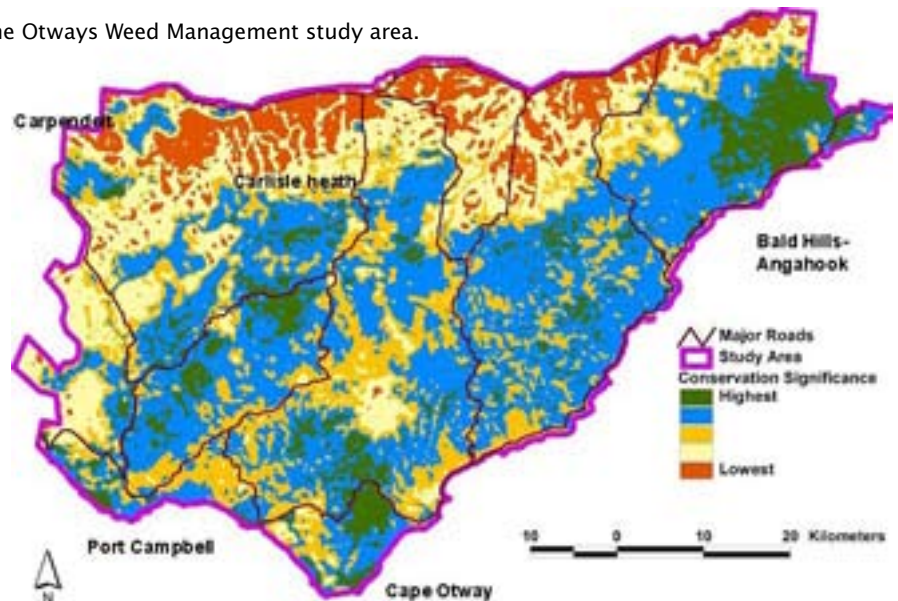
The Weeds and Pests on Public Land Initiative is a \$14 million, 4-year Victorian Government initiative to begin major weed and pest animal control programs in National parks, State Forest and other public land. It represents one of Victoria's largest ever public land pest management initiatives, and comprises three main areas: on-ground control projects, strategic approaches to pest management and the Good Neighbour Program. The Initiative represents an important innovation and promotes a tenure-blind approach to weed and pest management.

The Initiative is governed by a state-wide steering committee comprising representatives from DSE, PV and DPI. The steering committee is chaired by the DSE's Director, Pest Management and meets regularly to discuss the strategic, funding and co-ordination issues.

The objectives of the Initiative are to:

- Protect large areas of high value natural assets through preventing and reducing the impact of weeds and pests.
- Improve public land stewardship through a collaborative partnership

The Otways Weed Management study area.



approach at the landscape level.

- Minimise the movement of weeds and pests across the interface of public and private land.
- Engage the community in the management of public land.

There are eleven on-ground control projects:

- Otways Weed Management
- Southern Ark
- Glenelg Ark
- Weed Warriors
- Mornington Peninsula Weed Management
- Pest Management in the Alps
- Controlling Blackberry in Partnership with the Community
- Grassland Integrated Pest Management
- Keeping a Lid on Mallee Rabbits
- Parks Victoria Community Grants
- Crown Land Management Community Grants

Each project funded by the Initiative is committed to developing effective working partnerships between public land managers and strong linkages with other key stakeholders through the formation of regional working groups. The regional working groups oversee each key project and provide an important forum for local stakeholders to discuss and engage in shared pest management issues.

### Otways Weed Management

To assist public land managers and others consider how the threat of weeds affects the values they aim to protect, a new decision-support framework is being developed. The Angahook-Otway region of Victoria was selected for a case study to pilot and evaluate the framework. The case study aims to improve coordination

and consistency of weed management by developing an innovative approach to the management and monitoring of weeds on public land.

The region is the focus of a major on-ground, multiple tenure weed project involving collaboration between many public land managers and has recently undergone land use evaluation by the Victorian Environmental Assessment Council (VEAC). The case study encompasses the VEAC study area that includes 19,000 hectares of public land. This area presents opportunities for a number of major stakeholders to work together to develop a cross-tenure approach to a large management unit.

An Environmental Weed Working Group has been formed and has developed interim guidelines and procedures for the management of environmental weeds on public land in Victoria. These guidelines will form the basis for the development of a decision-support framework for public land managers, which will include a monitoring and evaluation component.

An assessment process that identifies

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Heath mouse *Pseudomys shortridgei* a nationally threatened species gaining protection from foxes as part of the Glenelg Ark project (Photo: Andrew Dennis).

## VPMF Public Land Pest Management Strategy

Continued from page 9

the areas of highest biodiversity value and the weeds that impact on them has been undertaken for the Greater Otways National Park. Community surveys and rapid weed surveys have been undertaken to identify weed species present and of highest risk to biodiversity assets. Environmental weed management guidelines have identified eradicable infestations of weeds new to the area as highest priority, and 81 locations within and outside the Park where highly invasive weeds that are new and emerging in the region occur. Parks Victoria, DSE and DPI are working on a coordinated control program throughout the Otways to eradicate these weeds from at least 37 of the identified sites before the end of the financial year, with complementary works being undertaken by Surf Coast Shire.

The planning process has involved representatives of local shires, CMAs, DPI and Forests, and has sought input from the local community. Ways of encouraging private landholders to control highly invasive garden species at park boundaries, incorporating involvement of local community groups, are currently being investigated. Community involvement in weed management has also been sought through Conservation Volunteers Australia, who have promoted the partnership program to solicit involvement at local scale, as well as from Melbourne and from international participants. Further work is occurring to encourage neighbouring land managers to participate in joint efforts to treat the eradicable infestations, including building partnerships with local shires and community groups. Sites where works are being undertaken include heathland and heathy woodlands of the Anglesea-Lorne area of the Park, and lowland forest areas in the Park hinterland.

A further 310 sites have been identified where weeds are impacting on the natural and social values of the area but where the weed species are too widespread to be eradicated. Works to manage these species at these sites will be prioritised and programmed for the next three years. Priority areas include the Bald Hills, Carpendeit, Carlisle Heath and Otway Ranges.



A Weed Warriors projects: students from Wooragee Primary School at a Paterson's curse crown weevil collection day.

### Southern Ark

Southern Ark began in 2003 following a successful trial program called Project Deliverance. Southern Ark aims to improve the stewardship of public land and recover and restore the native wildlife of East Gippsland by creating extensive tracts of habitat (1 million hectares) in which populations of introduced red foxes are substantially reduced. It involves PV, DSE, community, recreation and special interest groups and private landholders.

The objectives are to:

- Assist in the recovery of native wildlife including mammals, birds and reptiles.
- Improve ecological processes in ecosystems such as pollination, seed dispersal and dispersal of beneficial fungal species.
- Assist farmers through a reduction in fox predation on lambs and other livestock on private land.
- Reduce the spread of weeds and diseases carried by foxes.

A detailed monitoring and evaluation program has been set up to determine the outcomes of Southern Ark and it will be a number of years before clear results are available. Project Deliverance, on which Southern Ark is based, has, however, already achieved the following outcomes:

- an effective reduction in fox numbers in the area;
- a dramatic increase in long-nosed potoroo numbers;
- a demonstration of the effectiveness of large-scale, continuous baiting to control fox numbers.

### Glenelg Ark

Following in the footsteps of Southern Ark, Glenelg Ark aims to implement broad-scale fox control in



Southern Ark signs in baiting areas are a reminder that poison baits have been laid.

a coordinated and consistent manner across public land in South West Victoria to protect biodiversity values and prevent the spread of foxes to adjoining private land. The program involves primarily PV and DSE. The objectives are the same as for Southern Ark.

### Weed Warriors

Weed Warriors is a highly successful and effective engagement model designed to develop partnerships between government and community and to build the capacity of local communities to address their own weed problems. The program recognises children as the land and water managers of the future and empowers land managers with the skills to help students rear and release biological control agents on local priority weeds. It involves DSE, Parks Victoria, DPI, CMAs, community groups, school groups, parents, local landholders, local government and the CRC for Australian Weed Management.

### Mornington Peninsula Weed Management

This project seeks to engage public and private land managers in the protection of key assets across the Mornington Peninsula landscape through the implementation of collaborative weed control projects. The project will connect land managers through a common approach to weed control and help raise community awareness of the Government's approach to weed management. It involves DSE, PV, local government, community groups and private landholders.

### Pest Management in the Alps

The focus for this project is the protection of key flora and fauna biodiversity assets in the Alpine National Park through effective pest management including fox and English broom control on parks and forest estate. Key species protected from fox predation will include the mountain pygmy possum and long-footed potoroo. The project involves DSE, PV, DPI, the North East CMA, community groups, adjoining landholders, Goulburn-Murray Water and Australian Gold Mines.

### Controlling Blackberry in Partnership with the Community

Blackberry poses one of the most significant threats to the environmental, economic and social values of public and adjoining private land. This project aims to address community concern and increase public land managers' capacity to control blackberry in the long-term by engaging the community in a biological control program which involves releasing eight new strains of blackberry rust fungus. It involves DSE, PV, DPI, private landholders and community groups.

### Grassland Integrated Pest Management

Western Basalt Plains Grassland has been identified as a threatened ecosystem and great community concerns exist for its protection and restoration. This project undertakes weed and pest animal control with the aim of protecting this ecosystem and reducing the spread of weeds and pest animals from public land to adjacent private land. It involves DSE, PV and private landholders. Areas involved include Organ Pipes National Park and adjacent land, Woodlands Historic Park, Craigieburn, Derrimut, Angliss, Gilbertsons, Holden, Mt Ridley, Laverton and Banchory Grasslands and adjacent lands.

### Keeping a Lid on Mallee Rabbits

This project delivers integrated rabbit control to bolster previous rabbit management investment in the Mallee region. It focuses on engaging adjacent landholders and other key stakeholders to ensure a constant and collaborative approach to the control of rabbits across the Mallee landscape and to protect vegetation communities assessed as being at high risk from rabbits. It also links strongly with a Trust for Nature rabbit control project in the area and involves DSE, PV, DPI, the Mallee CMA, community, special interest groups and Trust for Nature.

### Parks Victoria Community Grants

The Parks Victoria Community Grants Scheme provides small grants for individuals and volunteer groups to participate in the management of weeds to protect biodiversity assets on the Parks estate. It involves the community and special interest groups.

### Crown Land Management Community Grants

The Crown Land Community Grants Program aims to empower and engage Committees of Management and other community groups to undertake on-ground weed control on Crown Land Reserves and Crown Land Parcels to protect areas of high conservation value. It involves DSE, community groups and Committees of Management.

### The Good Neighbour Program

Where weeds or pest animals on public land managed by DSE impact on adjacent private land, pest management is the responsibility of the relevant public land manager and met through the Good Neighbour Program (GNP). The GNP is an essential element in the Victorian Government's approach to pest management on public land - providing a mechanism for a coordinated and prioritised approach to treating pest problems at the interface of public and private land, in accordance with Regional Catchment Strategies and Regional Pest Action Plans.

The objectives of the GNP are to:

- Make real gains in the control of priority pests in defined project areas of public land frontages.
- Enhance agricultural productivity by implementing pest control projects on adjoining public land.
- Ensure that pest control on public land takes account of community priorities and actions.
- Support community-based projects occurring on adjacent private land.
- Promote the Government as a 'Good Neighbour' when it comes to pest control on public land.
- Integrate the management of pests with other natural resource management objectives.

Achievements include:

- Annual implementation of GNP projects, including cooperative roadside projects.
- Development of a cost:benefit tool for assessing long-term net economic benefits of controlling noxious weeds at the interface of public and private land.
- Completion of a case study to analyse the effectiveness of the cost:benefit tool.
- Implementation of a project at Forest Creek to remove noxious weeds over 30 hectares via excavation, slashing, spraying and re-es-



The Crown Land Management Community Grants program has enabled numerous weed control projects. Mechanical removal of gorse is the first stage in a management plan.

## VPMF Public Land Pest Management Strategy

Continued from page 11

establishing native trees and shrubs, involving the Golden Point Landcare Group, DSE and PV.

- Implementation of a project in North East Victoria to remove blackberry from 14,000 hectares, involving over 100 landholders, Murrindindi Shire, Goulburn-Murray Water, DSE, DPI and PV.

### Adaptive Experimental Management of Foxes

This project is trialing different fox management techniques to determine the best way to manage foxes for biodiversity protection in Victoria's parks and reserves. The objectives are to:

- Assess the effects of different combinations of baiting intensity and timing on the density of foxes and on the responses of selected prey species.
- Assess the costs of each strategy and ultimately compare the costs and benefits of the different strategies.
- Assess the effectiveness of the Adaptive Experimental Management (AEM) approach for pest management at a landscape -scale.

Achievements of the project include:

- Improved understanding of the relative effectiveness of seasonal/periodic vs on-going baiting programs.
- Demonstration of the applicability of the AEM approach to pest management at a landscape scale.
- Improved communication between staff involved in fox control at different locations.
- Increased awareness of the resources required to deliver integrated landscape scale fox control and monitoring.
- New species recorded for some parks including southern brown bandicoot, long nosed potoroo and long-footed potoroo at Coopracambra National Park and the little pygmy possum at Little Desert National Park.

### Prioritising Parks Victoria's Fox Control Program to Reduce Risk to Native Fauna

This project involves an analysis of the relative risk of fox predation on native fauna at parks and reserves across the state in order to prioritise resource allocation and fox management activity for biodiversity protection. The objectives are to:



Project work has identified parks that have native fauna highly vulnerable to fox predation but no previous fox control (Photo: Tim E. Bloomfield).

- Determine the relative vulnerability of fauna species to fox predation.
- Determine the distribution of these species within the parks and reserves network.
- Determine a scale of priority for fox control based on the presence of highly vulnerable fauna species.
- Determine the overlap and gaps between locations with a high priority for fox control and where fox control is currently undertaken.
- Reprioritise and implement fox control programs at locations of high priority.

The project has identified a number of parks where fox control has not been previously undertaken and where a number of highly vulnerable fauna species are at high risk of predation. Control programs have subsequently been implemented at these locations.

### Prioritising Parks Victoria's Rabbit control Program to Reduce Risk to Environmental Values

This project involves an analysis of the relative risk of rabbit disturbance on susceptible vegetation communities at parks and reserves across the state in order to prioritise resource allocation and rabbit management activity for biodiversity benefit. The objectives are to:

- Determine the relative susceptibility of vegetation types to rabbit disturbance.
- Determine the distribution of these vegetation types within the parks and reserves network.
- Determine a scale of priority for rabbit control in parks and reserves based on the occurrence and extent of susceptible vegetation.
- Establish the overlap and gaps between locations with a high prior-

ity for rabbit control and where rabbit control is currently undertaken.

- Re-prioritise and implement rabbit control programs at locations of high priority.

The project has identified a number of parks where rabbit control has not been undertaken and where there are a number of susceptible vegetation types are at high risk of disturbance. Control programs have been implemented at these locations.

### Adaptive Experimental Management of Broom in the Alps

To improve the efficiency and effectiveness of its weed management programs, Parks Victoria is investigating the costs and benefits of different strategies for the control of English broom in the Alpine National Park, using an AEM approach. The program commenced in autumn 2004 and will run until 2007.

The objectives are to:

- Trial different techniques for broom control, after fire, using experimental methodology.
- Determine the effectiveness of each technique by comparing broom cover and composition of native vegetation in untreated control areas and in spray trial areas.
- Evaluate the costs of the different control techniques and determine the most cost-effective technique for the treatment of broom in the Alps.
- Share the results of the study with the community to assist local land managers with broom control on their land.

Achievements of the project include:

- Establishing relationships between private land holders and Parks Victoria through workshops and field days designed to enable landholders to have input into the proposed strategy.
- Increasing the knowledge of regional staff in monitoring and experimental procedures.
- Implementing a scientifically robust method of assessing pest plant management that can be combined with on ground works programs.
- Improving the knowledge of the total costs of completing broom control in the sub-alpine environment.

## Agricultural chemical regulation

Ben Roddy, Project Officer, Chemical Standards Branch, DPI

*Pesticide use is not a black and white issue – nor are the lines of responsibility between the various government agencies that govern pesticide use in Victoria. This article provides a brief overview of the four main government agencies that regulate pesticide use and their areas of responsibility.*

The transport, storage, handling, use and disposal of agricultural chemicals pose risks to human health and the environment. A robust regulatory regime has been developed to ensure that the risks to human health associated with the transport, storage, handling and disposal of pesticides are minimised. Understanding which agency has responsibility for the various aspects of pesticide use can be confusing.

### Pesticide Use

The **Department of Primary Industries (DPI)** is responsible for identifying and managing risks to food safety, trade, public health, the environment and animal welfare, in relation to the use of agricultural and veterinary chemicals in Victoria. DPI's Chemical Standards Branch administers the *Agricultural and Veterinary Chemicals (Control of Use) Act 1992* and the *Agricultural and Veterinary Chemicals (Control of Use) Regulations 1996* and conducts audit surveys and investigations to monitor compliance with the legislation.

The **Department of Human Services (DHS)** licenses Pest Control Operators under the *Health Act 1958* and the *Health (Pest Control) Regulations 2002*. Licensing of the pest control industry is designed

to protect Pest Control Operators, consumers, members of the public and the environment from the harmful effects of the pesticides used by the industry.

The DHS aims to minimise the harm that can arise from the misuse or abuse of medicines and other chemicals, including agricultural chemicals. DHS administers the Poisons Code under the *Drugs, Poisons and Controlled Substances Act 1981* and the *Poisons and Controlled Substances Regulations 1995*. DHS controls poisons and controlled substances, such as agricultural chemical products that are schedule 7 poisons, by issuing permits which limit the manufacture, distribution and use of drugs and poisons to those people who are properly trained and equipped. DHS makes sure that the labelling and packaging of drugs and poisons meets standards intended to protect the public from harm.

DHS has an Environmental Health Unit which is concerned with human health issues, including health issues as a result of chemical spray drift, contamination of drinking water and general concerns about air, land or water pollution, as well as radiation and other poisonous substances.

The **Victorian WorkCover Authority** administers a range of legislation. The *Occupational Health and Safety Act 2004* and the *Occupational Health and Safety (Hazardous Substances) Regulations 1999* are aimed at protecting people's health, while the *Dangerous Goods (Storage and Handling) Regulations 1989* are aimed

at preventing fires, explosions and corrosion.

The key pieces of legislation administered by the **Environment Protection Authority (EPA)** include the *Environment Protection Act 1970*, the *Pollution of Water by Oils and Noxious Substances Act 1986* and the *National Environment Protection Council (Victoria) Act 1995*. The EPA is responsible for control of pollution on land, in water and air, and industrial noise.

### Important Contact Details

The table below provides the contact details of the Victorian State Government Departments and Authorities that oversee pesticide control and a brief summary of their areas of responsibility.

### Agricultural Chemicals Use Training

Short courses in general and topic-specific farm chemical use provide a basic level of training for people who use, or have some association with, pesticides. Agricultural chemical use courses include topics such as reading labels, preparing and applying chemicals and chemical transport, storage, handling and legislation, and are provided by TAFE colleges, Agsafe, AgTrain, Chemcert, private providers and industry organisations.

Completion of an appropriate training course is a pre-requisite for obtaining certain permits and licences, such as an Agricultural Chemical Users Permit (ACUP) issued by DPI, and is a requirement of some quality assurance programs.

Department or Authority	Area of authority in relation to pesticides	Web address	Phone
Victorian Workcover Authority	Workplace safety Hazardous substances and dangerous goods in the workplace (including storage)	<a href="http://www.workcover.vic.gov.au">www.workcover.vic.gov.au</a>	1800 136 089
Department of Human Services	Pesticide related health issues	<a href="http://www.betterhealth.vic.gov.au">www.betterhealth.vic.gov.au</a>	1300 887 090
	Pest control program	<a href="http://www.betterhealth.vic.gov.au/pestcontrol">www.betterhealth.vic.gov.au/pestcontrol</a>	
	Drugs and Poisons (not emergencies)	<a href="http://www.health.vic.gov.au">www.health.vic.gov.au</a>	1300 364 545
EPA Victoria	Environment and pollution	<a href="http://www.epa.vic.gov.au">www.epa.vic.gov.au</a>	(03) 9695 2722
Department of Primary Industries	Agriculture, horticulture and weed control Pesticide use legislation Pesticide application issues	<a href="http://www.dpi.vic.gov.au/chemicalstandards">www.dpi.vic.gov.au/chemicalstandards</a>	136 186

## Invasive species as threatening processes under the Flora and Fauna Guarantee Act – Blackberry listed

Invasion of native vegetation by Blackberry *Rubus fruticosus* has recently been listed as a Potentially Threatening Process under Victoria's *Flora and Fauna Guarantee Act 1988* (FFG Act) (*Victorian Government Gazette* 30 March 2006 p.641).

The Act provides for the establishment and maintenance of three lists:

- The Excluded List, containing native flora and fauna taxa which are not to be conserved because they constitute a serious threat to human welfare; the only item on this list is "human disease organisms".
- The Threatened List, containing taxa and communities of native flora and fauna which are threatened, and
- The Processes List, containing potentially threatening processes.

The Listing Process commences with the submission of a nomination.

Any person may make a nomination and the FFG Regulations specify the prescribed information which must be provided. A nomination may be to add an item to, or remove an item from the Threatened List or the Processes List. The Excluded List is maintained without the need for nominations.

The nomination is considered by a Scientific Advisory Committee, an expert advisory committee comprising seven scientists, the majority of whom are not Victorian Government employees. The Committee determines whether the nomination is for a valid item and assesses whether the item satisfies one or more of the FFG listing criteria.

The Committee prepares a preliminary recommendation in regard to each nomination, stating whether or not the nomination satisfies the listing criteria and is therefore supported or rejected by the Committee. This preliminary recommendation is then advertised and made available to the public for comment for a minimum period of 30 days.

The Committee then reconsiders the nomination in light of any further evidence provided during the public comment period and makes a final recommendation to the Minister for Environment, together with any comments from the Victorian Catchment Management Council.

The Minister has 30 days in which to decide whether or not to recommend to the Governor-in-Council that the item be listed or delisted. If listing or delisting proceeds, it is effected by a Governor-in-Council Order. The process is complete when the Order is published in the *Victorian Government Gazette*.

Blackberry is one of Victoria's most aggressive and invasive weeds. Recognition of its importance under the FFG Act is another contribution to achieving the goals of the Victorian Blackberry Strategy.

Several other invasive organisms and invasion routes are recognised under the Act as threatening processes:

### Weeds

Invasion of native vegetation by "environmental weeds".

Introduction and spread of *Spartina* to Victorian estuarine environments.

Spread of *Pittosporum undulatum* in areas outside its natural distribution.

Invasion of native vegetation by Blackberry *Rubus fruticosus* L. agg.

### Vertebrate Pests

Predation of native wildlife by the cat, *Felis catus*.

Predation of native wildlife by the introduced Red Fox *Vulpes vulpes*.

Reduction in biomass and biodiversity of native vegetation through grazing by the Rabbit *Oryctolagus cuniculus*.

Introduction of live fish into waters outside their natural range within a Victorian river catchment after 1770.

### Invertebrate Pests

The introduction and spread of the Large Earth Bumblebee *Bombus terrestris* into Victorian terrestrial environments.

Threats to native flora and fauna arising from the use by the feral honeybee *Apis mellifera* of nesting hollows and floral resources.

### Other

The introduction of exotic organisms into Victorian marine waters.

The spread of *Phytophthora cinnamomi* from infected sites into parks & reserves, including roadsides, under the control of a state or local government authority.

Use of *Phytophthora*-infected gravel in construction of roads, bridges and reservoirs.

## Photosensitization

Some farmers may be caring for cattle and sheep affected by photosensitization, a condition in which the animal's skin becomes abnormally sensitive to sunlight causing a severe dermatitis or sunburn.

Photosensitization is not a disease itself; it is a clinical sign that is the end result of a number of disease processes. In each case photosensitizing (photodynamic) substances are present in high concentrations in the skin, and when exposed to sunlight, cause damage to the skin.

Photosensitization can occur if the animal eats the photodynamic substances (e.g. dianthrone derivatives in St John's wort, or perloine from perennial rye grass, or as yet unidentified agents in *Brassica* species). This is called primary photosensitization.

Photosensitization can also occur when there is damage to the animal's liver. In this case the photodynamic substance is a by-product of the breakdown of chlorophyll in green plants. When the liver is damaged, the chlorophyll breakdown products accumulate in the body and may reach high levels in the skin. Toxins produced by facial eczema spores and blue green algae, when consumed by stock, also cause damage to the liver.

In other cases it is not clear whether the photosensitization is primary or due to liver damage (e.g. feeding rape, animals fed hay that is affected by moulds, or the sporadic cases that occur on lush pasture).

Typically an animal affected by photosensitization will appear irritated; it may rub the affected parts or kick its teats. The animal may lie down, be difficult to milk or refuse to let a calf suckle. The skin lesions are characteristically restricted to the white areas of the animal, particularly the face, eyes and backline, or the areas with little hair growth (e.g. the udder). The affected areas are often swollen, and may have fluid oozing from them. Eventually the skin may lift off completely. The signs may range from very mild to extremely severe, with death or humane destruction being a consequence on some occasions.

Whatever the cause of photosensitization, treatment involves the immedi-

## National weed detection – Weed Spotters

[http://www.weeds.crc.org.au/projects/project\\_4\\_2\\_2.html](http://www.weeds.crc.org.au/projects/project_4_2_2.html)

Victoria already has a Weed Spotter network. The CRC for Australian Weed Management's 'national' weed detection project is a similar development. It aims to establish a network of trained field collectors with relatively high levels of botanical expertise to detect and help prevent new weed incursions. These weed spotters are connected to and supported by the Queensland Herbarium, which provides identifications of the plants submitted and other botanical expertise. The Rockhampton-Townsville region of north Queensland is being used as a model for a possible later national framework. The project aims to identify existing useful expertise in the community, develop the network and train the participants.

An important component of the project is the Weed Spotter newsletter that provides up-to-date information on the weeds that have been detected, details of the training available and small feature articles on weedy issues and what has been happening in the network. Here's a brief summary of the contents of the three issues that have appeared to date.

**No. 1. Spring 2005.** Weed Spotter training; Siam weed, *Chromolaena odorata*; *Thunbergia fragrans* & *T. amhemica*; spotter awards – acknowledges those who have made recent significant weed detections.

**No. 2. Summer 2005.** *Asystasia gangetica* subsp. *gangetica*, Chinese violet; *Acacia curassavica*, wild dividivi or redwood; *Coccinia grandis*, ivy gourd naturalising in the Townsville/Mackay region; *Leucaena leucocephala* extending its range in many areas; 'Spotter Spotlight' – highlights the people who are spotting interesting new weeds.

**No. 3. Autumn 2006.** *Jatropha gossypifolia*, bellyache bush; *Asystasia gangetica* control on Townsville beaches; *Cecropia* spp., Mexican bean tree; *Praxelis clematidea*; *Acacia curassavica*; *Macfadyena unguis-cati*, cats claw vine; *Phyla canescens* lippia; *Leonotis nepetifolia*, lions ear; *Thalia geniculata*, alligator flag, fire flag; *Neptunia oleracea*, water mimosa.



## African feather-grass

Continued from page 16

community's expectations of eradication are reached. In partnership with Landcare groups and the Glenelg-Hopkins Catchment Management Authority, DPI has previously provided extension and community awareness programs to landowners who have infestations of this pest plant to assist them in control efforts. The inspection process is intended to ensure that all required control works have been effective and to determine the current spread, containment or reduction in the infested target area.

DPI congratulates those involved in the program – there were obvious signs of early control works being completed - and thanks landowners for their dedicated effort in recent seasons to eradicate African feather-grass. Landholders in the Glenelg Hopkins catchment who require any further advice or assistance regarding African feather-grass or wish to report new infestations should contact the DPI Hamilton office on (03) 5573 0900.

Source: *DPI Stockowners* 11 March 2006.



African feather-grass  
(Photo: Ian Faithfull)

## Photosensitization

Continued from page 14

ate removal of the animal from direct sunlight, prevention of further access to poisonous substances, and good nursing care while recovery takes place. Keeping the animal in a hayshed or shearing shed, and feeding hay for several days is ideal. A shady paddock is the next best alternative and black ointments are sometimes helpful. In most cases professional veterinary treatment with antihistamines and sometimes antibiotics, will improve the animal's recovery.

Source: *DPI Gippsland Ag News* 29 March 2006)

*Under Control – Pest Plant and Animal Management News* is distributed free of charge to landholders, community groups - including Landcare and Friends groups, local government, farmers, catchment management and extension officers and pest management researchers throughout Victoria.

If you wish to have your name added to the mailing list please contact:  
Belinda Fisher, phone (03) 9785 0102, [Belinda.Fisher@dpi.vic.gov.au](mailto:Belinda.Fisher@dpi.vic.gov.au).

Please let us know if you change your address or no longer wish to receive the newsletter.

Enquiries or feedback about the content of the newsletter should be directed to the authors of the articles, or the editorial committee c/- DPI Frankston, PO Box 48 Frankston, Vic. 3199, phone (03) 9785 0111.

# Under Control

## Pest Plant and Animal Management News

No. 34 June 2006

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### Mowing down African feather-grass

Dallas Gooding, Catchment Management Officer, DPI Hamilton

African feather-grass *Pennisetum macrourum* is back on top of DPI's summer weed agenda. The DPI Pest Plant and Animal Program for 2005-06 has identified African feather-grass as a priority weed species for targeted action in the Glenelg-Hopkins region once again.

Working with the local community, the expectation is that 53 local landowners and managers will be selected to work on eradication of the pest plant from across a target region. All landowners within the priority target area were sent information regarding infestations of African feather-grass with the expectation of all control works completed in January.

In the Glenelg - Hopkins region, African feather-grass is a Regionally Prohibited weed and as such landowners and managers must take all reasonable steps to eradicate it on their land. The plant currently infests over 620 hectares of land in this region with most of the infestations confined to the Glenelg River catchment in the Casterton to Dartmoor area.

Isolated infestations have also been discovered in Condah and Dunkeld and along various roadsides.

All land managers including private landowners, Parks Victoria, Department of Sustainability and Environment, Glenelg Shire, Great Southern Plantations, Pacific National Rail and Wannon Region Water Authority are included in the compliance program this year.

Each year over 20,000 hectares of land are inspected by DPI officers to ensure that the

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A dense infestation of African feather-grass, where control works were very effective last summer.



Above: African feather-grass has long, tough stolons that enable patches of the plant to expand rapidly and make it difficult to eradicate (Photo: Ian Faithfull).

Left and below: flowers and flowering stems of African feather-grass.

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