

# Feral Herald

Newsletter of the Invasive Species Council, Australia  
*Working to stop further invasions*

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## Double Trouble

**ISC takes climate change and invasive species warning to the world**

**The Invasive Species Council** has attracted interest from all over the world with the launch of Double Trouble, our new pests and climate change ebulletin.

Launching the first edition in February, ISC project officer Tim Low warned that while climate change will create a world of many losers there will be winners as well.

He said native species killed or stressed by climate change will all too often be replaced by weeds and feral animals.

"Floods, storms, cyclones, fires and droughts predicted by climate experts will speed up invasion," Tim said. "Extreme events benefit weeds by stressing or destroying competing native plants, and often by delivering a pulse of nutrients."

In the race to understand climate change, very few biologists or policy makers are addressing the pest threat. The Invasive Species Council is the main conservation NGO in Australia



### HOW TO SIGN UP FOR DOUBLE TROUBLE

As an ISC member you will automatically receive our new ebulletin Double Trouble as part of your membership benefits. Non-members are welcome to subscribe to the ebulletin by emailing us at [doubletrouble@invasives.org.au](mailto:doubletrouble@invasives.org.au).

highlighting the links between invasive species and climate change.

A day after the first edition was published we were contacted by the Kenya-based Global Invasive Species Programme, who then put a link to Double Trouble on their website.

And while the bulk of new subscribers are Australian, Double Trouble has also attracted people working on invasive species issues as far away as Mexico, Tahiti, Taiwan, France, the US, Netherlands and the UK.

The ebulletin is aimed squarely at convincing decision and policy

makers that we urgently need to prepare for the combined dangers of climate change and invasive species, many of which are expected to thrive in the extreme weather events predicted under climate change.

We also hope Double Trouble will increase awareness of the growing need to recognise invasive species as a major component of the climate change problem, and that they warrant more publicity, research focus, policy development, and funding for prevention and control.

We will publish Double Trouble

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# Fox stop no barrier to foxes

The Victorian Government has launched a wasteful scheme to reward recreational hunters for shooting foxes. In January Victorian Premier John Brumby announced \$400,000 in funding over four years for the Fox Stop 2009 program, which will be managed by two shooting groups.

Members of the groups who shoot foxes will enter a draw for a 4WD vehicle and other prizes, with awards for junior shooters and “a special ladies prize”.

CEO of Field and Game Australia Rod Drew said the initiative recognises the “valuable contribution hunters make to fox eradication”, while the Sporting Shooters Association of Australia (Victoria) uses its website to urge members to “sharpen those fox hunting skills and rid the state of our most persistent pest”.

Both organisations will benefit from the funding initiative.

It is unreasonable to claim that recreational hunters will “rid the state” of foxes or even significantly contribute to fox eradication through this scheme. It is another (and weaker) version of the failed 2002-2003 Victorian fox bounty, which resulted in 170,000 dead foxes for virtually no benefit.

A review of the bounty scheme by Victorian Department of Primary Industries biologists Fairbridge and Marks found it reduced fox abundance in less than 4 per cent of the state. Biologists had estimated that a 65 per cent annual reduction in fox populations was needed to make any difference.

The federal standard operating procedures for fox control compiled by NSW pest experts Trudy Sharp and Glen Saunders (2004) note that shooting is “ineffective in significantly reducing fox populations, particularly over the longer-term”.

They explain that young, inexperienced foxes, which are easily lured into a shooter’s range, are more likely to be killed by shooting and that the breeding rate and survival of remaining animals is enhanced.

The Fox Stop scheme is not an effective way to reduce fox threats in Victoria.

State Government media release: Fox Stop 2009 – Taking Action on Foxes - <http://www.premier.vic.gov.au/minister-for-agriculture/fox-stop-2009-taking-action-on-foxes.html>.

Foxstop 2009 – [www.ssaavic.com.au/foxstop/](http://www.ssaavic.com.au/foxstop/)

## DOUBLE TROUBLE

from page 1

every two months as part of our Pests and Climate Change Project.

If you missed the first edition it can be found online at <http://doubletroublebulletin.wordpress.com/>. Our most popular stories include a warning that the recent Victorian bushfires could pave the way for an explosion in weeds, a yarn about a weed that has

infested more than 5.3 million hectares throughout the Murray-Darling Basin but is still being sold as low-maintenance lawn cover, and a piece about continued pressure being applied to open Australia up to weedy biofuels.

If you have story ideas for Double Trouble please email us at [doubletrouble@invasives.org.au](mailto:doubletrouble@invasives.org.au).

# FIRST IN CONSERVATION?

**Game Council NSW has drawn fire from environment groups after kicking off this year's deer hunting season with a massive ad campaign promoting recreational hunters as "first in conservation", Carol Booth reports.**

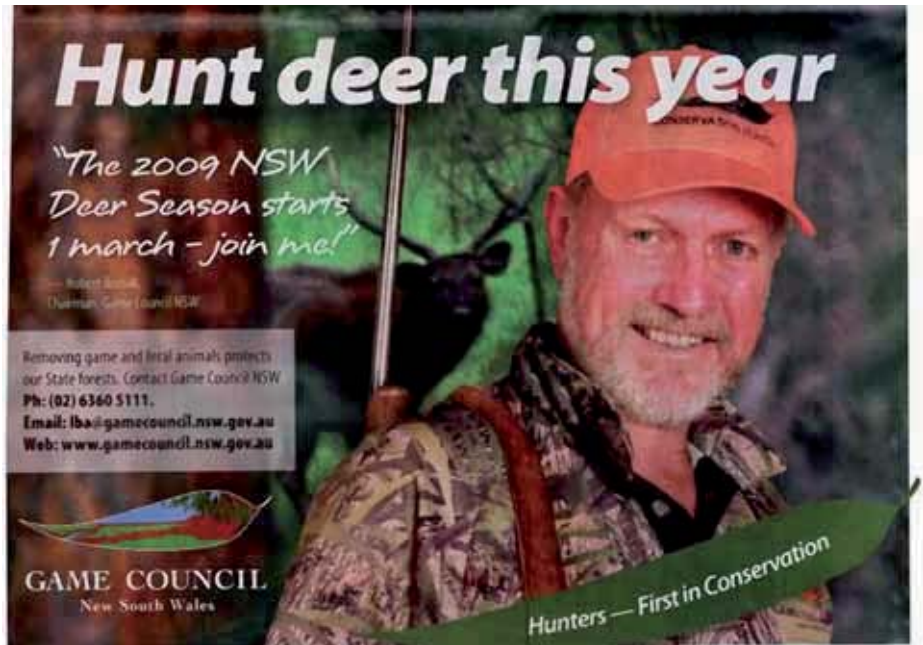
Those running feral animal control programs must be clenching their teeth over the gush of money to recreational hunters for alleged feral animal control.

Game Council NSW has received more than \$6 million from the NSW State Government over the past two financial years (2007-2009), as well as about \$500,000 each year in licence fees.

In return hunters licensed by the council have managed to kill on average 6554 feral animals each year (about half of them rabbits) across 2 million hectares of state forest (these figures are for 2006-2008, the latest available). When boiled down the numbers reveal the Game Council has spent \$323 for every feral animal killed by recreational shooters in state forests between 2006 and 2008.

This level of funding could buy substantial feral animal control if carried out as part of professional programs using effective methods. Unfortunately, because most professional feral animal control experts are employed by governments, they will have to keep their jaws shut rather than speak out against such a waste of money.

Recreational hunting groups have been making unreasonable claims about their contribution to conservation through control of feral animals. In recent ads promoting deer hunting, the NSW Game Council used the slogan "Hunters – First in Conservation". The latest issue (Volume 11, Issue 1) of the Australian Shooters Journal (ASJ), published as "the political voice" of the Sporting Shooters Association of Australia claims that:



"Hunt deer this year" ads ran in major Australian daily newspapers earlier this year.

(1) There is "an abundance" of scientific evidence that recreational hunting is effective for feral animal control and highly beneficial for conservation;

(2) Recreational hunters offer a "free" or "low cost" service that governments should use to control feral animals on public lands; and

(3) The motivations of hunters are aligned to conservation, and provide the most effective basis for conservation.

The Invasive Species Council has recently published a critique of these claims – see <http://www.invasives.org.au/hunting.html>.

In brief, there is no "abundance" of scientific evidence that recreational hunters effectively control feral animal populations. Best practice manuals find that ground shooting is an ineffective method of control for most feral animals and, at best, supplements other more effective methods.

With so much government funding in NSW (and some in Victoria) going to recreational hunters, they cannot claim that they offer a free or low cost service. The funding per feral animal killed by hunters licensed by the NSW Game Council is exceedingly high compared to most professional control programs. And the service is not worth having – free or not – if it is ineffective.

Finally, the big worry with opening up large public lands, including national parks in Victoria, to recreational hunters is that some mavericks will introduce more feral animals to improve their hunting options. There is good evidence this has occurred with pigs and deer. There are other problems as well – the loss or escape of hunting dogs and the meat left behind that bolsters populations of feral predators.

# SENATE REPORT SILENT ON INVASIVES

## – from the president

It was very disappointing to see a recent senate review of the Environmental Protection and Biodiversity Conservation Act 1999 fail to address invasive species. Apart from acknowledging that threat abatement plans for key threatening processes are poorly funded and implemented, the senate report (see [http://www.aph.gov.au/senate/committee/eca\\_ctte/epbc\\_act/report/index.htm](http://www.aph.gov.au/senate/committee/eca_ctte/epbc_act/report/index.htm)) was silent on this issue.

It is hard to understand how the review could have so thoroughly ignored one of the top three threats to Australian biodiversity when current regulatory regimes are manifestly failing to avert or mitigate the threats.

The Invasive Species Council made a comprehensive submission and staff members Carol Booth and Tim Low appeared by phone before the inquiry. Our major focus was on the need to address invasive species that can be imported into Australia (mostly for historical reasons rather than because they have passed a risk assessment) and that constitute the enormous pool of existing and potential threats to biodiversity. This includes the 2700 or so plant species that are recognised weeds in Australia and the additional 6000 or so that are weeds overseas (and thus have a high potential of becoming weeds here). The Federal Government has existing legislative powers under the EPBC Act that it is ignoring.

We hope the independent review of the EPBC Act underway will acknowledge invasive species threats and recommend that the Federal Government take more responsibility for nationally significant threats. ISC again made a comprehensive submission and Carol and Tim met with the reviewer, Dr Allan Hawke.

The failure of the senate review is part of a broader pattern of invasive species not receiving due recognition. ISC was established in 2002 out of a recognition that invasive species, apart from well-recognised threats such as cane toads, cats and foxes, are mostly ignored by environment groups.

While there is now greater awareness within the environment movement about this issue, there is still little advocacy focus. Only a few other submissions to the reviews of the EPBC Act mentioned invasive species, whereas the other top threats of climate change and land clearing were almost universally acknowledged.

This is not just an Australian phenomenon. Australians are more aware than most. Only in 2002 did the European Council recognise invasive alien species as one of the main causes of biodiversity loss as well as the cause of serious harm to the economy and health.

Why is this so? Reasons may include the following:

- 1) The nature of the threat** – invasive species are diverse (including plants, animals and diseases) and often poorly known (biological knowledge is required to distinguish exotic from indigenous).
- 2) The nature of the harm** – in contrast to land clearing, invasive species often cause harm slowly and insidiously, in diverse and complex ways. It is difficult to predict the outcomes of introducing a new species. They are often regarded as primarily a problem for agriculture, and there has long been a bias in management focus on agricultural pests and weeds.
- 3) The difficulties of addressing the harms** – with diverse pathways of invasion, the globalisation of trade, and numerous needs and wants for exotic species (for agriculture, gardens, pets, hunting), it is very demanding and generates a lot of conflict to implement effective regulatory regimes. To prevent invasions requires understanding and acting on long-term risks, and to address entrenched threats often requires long-term and expensive control.
- 4) Human preferences for particular species** – while most Australians want to see cane toads controlled (and banished if it were possible), there are many other harmful species that many people do not want banned or regulated (because they are useful, beautiful or enjoyed), deer for example.
- 5) A belief that little can be done** – foxes, toads and carp were introduced many decades ago and cannot be eradicated today, leading to a belief among conservationists that nothing can be achieved by campaigning in this area. How wrong they are.
- 6) Humans are the original cause of today's environmental problems**, but many invasive species problems are only solved by killing introduced animals, an activity many conservationists find distasteful, even though they agree it must be done.

Could you add to this list? If so email your thoughts to us at [isc@invasives.org.au](mailto:isc@invasives.org.au).

**ISC President, Steve Mathews**

# JATROPHA THE ‘BLUNDER CROP’

*Hyperbole promoting jatropha as the ultimate biofuel, a miracle plant and ‘green gold in a shrub’ is coming undone, reports Tim Low.*

In our 2007 report about weedy biofuels (see <http://www.invasives.org.au/biofuels.html>), ISC warned in particular about jatropha (*Jatropha curcas*), which has been promoted worldwide as a “miracle plant”, and as “green gold in a shrub” (to quote Scientific American). We noted the similarity between the rhetoric it was attracting and the unrealistic way in which deer farming was promoted (as “Gold on Four Legs”), and warned that, like deer, this plant would not match the hype.

The jatropha bubble has burst even more quickly than we expected. Biofuels Digest, the world’s major website promoting biofuels, recently released a report in which digest manager Jim Lane dwells on the many disappointments jatropha is creating.

In the report, The Blunder Crop, Lane notes that jatropha is realising “less than half its projected yields in most projects, and less than a third of optimistic estimates that led jatropha to be labeled ‘the wonder crop’.”

Jatropha was claimed to be the ultimate biofuel because it would grow on land unsuitable for other crops. The Farm Policy Journal in 2007 claimed that 20 million hectares of marginal land in northern Australia was suited to jatropha.

But Jim Lane has drawn attention to three problems surrounding this plant:

1. Hype about jatropha’s tolerance of poor soils and high yields that fails to acknowledge that the plant survives, but hardly thrives, in poor soil.

2. The lack of mechanical



Hailed as a miracle plant for the biofuel industry a new report reveals jatropha is turning into something of a disappointment, often realising less than half its projected yields.

**“What is new is that jatropha growers and biofuel advocates are now playing down the prospects of this crop themselves.**

harvesters.

3. The lack of adequate soil testing in the rush to plant.

None of this says anything new. In our 2007 report we wrote that:

“yields had been greatly overestimated and logistical problems ignored. Like any other crop, jatropha will not produce high yields unless it is watered and fertilised. Yields based on well-tended crops had been extrapolated to wastelands...”

What is new is that jatropha growers and biofuel advocates are now playing down the prospects of this crop themselves.

At the fourth African Biofuels conference held in March-April this year, Vincent Volckaert from D1 Oils warned against calling jatropha a miracle crop. His presentation to the conference, subtitled Beyond the Myth of the Miracle Crop, mentioned three jatropha myths – it is a tough and robust tree, can grow in marginal conditions, and does not need fertiliser.

These are the same myths jatropha proponents were expounding when we wrote our report less than two years ago.

In his revealing powerpoint presentation (available at <http://www.ascension-publishing.com/BIZ/4ABVolckaert.pdf>), Volckaert notes that single trees are “looking healthy but once you grow the

*continued page 16*

# Bushfires spark warning

*In the wake of the bushfires that devastated Victoria, Ecology Australia director Geoff Carr warns of the dangers if we ignore fuel buildup of woody environmental weeds (written on request by a Surf Coast Shire publication).*

**The catastrophic fires** of February 2009 in Victoria have left everyone deeply shocked. They will force changes that will hopefully include better-informed attitudes and responses to fire and management of the risks.

Much of the resulting debate in the news media has been polarised and ill-informed, including considerable “greenie-bashing”, with commentators ranging from private individuals to media columnists and ostensibly objective CSIRO scientists.

However, objectivity has often gone out the window in this welter of comment – what masquerades as objectivity is too often politically motivated. It is a sad day when opportunistic, self-serving comment rides on the back of others’ misfortune.

Much of the comment has focused on the alleged failure of the Department of Sustainability and Environment (DSE) to carry out sufficient fuel reduction burning, with the follow-on that the environment movement has blood on its hands because it does not favour fuel reduction burning. Such complicated issues demand greater analysis than can be given here but several points need to be made.

There is a very important role for fuel-reduction burning in defined locations in Victoria at a scale and frequency (how often) and timing (season) that need to be properly evaluated and defined. Many fuel-reduction burns have escaped, often with disastrous consequences, such as the 1981 fire at Aireys Inlet.

Fuel-reduction burning can never be the only measure to protect against fire, especially in the rural-urban interface where we have seen such destruction, not least the Surf Coast settlements in the Ash Wednesday holocaust. In many locations, forests and woodland that were burnt by wildfires, or fuel reduction burning, again experienced intense wildfires two or three years after they were burnt (eg in the Victorian Alps and at Aireys Inlet).

Some vegetation of the types consumed in the February 2009 wildfires – particularly Mountain Ash forest – are not fuel-reduced by DSE because such action runs the risk of prescribed fires escaping and because Mountain Ash is a fire-sensitive species that is killed by moderately hot fires.

Grass fires can be as lethal as forest fires – about 30 motorists were killed in 1978 on the Princes Highway at Lara in an agricultural landscape.

In the unprecedented conditions that prevailed in February 2009, any and all vegetation and any other organic matter will burn. While there was unprecedented dryness in fuels (severe drought), extremely low humidity, extreme winds and temperatures exceeding 46°C, these conditions cannot now be dismissed as once-in-a-lifetime events; they are likely to be recurrent. The notion that hedges of “fire-retardant” trees or shrubs (such as New Zealand mirror bush and sweet pittosporum) can be used to help protect property should be dismissed as

dangerous fantasy. Nonetheless since Black Saturday I have seen several letters to the editor of daily newspapers advocating just this.

A significantly increased fuel-reduction program using prescribed burns in Victoria is logistically and economically unachievable and unsustainable.

Any fire protection strategy, whether at local, regional or state level, must embrace a wide range of initiatives to minimise the risk of fire ignition and damage to life, property and the environment when unplanned fires do start.

Issues demanding greater consideration and definitive government responses (ie legislation) include the design and construction of houses. Why this lesson was not learned in 1983 following Ash Wednesday, despite all the talk at the time, defies imagination.

Another issue concerns sources of ignition. Why shouldn’t the inadvertent ignition of fires on days of acute fire danger by the use of dangerous equipment/practices (such as slashers, trail bikes and welders – all recently documented causes of wildfire) be regarded as culpable arson?

There are many problems with the approach to fuel reduction burning that is widely practiced in Victoria’s Surf Coast Shire, but my focus in the following discussion is another overlooked aspect of minimising fuel buildup – dealing with woody weeds.

In recent decades a huge proportion of fuel buildup along Victoria’s Surf Coast and hinterland has

# of weedy enemies within



Fire threatens the edges of Lilly Pilly car park at Wilsons Promontory in Victoria.

Photo courtesy Parks Victoria

been caused by the unrestricted proliferation of woody environmental weeds. The problem of weed invasion locally and regionally is well known and documented. In summary, weed invasions constitute the greatest threat to flora and fauna, landscape heritage and amenity values in the Shire, values of national and international significance, as well as incalculable economic significance. On current trends over the next few decades invading weeds will destroy or greatly (and irrevocably) compromise many of these values because weed control efforts fall so far short of those required.

The greater proportion of these invading trees, shrubs and woody vines are Australian native plants – scores of species that have escaped from cultivation, particularly along the coast from Anglesea to Lorne. They include more than 60 species of wattles, including sallow wattle and coast wattle (*Acacia*), paperbarks/honey-myrtles

(*Melaleuca*), sweet pittosporum, hakea, eucalypts, coast tea-tree, cape wattle (*Albizzia*), kunzea, bluebell creeper and many others (see Appendix 1, next page).

These plants look as though they belong but they do not. One native plant is not as good as another and the introduced species will destroy most of the unique local flora and fauna habitats.

Why should we be concerned about fuel loads provided by these weeds?

These introduced Australian plants are mostly exemplary fire-adapted plants that have evolved over millions of years to flourish and reproduce in the face of fire. They survive by resprouting after fire, or if killed release masses of seed stored in the soil (eg wattles) or in the canopy (*Melaleuca*, *Hakea*) to provide another generation of young recruits.

A few mother plants can produce thousands, even millions, of recruits in this way. Charac-

teristics (in many species) that enable them to fuel very intense fires include abundant, highly flammable volatile leaf oils (as in eucalypts), very fine fuels (abundant small leaves and branches) and the formation of very dense thickets. Stands of these species (coast tea-tree and coast wattle) often produce fuel loads greatly exceeding (perhaps by several orders of magnitude) the natural fuel loads in the invaded dunes, cliffs, heathlands, heathy woodlands or forests of the Surf Coast.

Such massive fuel loads often produce fires so intense the soil is sterilised, killing all plants and seeds stored in the soil and forcing the vegetation to recover through seeds dispersed from off-site, many of which may also be weeds. In the intervening period these sterilised soils are highly vulnerable to erosion, with risks to water quality of streams and estuaries.

In many respects Ash Wednes-

*continued next page*



Coastal tea tree



Giant Honey-myrtle



Bluebell Creeper

**Appendix 1: Weedy Australian plant species naturalised (as garden escapees) in Victoria's Surf Coast Shire**

Scientific name	Common name	Scientific name	Common name	Comon name	Scientific name
<i>Acacia baileyana</i>	Cootamundra Wattle	<i>Correa alba</i> var. <i>alba</i>	White Correa	<i>Hakea petiolaris</i>	Sea-urchin Hakea
<i>Acacia decurrens</i>	Early Black-wattle	<i>Corymbia calophylla</i>	Marri	<i>Hakea salicifolia</i> subsp. <i>salicifolia</i>	Willow-leaf Hakea
<i>Acacia elata</i>	Cedar Wattle	<i>Corymbia ficifolia</i>	Red-flowering Gum	<i>Hardenbergia violacea</i>	Purple Coral-pea
<i>Acacia iteaphylla</i>		<i>Corymbia maculata</i>	Spotted Gum	<i>Kennedia nigricans</i>	Black Coral-pea
<i>Acacia floribunda</i>	White Sallow-wattle	<i>Eucalyptus botryoides</i>	Southern Mahogany	<i>Kennedia rubicunda</i>	Dusky Coral-pea
<b><i>Acacia longifolia</i> subsp. <i>longifolia</i></b>	Sallow Wattle	<i>Eucalyptus camaldulensis</i>	River Red Gum	<i>Kunzea ambigua</i>	White Kunzea
<b><i>Acacia longifolia</i> subsp. <i>sophorae</i></b>	Coast Wattle	<i>Eucalyptus cladocalyx</i>	Sugar Gum	<i>Kunzea baxteri</i>	Red Kunzea
<i>Acacia provincialis</i>	Wirilda	<i>Eucalyptus conferruminata</i>	Bushy Yate	<b><i>Kunzea ericoides</i> s.l.</b>	Burgan
<i>Acacia saligna</i>	Golden Wreath Wattle	<i>Eucalyptus cornuta</i>	Yate	<b><i>Leptospermum laevigatum</i></b>	Coast Tea-tree
<i>Acacia schinoides</i>	Frosty Wattle	<i>Eucalyptus crenulata</i>	Buxton Gum	<b><i>Melaleuca armillaris</i> subsp. <i>armillaris</i></b>	Giant Honey-myrtle
<i>Acmena smithii</i>	Lilly-pilly	<i>Eucalyptus diversifolia</i> ssp. <i>megacarpa</i>	Soap Mallee	<i>Melaleuca decussata</i>	Totem-poles
<i>Agonis flexuosa</i>	Willow Myrtle	<i>Eucalyptus globulus</i> subsp. <i>globulus</i>	Southern Blue-gum	<b><i>Melaleuca diosmifolia</i></b>	Green Honey-myrtle
<i>Agonis juniperina</i>	Juniper Myrtle	<i>Eucalyptus gomphocephala</i>	Tuart	<i>Melaleuca halmaturorum</i>	Salt Paperbark
<i>Agonis parviceps</i>	Agonis	<i>Eucalyptus kitsoniana</i>	Bog Gum	<b><i>Melaleuca hypericifolia</i></b>	Hillock Bush
<i>Angophora costata</i> subsp. <i>costata</i>	Smooth-barked Apple	<i>Eucalyptus leucoxylon</i> ssp. <i>megalocarpa</i>	Coast Yellow-gum	<i>Melaleuca incana</i> subsp. <i>incana</i>	Grey Honey-myrtle
<i>Astartea heteranthera</i>	Astartea	<i>Eucalyptus saligna</i>	Sydney Blue Gum	<i>Melaleuca nesophila</i>	Showy Honey-myrtle
<i>Banksia integrifolia</i> subsp. <i>integrifolia</i>	Coast Banksia	<i>Eucalyptus sideroxylon</i>	Red Ironbark	<i>Melaleuca parvistaminea</i>	Rough-barked Honey-myrtle
<b><i>Billardiera heterophylla</i></b>	Bluebell Creeper	<i>Eucalyptus verrucata</i>	Mt Abrupt Stringybark	<i>Pandorea pandorana</i>	Wonga Vine
<i>Callistachys lanceolata</i>	Greenbush	<i>Eucalyptus viminalis</i> ssp. <i>Viminalis</i>	Manna Gum	<i>Paraserianthes lophantha</i> subsp. <i>lophantha</i>	Cape Wattle
<i>Callistemon hybrid</i>	Bottlebrush	<i>Grevillea rosmarinifolia</i>	Rosemary Grevillea	<b><i>Pittosporum undulatum</i></b>	Sweet Pittosporum
<i>Callistemon rigidus</i>	Bottlebrush	<i>Hakea drupacea</i>	Sweet Hakea	<i>Syzygium paniculatum</i>	Lilly Pilly
<i>Callistemon rugulosus</i>	Scarlet Bottlebrush	<i>Hakea elliptica</i>		<i>Westringia fruticosa</i>	Coast Rosemary
<i>Casuarina glauca</i>	Swamp Oak	<i>Hakea laurina</i>	Pincushion Hakea		

Sources of data: Moysey, E.D., Carr G.W., Kershaw, J.S. and Quin, D.G (2006). Environment and Land Management Plan – Volume 2: Natural Values. Report prepared for Great Ocean Road Coast Committee. Ecology Australia Pty Ltd, Fairfield, Victoria. (G. Carr unpubl. data). Species in bold are extremely serious environmental weeds. Photos from Wikimedia Commons: Coastal Tea Tree - Stephen Bain.

... from previous page

day 1983 was a turning point for these weedy invaders. They were (and are) widely planted in Torquay, Anglesea, Aireys Inlet, Lorne and elsewhere. Those catastrophic fires stimulated massive regeneration and recruitment of these Australian plants. Now, 25 years later, there are vast accu-

mulated fuel loads. In the event of a wildfire the intensity and rate of spread and propagation of the fire is likely to be greatly exacerbated.

For many reasons we should not tolerate these and other environmental weed species invading the heaths, woodlands, forests, dunes and cliffs of the Surf Coast Shire. In a new and unimagined

era of heightened and extreme fire risk the messages are clear: elimination of the fuel loads provided by these weeds is mandatory, and we must destroy naturalised (wild) populations of the weeds as soon as possible. The cultivation of weedy species must be proscribed by by-laws specifically formulated to manage these risks.





Originally a garden plant Lantana is now a highly aggressive environmental weed throughout eastern Australia.

Photo: Forest & Kim Starr, US Geological Survey, Bugwood.org

## GARDEN ESCAPEES ON THE RUN

*It's about time the Federal Government recognised weeds as one of the greatest threats facing Australia's biodiversity.*

The federal Threatened Species Scientific Committee is considering a nomination to list escaped garden plants as a key threatening process under the Environment Protection and Biodiversity Act 1999.

Of 17 currently listed key threatening processes, 12 involve invasive species (seven for vertebrate pests, two for invertebrate pests and three for pathogens). Of 10 threat abatement plans, nine are for invasive species, showing how seriously they threaten Australia's biodiversity. But not one is for an invasive plant.

The Invasive Species Council has made a substantial submission to support the declaration ([http://www.invasives.org.au/downloads/ISC\\_submission\\_garden\\_KTP\\_april09B.pdf](http://www.invasives.org.au/downloads/ISC_submission_garden_KTP_april09B.pdf)) and recommends that a threat abatement plan be prepared. Although it is widely recognised that invasive garden plants are a major threat to biodiversity, there is poor documentation of the threats. The bulk of information used

in the nomination came from a 2006 Weeds CRC study by Aaron Coutts-Smith and Paul Downey.

That study found that in NSW alone weeds are a threat to just under half the state's listed threatened species, and that 65 per cent of those weeds are escaped garden plants.

In responding to the nomination, ISC found that about half of Australia's federally listed ecological communities have one or more escaped garden plants listed as a threat in their conservation advice.

Although "escaped garden plants" covers a very large category of threats consisting of hundreds of individual species, it is an appropriate threat category because the impacts of different weeds are very often similar and it represents one major invasion pathway.

A number of weeds that originated as garden plants are very significant threats in their own right and could be listed as individual threats — bridal creeper (*Asparagus*

*asparagoides*), lantana (*Lantana camara*), rubbervine (*Cryptostegia grandiflora*), and mimosa (*Mimosa pigra*) are just a small sample. As well as the advantages of efficiency and synergies derived from the category listing, it also helps put the spotlight on emerging or potentially threatening garden species that would not yet qualify as individual threatening processes. One of our top priorities should be addressing these emerging threats.

The nomination "Loss and degradation of native plant and animal habitat by invasion of escaped garden plants, including cultivated and aquatic plants" as a key threatening process under the EPBC Act can be found on the Department of the Environment, Water, Heritage and the Arts website – <http://www.environment.gov.au/biodiversity/threatened/ktp/invasion-escaped-garden-plants.html>. The 2006 Weeds CRC study can be downloaded from [http://www.weedscrc.org.au/publications/technical\\_series.html](http://www.weedscrc.org.au/publications/technical_series.html), see technical series #11

# TOO MUCH RISK IN NEW VENTURES

*Too often new crop and animal industries are promoted with little or no regard to the future pest problems they may end up creating, argues Tim Low.*

ISC has concerns about the Rural Industries Research and Development Corporation, a government agency that promotes new crops and animal industries without regard for their pest potential.

We believe new industries should be subject to risk assessments to ensure their ecological sustainability. As it stands, RIRDC actively promotes risky industries and leaves other government agencies to worry about the problems that may ensue.

RIRDC has recently released a second edition of its report, *Emerging Animal and Plant Industries – their Value to Australia*, which summarises the status of various industries of concern to ISC.

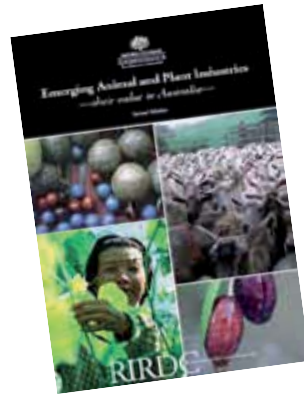
RIRDC has strongly promoted deer farming, producing more than 30 reports on the topic, but its current assessment of the industry is suitably downbeat:

“Slaughterings of deer in Australia in 2006-07 were ... 40 per cent lower than the previous year and slightly over one quarter of the peak production level achieved in 1999-2000 ... The combination of extended drought and lower prices in recent years for both venison and deer velvet are causing a number of deer farmers to leave the industry.”

This contrasts with the optimism expressed in the *Deer Industry Manual* produced by RIRDC in 2001:

“The Australian deer industry is establishing itself as a major Australian livestock industry.”

“The Australian deer industry



is well advanced with market and technological developments that allow confident commercial development.”

No one believes today that deer will become a major livestock industry, too many landholders have lost money by investing in this industry. The misplaced optimism has led to a massive rise in feral deer numbers as deer have escaped or been released from failing deer farms, or have been sold cheaply to hunters who have released them into the wild.

**“No one believes today that deer will become a major livestock industry, too many landholders have lost money by investing in this industry.”**

ISC has concerns about breeding programs worsening feral problems. The RIRDC report notes that a new water buffalo breed, called riverine buffalo, was imported into Australia in the mid 1990s to cross with Australia’s existing buffalo “to produce faster growing animals”. Our concern is that these imports could enrich the gene pool of wild buffalo, resulting

in more vigorous feral buffalo.

The RIRDC report notes that most riverine buffalo are farmed in Victoria, far removed from any wild populations, but if buffalo farming takes off there are bound to be more farms established in the Northern Territory and high risks of domestic buffalo escaping into the wild.

The report is upbeat about the prospects of freshwater crayfish farming. All three of the species mentioned in the report – marron (*Cherax tenuimanus*), red-claw (*C. quadricarinatus*) and yabbies (*C. destructor*) – have established feral populations outside their native ranges.

For example, yabbies from eastern Australia are now established in the west, and marron from Western Australia have turned up on Kangaroo Island. Crayfish farms should only be allowed in situations where no escape into the wild is possible.

The report notes increasing production of olives in Australia. Olive trees are the worst woody weeds in South Australia, and there are serious concerns among weed authorities that new olive farms will worsen weed problems.

Many of the recent plantings of olives in eastern Australia have been on such a small scale that mechanical harvesting will not be affordable, and the crops that ripen are more likely to be harvested by birds – which will spread the seeds – than by landholders.

Other crops and livestock mentioned in the report that could cause pest problems include rabbits, coffee and guavas.

## Invasives coalition first task for new team member

The Invasive Species Council has taken the first steps in setting up a coalition of environment NGOs to work together on invasive species issues. We have employed Sarah Moles (pictured) as a part-time project officer to help establish this coalition and so far a dozen state and national NGOs have agreed in principle to join.

More news on this important development soon!

ISC is very pleased to welcome Sarah. She brings extensive experience with environmental advocacy, primarily on water issues, a strong focus on the Murray-Darling Basin, the Great Artesian Basin,



wetlands and floodplain management.

Sarah spent five years working for WWF (Australia) brokering voluntary conservation agreements over important wetlands and developing management plans for Ramsar listed wetlands.

Sarah is also a writer, and with her artist partner has recently published *The Dying Darling*, which tells the story of the Darling River by documenting in words and dramatic charcoal sketches how different landholders, traditional owners, scientists and politicians see the river and are affected by its decline.

## ISC on Bush Telegraph

Invasive Species Council project officer Tim Low and former Weed CRC CEO Rachel McFadyen were interviewed on ABC Radio National's *Bush Telegraph* last month in a wide ranging discussion about Australia's weed problems.

The fires in Victoria and flooding in north Queensland provided the opening for discussions about the capacity of weeds to invade after extreme events.

Tim and Rachel both criticised the way in which weed control in Australia is funded largely by competitive grants, formerly disbursed through the National Heritage Trust and now Caring for Country.

A community group will often receive funding for two years, but the next round of funding will go

to some other group, resulting in incomplete weed control and poor long-term outcomes.

The radio spot also gave us a chance to plug the launch of our new pests and climate change ebulletin *Double Trouble*, and *Bush Telegraph* posted a link to the first edition on its website.

"The Invasive Species Council has just released its first ebulletin on the interactions of climate change and invasive species," noted the ABC website.

**Bush Telegraph story:**  
<http://www.abc.net.au/rural/telegraph/content/2006/s2508174.htm>  
 You can read *Double Trouble* online by going to:  
<http://doubletroublebulletin.wordpress.com/>

## New website in the pipeline

Six years after Steve Page launched ISC into cyberspace with the council's first website we're ready to revamp [www.invasives.org.au](http://www.invasives.org.au) by giving it a new look and adding to its online tools.

The ISC board this month signed off on a contract with website developers Studio Exit and as soon as the ink is dry we'll begin shaping our new site.

As well as building on current site content we will also introduce a number of improvements, including the ability to pay membership online and allowing members and non-members to sign-up to receive ISC media releases and our new ebulletin *Double Trouble*.

One of the most popular areas of the current site we want to continue with is the "rogue's gallery", an online picture library of Australia's nastiest invasive species through images and words. Let us know if you have invasive species images we can use.

We hope the new website will help the council lift membership numbers and awareness of our past and present campaigns.

If you would like to make any suggestions about how the new site could better serve ISC members please email our communications advisor John Sampson ([johnsampson@invasives.org.au](mailto:johnsampson@invasives.org.au)).

We would like to thank Steve Page for his committed and dedicated work developing and managing our current website. Thank you Steve!

We also want to thank the donor who has made this project possible. It is a very precious gift that we hope to transform into a more powerful voice for the environment.

## Europe – a plodder when it comes to pest species

**While we lament** the lack of appropriate priority given to invasive species issues in Australia, the sad truth is that we are at the global forefront on invasive species issues, with most other countries lagging behind.

Until very recently the European Commission ignored the problems. Its first ever communication on invasive species, which presents options for an EU Strategy on Invasive Species, was released for public comment in December 2008 (see [http://ec.europa.eu/environment/nature/invasivealien/index\\_en.htm](http://ec.europa.eu/environment/nature/invasivealien/index_en.htm)).

There are an estimated 11,000 exotic species in Europe, 10-15 per cent of which are expected to have an adverse ecological or economic impact. Invasive species are estimated to cost the EU \$12 billion euros (\$22 billion Australian) a year.

Options include a Europe-wide early warning system to report new and emerging species, risk assessments, and voluntary codes of practice “to encourage responsible behaviour by retailers and consumers”.

The final option presented was comprehensive, dedicated EU legislation.

There are many barriers to effective action on invasive species in Europe. One is very low public awareness of invasive species problems. Another is free trade arrangements under the EU single

“**Invasive species are estimated to cost the EU \$12 billion euros (\$22 billion Australian) a year.**”

market (based on the principle of free movement of goods within the EU) and the World Trade Organisation, which make it difficult to ban trade in invasive species.

Higher awareness in Australia is understandable given that we live on an island continent not colonised by Europeans until 1788. In Europe many plants and animals were moved around in Roman and medieval times, leading to uncertainty about the status of many species. Most Britons do not know that rabbits, hares, rats, garden snails and Scotch thistles are introduced species.

## Foxes confirmed in Tasmania

**There is no room** for doubting that foxes are now a real and present danger to Tasmania’s native biodiversity after genetic analysis of faecal samples revealed the presence of eight individual foxes on the island state.

Given the elusiveness of foxes genetic analysis is a very important method for assessing fox presence. Research has shown that foxes at a density of one animal per 25 square kilometres are “almost impossible to find”. In Tasmania researchers suspect fox densities may be as low as one animal per 500 square kilometres.

The spread of foxes in Tasmania is predicted to put 78 native vertebrate species at risk, including 12 threatened species.

Foxes are blamed for the extinction from mainland Australia of the so-called Tasmanian pademelon, Tasmanian bettong, and eastern quoll.

For more information visit: <http://www.dpiw.tas.gov.au/inter.nsf/>

## Exotic species, our new frequent flyers

**A recent study shows** that the world’s increasingly busy airways along with regional climate changes are likely to further increase the rates of biological invasion and spread of infectious diseases.

While working at the University of Oxford Andrew Tatem analysed more than 144 million flights to find that international air connections between regions of the world with similar climates would in-

crease between 2007 and 2010.

The risks of spreading invasive species are enormous – consider that in the 12 months from 1 June 2006, there were 35 million scheduled flights operating between 3570 airports on over 44,000 different routes. This network brings spatially distant ecosystems into contact on a frequent basis.

Not surprisingly, the risks have increased as air travel from poorer

countries becomes more frequent – Tatem noted research showing that recent increases in the rates of biological invasion and past interception rates are inversely related to the gross national income of origin countries.

Tatem, A.J. (2009) *The worldwide airline network and the dispersal of exotic species: 2007–2010*. *Ecography* 32(1): 94-102.



The Convention on Biological Diversity features red deer as one of the many invasive species causing havoc for native biodiversity around the world. Photo: Global Invasive Species Database

# International biodiversity day – turning the spotlight on invasives

**This year's International Day for Biological Diversity** will heighten global awareness of the terrible damage caused to the planet's natural environments by invasive species.

Promoting the day (May 22) on its website the Convention on Biological Diversity notes that invasive species have affected almost every ecosystem type on the planet and are one of the greatest threats to biodiversity.

“Since the 17th century, invasive alien species have contributed to nearly 40 per cent of all animal extinctions for which the cause is known,” it says.

It also notes that the annual environmental losses caused by introduced species in the United States, United Kingdom, Australia, South Africa, India and Brazil have been calculated at over US\$100 billion.

ISC will use the day to promote the need for more action on invasive species in Australia – and we hope to do so in cooperation with other environment NGOs



*Miconia calvenscens* and two related species, native to Central and South America, are a serious threat to rainforest in eastern Australia. *Miconia* was planted in botanic gardens and sold in nurseries. Eradication efforts are underway in north Queensland, where the only infestations are recorded. Photo: Global Invasive Species Database



**INTERNATIONAL DAY FOR BIOLOGICAL DIVERSITY**

**22 MAY 2009**

**INVASIVE ALIEN SPECIES**

(see “Invasives coalition first task for new team member”, page 11). Check out our website in May for information about the day.

For more information you can

download a booklet on invasive alien species from the convention website and find out more about the day by going to <http://www.cbd.int/idb/2009/>.

# Invasives a major threat to Ramsar wetlands

**It's probably no news to you** that weeds and pests are harming Australia's internationally recognised wetlands.

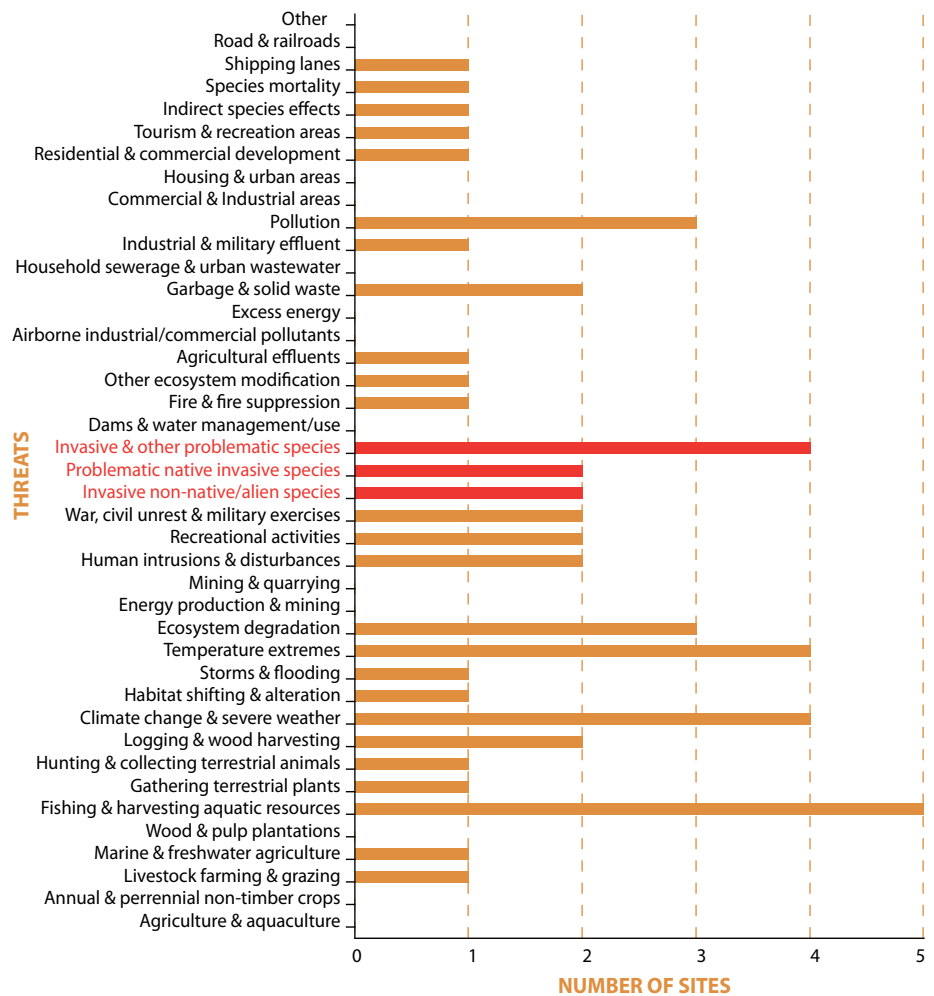
To mark World Wetlands Day on February 2 this year the Federal Government highlighted a 2007 assessment of Australia's 64 Ramsar-listed wetlands that included identification of the key threats and impacts by each of the site managers.

The findings include:

Increased weed abundance was one of the top five impacts at 18 sites (the fourth most frequent key impact noted) and increased pest animals was one of the top five impacts at 14 sites.

Increased pest animals was one of the top five key impacts at half of the 10 marine sites.

Invasive/pest species were identified as one of the top five



Key identified threats at marine Ramsar wetland sites where respondents were asked to rank the top five threatening activities

threats at more than half the inland Ramsar sites (17 of 31 wetlands).

The Ramsar Snapshot Study - Fi-

nal Report – <http://www.environment.gov.au/water/publications/environmental/wetlands/ramsar-snapshot-study.html>

# Leaf litter – time to turn over a new leaf

**One aspect of weed invasion** that receives little attention is the impact of weed leaf litter on ground-dwelling invertebrates and micro-organisms. One hears much talk about camphor laurel leaves affecting insects in streams, but very little about the impact of most other weeds when leaves are shed. More research is needed.

In Hawaii, a team of biologists led by Nathania Tuttle compared the leaf litter produced by the weedy tree, Peacocksplume (*Falcataria moluccana*), and the dominant native ohia tree (*Metrosi-*

*deros polymorpha*), and found that the weed increases the abundance of introduced fragmenters (amphipods and isopods) by 400 per cent and invasive predaceous ants by 200 per cent. The increase in fragmenters resulted in faster breakdown of leaf litter, and the increase in invasive ants could increase predation of native invertebrates, although this was not assessed.

Peacocksplume is a nitrogen-fixing plant and ohia is not, so pronounced differences might be expected. Australia has many nitrogen-fixing weeds, including

pasture legumes introduced to fix nitrogen.

There is anecdotal evidence to suggest introduced grasses such as molasses grass (*Melinis minutiflora*) produce litter that is avoided by Australian invertebrates. Proper studies to document any differences should be undertaken.

Tuttle, N.C., Beard, K.H. & Pitt, W.C. (2009) 'Invasive litter, not an invasive insectivore, determines invertebrate communities in Hawaiian forests.' *Biological Invasions* 11: 845–855

# Australian snails cop a shell-lacking from weeds and feral animals

**The Federal Government** recently listed nine snail species as threatened, five from the territory of Norfolk Island and four from Lord Howe Island. All have taken a hammering from a variety of invasive species.

The Phillip Island Helicarionid Snail, for example, is now listed as critically endangered, and while it “may” survive on Phillip Island it has been lost from Norfolk Island. The listing advice on threats notes predation by the Polynesian rat (*Rattus exulans*) and the ship rat (*Rattus rattus*); loss of vegetation on Phillip Island by the grazing of pigs, goats and rabbits; and degradation of existing habitat by weed invasion.

Half way across the Pacific other snails are thriving. In Hawaii exotic snails are rampant, with 38 species established so far. A recent survey of nurseries, botanic gardens and similar facilities by R.H. Cowie and colleagues found that the horticultural industry in



In Hawaii introduced pests such as the Giant East African snail pose a real threat to native snail populations.  
Photo: Yuri Yashin, achatina.ru, Bugwood.org

Hawaii is continuing to introduce new exotic snails and slugs. They found a total of 31 terrestrial species on plants for sale, all but two exotic and five of which had not been previously recorded. Each facility had 1-17 exotic snail species present.

What would we find if an Australian survey was conducted?

Cowie RH, Hayes KA, Tran CT, Meyer WM, III. (2008). The horticultural industry as a vector of alien snails and slugs: widespread invasions in Hawaii. *International Journal of Pest Management* 54(4): 267-276.

## Weeds centre lands \$2.5 million for research

**Earlier this year** the Federal Government announced \$2.5 million for 28 weeds research projects funded through the new Australian Weeds Research Centre.

The five top-funded projects are:

- Biological control and ecology of cabomba and alligator weed (CSIRO, \$241,000).
- Field host range of high priority potential biocontrol agents of *Parkinsonia aculeata* (CSIRO entomology, \$189,000).
- *Lippia* biological control (CSIRO, \$165,000).

- The impact of boneseed invasion on biodiversity (University of Woollongong, \$155,000).

- Managing weeds and herbicides in a genetically modified farming system (NSW DPI, \$140,000).

Although it's a relief to have a national research focus on weeds – after the former federal government failed to renew funding for the Weeds CRC in October 2007 – the new research centre is a shadow of the CRC it replaces.

As the former CEO of the

Weeds CRC Rachel McFadyen recently pointed out on ABC Radio, the new centre doesn't yet have a full-time CEO.

Much has been lost with the demise of the CRC – a cohesive approach, input to public policy, good educational material, and a public voice – that has not yet been replaced.

More information: [http://www.maff.gov.au/media/media\\_releases/2009/january/\\$2.5\\_million\\_for\\_weeds\\_research\\_projects](http://www.maff.gov.au/media/media_releases/2009/january/$2.5_million_for_weeds_research_projects)

**JATROPHA THE 'BLUNDER CROP'**

continued from page 5

crop in monoculture you will notice very quickly the presence of several pests and diseases". Major pests include beetles, miners, mildew, termites and mites.

Back in 2000, Keith Openshaw of Alternative Energy Development was claiming in the journal *Biomass and Bioenergy* that the jatropha plant has few insect or fungal pests.

In 2007, when we wrote our report, a Google search on "jatropha" + "miracle" brought up countless enthusiastic articles, all but promising that jatropha would solve climate change and Third World poverty. Such sites still exist, but the same search today brings up any number of articles with titles such as "Miracle solution or imminent disaster?" and "Miracle plant's monstrous potential".

A desire to believe in miracles, or in simple solutions for complex problems, seems to run very deep, and jatropha is just the latest example of naïve dreaming overruling common sense.

The risk for Australia was that vast acreages could have been planted but never harvested, resulting in seeds left to drop and germinate freely, spawning weedy populations. This is now likely to occur in many countries where jatropha was planted. Reports of abandoned plantings are emerging from many places. Yet major plantings continue.

A pivotal event for jatropha in Australia was a workshop on the weed status of the plant run by the

**“A desire to believe in miracles, or merely in simple solutions for complex problems, seems to run very deep, and jatropha is just the latest example of naïve dreaming overruling common sense.**

Queensland Government on 6 December 2007 (see *Feral Herald* 17). The Weeds CRC's Rachel McFadyen and I spoke out strongly about the weed risk posed by jatropha, and government agencies spoke about jatropha weed declarations in Western Australia and the Northern Territory. Jatropha growers were wanting to establish plantations in northern Australia, but were stymied by the WA and NT bans, which resulted in a federal government ban on the introduction of new seed varieties.

By the end of the day it was clear that governments were not going to move quickly to lift weed bans given ongoing concerns about the weed risk. Interest in growing jatropha in Australia has since dwindled.

Two jatropha companies were represented at the meeting, but one of these, Plantation Curcas, appears to no longer exist, judging by a fruitless internet search. The other, D1-BP Fuel Crops Ltd, remains active in Africa and Asia. D1 Oils, the partner in the D1-BP joint venture with expertise in jatropha, has fared poorly since 2007, posting significant losses, having to sell its processing plant in England, and recording disappointing results in Africa. Its high profile chairman, Lord Oxburgh, a passionate jatropha advocate, has departed along with the company's former CEO.

Conservationists are often criticised as naysayers wanting to block development, but in this case we believe we not only helped avert a weed problem, but also saved investors from losing money and governments from pouring resources into doomed operations. The D1-BP representative at the Brisbane meeting was honest enough to admit on the day that he was unsure if jatropha was viable in Australia.

Jatropha almost certainly has some role to play in poor Third World countries where seeds can be gathered by hand to provide a locally produced substitute for diesel. But whether it can become a revenue-earning crop in Africa and Asia remains to be seen.

As is often the case with boom-bust industries, the first seed produced by jatropha farms was sold mainly to farmers wanting to grow jatropha, not to biodiesel producers, creating unrealistic expectations about market value. Deer farming and emu farming followed the same trajectory, with farmers entering the industry paying much higher prices for stock than the market could sustain.

In his presentation to the African Biofuels conference Volckert cited a survey of 615 jatropha projects that found 90 per cent were in a bad condition. One can only feel sorry for all the farmers duped by the hype and who have lost out by growing this plant.

**Further Reading**

<http://www.invasives.org.au/biofuels.html>

<http://www.biofuelsdigest.com/blog2/2009/03/24/the-blunder-crop-a-biofuels-digest-special-report-on-jatropha-biofuels-development/>

<http://af.reuters.com/article/investingNews/idAFJOE5300DN20090401?sp=true>

<http://biofuelsdigest.com/blog2/2009/04/02/d1-oils-plant-science-manager-says-j-root-planting-problem-cause-low-jatropha-yields/>

<http://www.invasives.org.au/downloads/feralherald17.pdf>



# States could lose quarantine power

*A review of Australia's quarantine arrangements recommends the Commonwealth be handed the power to override state quarantine legislation. Tim Low reports.*

In our last newsletter we commented favourably on the independent review of Australia's quarantine arrangements published in September 2008. *One Biosecurity: A Working Partnership* advocates much greater spending on quarantine and a stronger focus on environmental pests.

But ISC is disappointed by some aspects of this report.

A concern of pest experts the world over is the obligation placed on World Trade Organisation members to adopt the "least trade restrictive" quarantine policies. Australia is constantly under pressure to justify its high quarantine standards, the accusation being that they are disguised trade barriers.

Anyone who cares about pests should be concerned by this. One might think that the goal of any biosecurity system would be to keep out pests. But the review panel in expressing their commitment to expanded trade liberalisation, decided differently (page XVII):

"The panel has concluded that the primary objective of the national biosecurity system should be to allow the safe movement of animals and plants, genetic material, animal and plant products, people and cargo to and from Australia, and to support an effective response to any pest or disease incursions that occur. This involves a change of emphasis from a principal focus on the prevention of harmful pests and diseases entering Australia, through limitations on trade and interception at the border, towards more effective pre-border risk assessment, a still vigilant border inspection system,

targeted measures to reduce risk from imports, and more integrated post-border monitoring, surveillance and response."

This proposed change in approach is summarised as a shift from "no, unless..." to "yes, provided..."

The pro-trade emphasis is behind their recommendation that the Commonwealth have the legislative power to override state quarantine legislation. The report focuses on the famous complaint brought by Canada to the WTO alleging that Australia's ban on salmon meat was a disguised trade barrier because Australia was behaving inconsistently by allowing in aquarium fish that posed a much higher disease risk to Australian fish.

Australia could have responded by improving its quarantine protocols for aquarium fish, but it chose instead to allow in the salmon meat. Tasmania then used its state quarantine laws to ban salmon meat imports, resulting in a further complaint from Canada to the WTO.

Given the lack of action on aquarium fish, the ban on salmon meat did look like little more than a disguised trade barrier. But the recommendation of this review that states should lose their rights to impose quarantine will not improve quarantine in Australia.

Western Australia and Tasmania operate their own quarantine services, and the WA system operates well. Trade should be judged according to its advantages and disadvantages, not endorsed as an inherent public good.

The report has other recom-

mendations ISC can endorse.

Biosecurity Australia should never have been created as an agency separate from the Australian Quarantine and Inspection Service, and the review, as expected, recommends their merger.

It also recommends cost recovery from industries that benefit from biosecurity, warning (page 69) about the "moral hazard" created when governments compensate industries responsible for quarantine lapses:

"The panel notes that some industries, such as some vegetable industries and the plantation timber industry, have not entered into cost sharing deeds or agreements despite holding membership with Animal Health Australia or Plant Health Australia. When no formal agreement exists to determine how costs will be shared in the event of an exotic pest or disease outbreak, there is reduced incentive for businesses to adopt good biosecurity practices. This is particularly relevant if governments still eradicate the pest or disease and pay compensation to those affected, such as occurred in the case of equine influenza."

The strong focus in the report on cost recovery is to be commended. However, it only applies to pests that harm the importing industries. The horticulture industry is expected to pay for the eradication of pests that harm horticulture, but not to pay for the removal of horticultural imports that become pests of farms and national parks.

The Australian Government has agreed in principal to adopt the panel's recommendations.

# Australia, a continent under threat

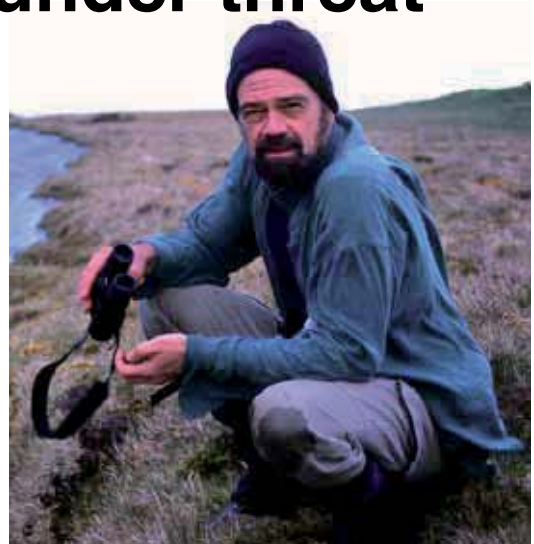
Australia has the worst animal extinction record in the world, due mainly to invasive species.

With fire ants turning up in Brisbane, foxes in Tasmania, ongoing weed and disease spread, it could get worse. Australia needs a strong community voice to stop that happening.

The Invasive Species Council is the main conservation group pressuring governments to do more about weeds, pests and wildlife diseases.

Help make us stronger. With your membership we can do more.

– *Tim Low, a founder of the Invasive Species Council*



Tim Low on Australia's Macquarie Island, a World Heritage site now overrun by rabbits.

## Invasive Species Council membership application form



**Yes**, I want to help protect Australia's native plants and animals from weed, pest and disease invasions.

### PERSONAL DETAILS

Mr/Mrs/Ms/Other	First name	Surname	
Address		Suburb/Town	
Postcode	Tel (home)	Tel (work)	Fax
Email (please print clearly)			
Work or voluntary position(s) (if relevant)			
Affiliations			

I do **not** wish to receive email bulletins and news from the Invasive Species Council.

### SELECT MEMBERSHIP (prices include 10% GST)

NEW MEMBER

RENEWING MEMBER

Regular  1 year \$22

Concession  1 year \$11

Group  1 year \$55

I would also like to make a donation\* of: \$

Does not include GST. Donations of \$2 or more are tax deductible.

\* Representing a donation to the Invasive Species Council Fund – the Invasive Species Council Fund is a public fund listed on the Register of Environmental Organisations under item 6.1.1 of subsection 30-55(1) of the *Income Tax Assessment Act 1997*.

**TOTAL:** \$

### WHERE TO SEND YOUR CHEQUE/MONEY ORDER

Thank you for joining the Invasive Species Council. Please send this form and a cheque or money order to: **Invasive Species Council, PO Box 166, Fairfield, Vic 3078**. Cheques and money orders should be made out to the **"Invasive Species Council Inc"**. We apologise for not having credit card facilities available at this time. Please email us, [isc@invasives.org.au](mailto:isc@invasives.org.au), if you would like to organise a bank transfer.

