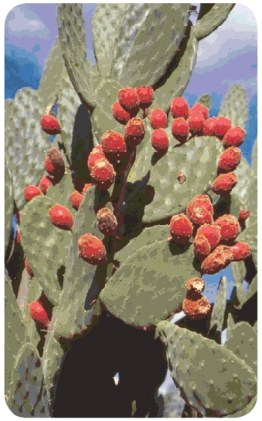
Environmental Biosecurity Priorities for the Federal Budget 2012-13

March 2012



invasive species council

ISC campaigns for better laws and policies to protect the Australian environment from weeds, feral animals, exotic invertebrates and pathogens.

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Invasive Species Council

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The Invasive Species Council campaigns for better laws and policies to protect the Australian environment from weeds, invasive animals and exotic pathogens.

Formed in 2002, we were the first environment group in the world to focus solely on invasive species.

With introduced pests one of the top and growing threats to native species and ecosystems, involving complex biological and social interactions, this specialist focus is needed.

A non-profit organisation, we work with other groups on policy and legal reform, campaigning for action on high priority pests.

We have a strong commitment to using the best science available to inform our advocacy work and through our board, staff and membership have access to excellent in-house weed and pest expertise.

The Invasive Species Council is committed to fostering community participation and activism, supporting our members to have a voice on invasive species issues.

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Submission to Department of the Treasury, March 2012

Introduction

In economic terms – if biodiversity and the natural environmental were accorded appropriate value as national assets and essential infrastructure – Australia's current approaches to environmentally harmful invasive species are guaranteeing future poverty. Despite having already suffered severe losses, the nation continues to incur large preventable cost burdens (new invasive species), and is failing to invest sufficient to stop the worsening of existing problems (invasive species spreading and causing harm).

While the focus in this submission is on invasive species that harm the environment ('environmental invaders'), and not those recognised primarily as economic threats (eg. by reducing agricultural output), environmental invaders invariably have negative long-term impacts on the economy and other aspects of human wellbeing (see Box 1). These include control costs to protect biodiversity 'assets'; impacts on industries that rely on environmental health, such as tourism; potential health impacts from invasive species and control methods; and impacts on human wellbeing, most of which have not been assessed.

With its management of environmental invaders, Australia breaches several cardinal rules of sound economic management. We fail to:

- assess current and future costs, both to the economy and the environment, of invasive species: eg. the impacts of the majority of environmental invaders have not been assessed.
- apply risk assessment or cost-benefit analysis to many decisions involving invasive species: eg. the majority of invasive and potentially invasive species can be sold and moved within Australia without any assessment or regulatory impediment
- accord appropriate weight to long-term costs: eg. short-term benefits (eg. to the nursery industry) are given priority over long-term costs (for control of escaped garden plants), mostly implicitly in the absence of cost-benefit assessments
- incorporate environmental externalities into decision-making: eg. future costs to the environment and to taxpayers have been ignored in the release of new potential invaders or existing invaders into new areas
- implement a polluter pays approach: those responsible for impacts or benefiting from invasive species do not pay the costs of mitigating their damage.

"The approach used to manage biosecurity risks to human health, food safety and the environment (including aquatic environments) needs to be consistent with the approach used to address risks that primarily affect the agriculture sector."

– One Biosecurity: A Working Partnership. Beale review of quarantine and biosecurity arrangements (2008)

Environmental impacts of invasive species

Invasive species have already caused the extinction of more than 40 Australian mammals, birds and frogs, and are second only to habitat loss in the numbers of Australian species and ecological communities they threaten.[i]

Australia's latest State of the Environment report (2011) recorded that 60% of nationally endangered species are affected by invasive species and 15% by disease (mostly due to introduced pathogens) and notes that Australia's natural heritage is under pressure from a '*fast-growing number of invasive species*'. Under climate change the '*current replacement of native species with a smaller number of introduced species capable of supporting a narrower range of ecological functions will intensify. An explosion in the number and impacts of invasive species is plausible* ....'

The report card assessments on invasive species were bleak: high to very high impacts with deteriorating or unclear trends. Their biodiversity impacts and management effectiveness received the worst possible ratings.

Environment component	Impact of invasive species	Trend	Management effectiveness – outputs & outcomes
Biodiversity	Very high	Deteriorating	Ineffective
Heritage values	Very high	Deteriorating	NA
Inland water environments	High	Deteriorating	Partially effective
Land environment	High	Deteriorating	Partially effective
Antarctic terrestrial environment	High	Unclear	Effective

The State of the Environment report contains several critical comments on deficiencies of management, information and resources for invasive species. For example:

> '*Government responses to invasive species are uncoordinated at the national level, reactive, focused on larger animals, biased towards potential impact on primary industry at the expense of the total ecosystem, and critically under-resourced*.'
>
> *'New pressures are emerging and are of high concern due to the limited resources available for control*.'

Recent government-commissioned, independent reviews of Australia's national biosecurity laws (the 2008 Beale review) and environment laws (the 2009 Hawke review) emphasised the need for stronger environmental biosecurity. For example, Beale found that:[ii]

> *'…Australia has a relatively poor knowledge of the biosecurity threats to its natural environment. This is largely a function of the absence of commercial incentives to research and monitor environmental pests and diseases. As a result, the principal responsibility for biosecurity research as it relates to the natural environment lies with governments and the community. These activities have not received a high priority for funding. Unlike incursions that impact on primary production, where active engagement by business is motivated by self-protection, the effort required to respond to an incursion affecting the environment must be provided primarily by governments.*

Australia needs stronger environmental biosecurity to meet its international and national obligations for the environment, such as those under the Convention on Biological Diversity and the Australian Biodiversity Conservation Strategy.

Australia's environmental biosecurity goals

Australia has the following environmental biosecurity commitments and goals:

Article 8(h) of the international Convention on Biological Diversity states that:

> *Each contracting Party shall, as far as possible and as appropriate, prevent the introduction of, control or eradicate those alien species which threaten ecosystems, habitats or species.*

Target 9 of the Strategic Plan for Biodiversity 2011-2020 (under the Convention on Biological Diversity) is:

By 2020, invasive alien species and pathways are identified and prioritized, priority species are controlled or eradicated, and measures are in place to manage pathways to prevent their introduction and establishment.

Target 7 of the Australian Biodiversity Conservation Strategy 2010-2030 is:

By 2015, reduce by at least 10% the impacts of invasive species on threatened species and ecological communities in terrestrial, aquatic and marine environments.

In the foreword to the Australian Biodiversity Conservation Strategy, the Ministerial Council states that the intention of the Strategy is to reduce the threat of invasive species such that '*their impact on biodiversity is negligible*'. This is a very important and laudable goal.

However, thus far, there has been little or no endeavour beyond existing programs to achieve the 2015 target of a 10% reduction in invasive species impacts. This lack of action means it is not feasible to achieve the target by 2015. We urge the Government to take the target seriously, extend the timeframe to 2020 and develop a costed plan that details how both the target and the goal of 'negligible' impacts on biodiversity will be achieved.

To achieve the target and goal will require stronger action at all stages of the intervention hierarchy for invasive species:

Prevention: Stopping the deliberate and accidental introduction of non-native species that are likely to harm native species. Australia continues to import species that have never been subject to risk assessment, including species that are known invaders and new variants of existing invasive species. There are few restrictions on the movement of plants native to one part of Australia but harmful elsewhere. New harmful invaders continue to arrive accidentally and establish here.

Eradication: Eliminating new and emerging invaders before they become entrenched. By neglecting opportunities to eradicate invasive species, governments condemn future Australians to the financial and health burdens of ongoing control programs and biodiversity to future declines and extinctions.

Containment and control: Protecting biodiversity from harmful invasive species. Taking into account that climate change will worsen the threat of invasive species, there needs to be more concerted and coordinated action to contain and control harmful invaders.

To achieve the national target will require planning, law and policy reform, cross-jurisdictional and cross-sectoral cooperation and more funding directed at high priorities.

Red imported fire ants (Solenopsis invicta), native to South America, are on the national list of key threatening processes. Here a worker fire ant is shown in stereotypical defensive posture, her sting extruded, waving a droplet of venom in the air. Photo: Alex Wild Photography

Our approach in this submission

In this budget submission, we focus on the measures essential as a first step to achieve the national target of 10% reduction in impacts of invasive species and the longer-term goal of reducing invasive species impacts on biodiversity to negligibility. Although the target and goal are a shared responsibility between the federal and state/territory governments, the Federal Government needs to take the lead in defining what is required to achieve the target and driving the essential reforms.

We propose six budget priorities for 2011-2012 as the first step in achieving the biodiversity target and goal:

- An assessment of the measures and funding necessary to achieve the invasive species target and goal in the National Biodiversity Conservation Strategy, and development of a costed plan
- Establishment of an environmental biosecurity organisation, Environment Health Australia, to drive cross-jurisdictional and cross-sectoral collaboration.
- Implementation of Beale review reforms for strengthened environmental biosecurity, and effective operation of the National Environmental Biosecurity Response Agreement
- Use of the *Environment Protection & Biodiversity Conservation Act 1999* to facilitate management of priority invasive species threats to biodiversity
- More effective containment and control of invasive species that threaten biodiversity,
- Research programs that address priority knowledge gaps in effective management of invasive species threatening Australian biodiversity.

Due to a lack of publicly available financial information and analysis relevant to funding of invasive species management, we are not in a position to provide costings for these proposals.

Box 1 Environmental Biosecurity and the Treasury Wellbeing Framework

Treasury has developed a wellbeing framework to guide it in working to fulfill its mission "to improve the wellbeing of the Australian people". As briefly outlined below, there are strong reasons under the wellbeing framework to improve environmental biosecurity as a priority reform area, with invasive species relevant to each of the five dimensions in the framework:

- the level of opportunity and freedom that people enjoy;
- the level of consumption possibilities;
- the distribution of those consumption possibilities;
- the level of risk that people are required to bear; and
- the level of complexity that people are required to deal with.

Freedom and opportunity: 'refers to the capabilities that Australians have to lead lives that they have reason to value.'

Many Australians place high value on a healthy natural environment and the existence and health of other species, many of which are gravely threatened by invasive species. Freedom to interact with, study, and explore within the natural environment are all compromised by invasive species threats. Many people spend substantial personal time and resources to control invasive species impacts, which could be directed elsewhere for benefit if invasive species were better managed. Unless better managed, invasive species impacts will foreclose many opportunities for future Australians.

Consumption possibilities: 'refers to society's command over resources to obtain goods and services to satisfy the needs and wants of its members. .... It sees value in voluntary work, personal and professional relationships, the quality of the physical environment, education, and health and leisure.'

The impacts and costs of invasive species reduce 'consumptive possibilities' and undermine the capacity of Australians to enjoy the natural environment. Invasive species are the most expensive threat to protected areas, which attract high usage rates. The costliness of invasive species management for landholders and governments preclude expenditure on other goods and time spent on other activities. The costs of food production are significantly increased by invasive species impacts on agriculture. Failure to invest sufficiently in invasive species management devalues the work of volunteers by making their work more difficult or futile.

Distribution: 'refers to the spread of all aspects of consumption possibilities across the population, including across different societal groups, geographic regions and generations.'

The impacts of invasive species are widespread, and increasing both temporally and geographically. They will increasingly compromising wellbeing, and future generations will bear the costs of current failures to prevent their introduction and spread. The burden of invasive species is borne by land managers and taxpayers, while those responsible for and benefiting from introductions generally do not contribute to management costs.

Risk: 'refers to the intrinsic uncertainty in possible outcomes that is present in almost

all decisions... People have different preferences toward risk. All else being equal, it would be expected that wellbeing would be improved if there is a better match between risk preferences and risk borne.'

We court known risks in the failure to prevent and manage invasive species. The public is bearing risks due to the irresponsible preferences for use of invasive species by a small proportion of society, who do not bear the consequences. Invasive species put people at risk in unexpected ways. For example, gamba grass increases the intensity of bush fires and makes fire fighting more dangerous. Exotic plants are responsible for serious allergies and exotic animals can serve as reservoirs of diseases which affect humans.

Complexity: 'refers to the number of considerations, and the interconnections between those considerations, that are relevant to many economic and broader social decisions.'

Complexity is inherent to invasive species management due to the range of species and biological interactions involved, and the multitude of human interests at stake, some conflicting. It is unrealistic to expect individual consumers to make risk-informed decisions about their use of non-native species and difficult for individual landowners to effectively manage multiple invasive species. Decisions on the basis of comprehensive risk assessments should be made for the public good.

Mexican poppy, promoted by government as being one of 10 native species that can be 'readily used as biodiesel feed stocks', even though it is a weedy exotic. Photo: Wiki, GNU Licence

Funding for environmental biosecurity

There is widespread agreement that current funding levels and approaches are far from sufficient to halt and reduce the threat of invasive species to biodiversity. New Zealand researchers have estimated that an extra 9 to 25-fold funding is required in that country to address the threat of invasive species to biodiversity.[iii] They comment, and we share their opinion, that a similar increase is probably required in Australia. That no such assessment has been undertaken for Australia is indicative of the ad hoc and short-term approach taken to invasive species management for the environment.

Australia has been a world leader in protecting agricultural assets from invasive species, and strategies and priorities are generally informed by a sound knowledge of threats, the impacts of invasion and the costs of management. For example, on foot and mouth disease, the Department of Agriculture, Fisheries and Forestry says:[iv]

> *'The Australian Government has committed to invest more than half a billion dollars to prepare for and manage the [foot and mouth disease] threat… Australia has in place detailed contingency plans and a comprehensive whole-of-government approach to managing animal health emergencies that are designed to ensure that resources from a wide range of agencies are available.'*

Environmental biosecurity currently lags far behind agricultural biosecurity and there is nowhere near an equivalent understanding of threats, impacts and costs despite the federal environment department recognising that invasive species are threats to biodiversity of a similar magnitude to habitat loss and climate change.

> *Environmental biosecurity issues have not traditionally received the same attention as the potential impacts of pathogens, diseases, weeds or pests on primary production. … The new biosecurity legislation should require that the environment must be given equal consideration alongside human health and economic and social considerations….*
>
> Hawke review of the EPBC Act (2009)

Although environmental biosecurity is more challenging than that for industry – with more threats, more species at risk, more stakeholders, and less knowledge – far more public resources are dedicated to protecting private industries than the environment from invasive species. For most of its history, our biosecurity system was directed primarily at protecting agriculture from invasive species. Current biosecurity

arrangements are an accident of history, and have not been designed from an ecological perspective (see Box 2).

The community relies on governments to invest resources on their behalf to protect the environment for the public good. There needs to be more equity for the environment in public resources dedicated to biosecurity, as recognized by the Beale review:[v]

> *'…Australia has a relatively poor knowledge of the biosecurity threats to its natural environment. This is largely a function of the absence of commercial incentives to research and monitor environmental pests and diseases. As a result, the principal responsibility for biosecurity research as it relates to the natural environment lies with governments and the community. These activities have not received a high priority for funding. Unlike incursions that impact on primary production, where active engagement by business is motivated by self-protection, the effort required to respond to an incursion affecting the environment must be provided primarily by governments.*

There needs to be substantial long-term investment to bring environmental biosecurity functions at least up to par with those for primary industries.

To achieve the national target will also require much greater community contribution, including much greater involvement of the community and environmental sector in development of biosecurity policy and implementation. There needs to be reform of community engagement processes to bring them up to at least the standard of those for industry bodies.

Just as current governments rue the expensive failures of previous governments, so will future generations rue current failures to implement the reforms needed to prevent new invasive threats and the escalation of existing threats. The reforms proposed by ISC to the Federal Government here and through recent reviews of environment and biosecurity laws (the Hawke and Beale reviews) will save future landowners, governments and non-government bodies many billions of dollars, and the resulting harmonisation of laws and policies will reduce red tape and inconsistencies for those who profit from exotic species, eg. the nursery industry.

Box 2 Differences between environmental and industry-focused biosecurity

Many invasive species have both economic and environmental impacts, and sometimes social impacts as well, warranting a joint approach. However, Australia's biosecurity system was established primarily to protect agriculture and is managed primarily by agricultural agencies. The dominant culture and concepts in biosecurity have been born from agriculture. What are some of the differences that underpin distinctive requirements of environmental biosecurity?

The values to be protected – biodiversity and environmental health: Conservation requires a biosecurity focus on hundreds of thousands of species, from microbes to macropods, and their interactions that constitute ecosystems and ecosystem processes in terrestrial, freshwater and marine systems. In contrast, industry biosecurity is mostly focused on protecting individual species that are of economic value and number no more than a few dozen (except for the nursery and aquarium industries, which use a wider although largely replaceable range of species).

The values at stake for industry are quantifiable in economic terms and are sometimes replaceable (by new breeds, species or enterprises). The values at stake in conservation are not replaceable – each species and ecosystem is important – and cannot be quantified in economic terms. This means they are often undervalued when biosecurity priorities are decided.

Invasive species threats – scale and complexity: Because of the diversity of species and ecological communities to protect, there are far more invasive species that are of threat to environmental values, far too many to compile into a target list. Both environmental and industry threats mostly derive from global and domestic commerce, but a greater proportion of environmental threats are deliberate imports because of their economic or social value. Environmental threats are typically far more complex, involving direct and indirect impacts arising from biotic and abiotic interactions

State of knowledge: Much more is known about cultivated species and the invasive threats to them than about biodiversity and invasive threats. The lack of knowledge about our native biota, particularly invertebrates and microbes, means that most invasive species impacts are not documented or monitored. The impacts of even high-profile species are poorly known.

Predictability and timeframes: While impacts on cultivated species can be predicted

with reasonable accuracy, there are high levels of uncertainty about impacts in the natural environment due to complex interactions, long timeframes (millennia) and lack of knowledge. Many impacts are facilitated by or synergistic with other threats, such as fragmentation and climate change. Invasive impacts in the natural environment may not be observed for decades due to lag effects, lack of monitoring or their insidious nature. A cow killed by a new pathogen is much more easily detected than a dead bird in a forest. The combination of great uncertainties, long timeframes, limited management options and far-reaching impacts warrants an especially precautionary and defensive approach in environmental biosecurity.

Management approaches and options: There are many more management options in relatively simple, delimited agricultural systems than there are in complex natural environments. For example, in response to myrtle rust, plant industries can use fungicides, breed resistant varieties or use tolerant species, none of which are options in the natural environment. Weeds cannot be controlled with broadacre mechanical or chemical control in many natural situations. Australia's post-border biosecurity (managed by the states and territories) is more reactive rather than defensive, with the focus mostly on controlling or proscribing a small subset of listed invasive species that are causing proven harm. A much more precautionary approach is warranted because of the limited options for control once a species is established.

Stakeholders and resources: There are commercial incentives for industry management of invasive species but environmental biosecurity relies on government and community investment for the public good. Commercial incentives and greater government spending also mean that industry biosecurity is much better resourced than environmental biosecurity.

A multitude of stakeholders, often with conflicting agendas, makes environmental biosecurity a much more socially and politically challenging policy area than industry biosecurity. Some of the most damaging environmental invaders are ignored because of economic or social reasons that are rarely subject to cost benefit analysis – many aquarium fish, pasture grasses and garden plants for example.

Some implications of these differences for biosecurity laws, policies and programs

- Biosecurity policy needs to be shaped by ecological principles and address biodiversity priorities, rather than be an add-on to agricultural biosecurity.
- Because of ecological uncertainties and limited management options, applying the precautionary principle is vital.
- Biosecurity policy units and advisory bodies need more ecologists and conservationists.
- Biosecurity should be a high and joint priority for both environmental and agricultural agencies.
- There needs to be more research into potential environmental invaders, the impacts of invasive species on biodiversity and environmental management.
- The imbalance in resources for industry and environmental biosecurity needs to be redressed with increased public funds going to public good biosecurity priorities.
- There is need for an environmentally meaningful way of quantifying and prioritising environmental threats and comparing threats across sectors.
- Post-border biosecurity needs to be much more preventive and ecologically defensive.
- Environmental biosecurity needs meaningful involvement of the community and environmental NGOs in policy development.

Myrtle Rust, potentially Australia's worst forest disease, discovered here in 2010. Photo: CSIRO

Budget priority 1: An environmental biosecurity needs assessment and costed plan

Outcome sought: An assessment of the measures and funding necessary to achieve the invasive species target and goal in the National Biodiversity Conservation Strategy, and development of a costed plan.

The target defined in the National Biodiversity Conservation Strategy – a 10% reduction in the impact of invasive species by 2015 [or 2020, our suggested revision] – is meaningless and not achievable unless there is a detailed and costed plan showing how it can be achieved and a baseline assessment against which to measure progress.

We propose that the Productivity Commission be tasked to assess levels of funding needed to achieve the target and potential funding models by which to achieve funding needs.

The likely 10-20 fold level of current funding shortfall noted earlier is testament to the great value of prevention and the costliness of failures to do so. The longer the delay in addressing such shortfalls and in implementing prevention-focused strategies, the greater will be the future burden.

It is essential to canvass and assess different funding models and options. Public funding should be supplemented by implementing 'polluter pays' approaches and more effective motivation and harnessing of community contributions.

As part of developing a costed plan for achieving the biodiversity target and goal, the Federal Government needs to negotiate with State and Territory Governments about how the costs should be shared – just as has been agreed for arrangements under deeds for responding to new incursions that threaten industry (the Emergency Plant Pest Response Deed and Emergency Animal Disease Response Agreement) and for other areas such as health where governments each contribute to funding.

Budget priority 2: Establishment of Environment Health Australia.

Outcome sought: Establishment of an environmental biosecurity organisation, Environment Health Australia, to drive cross-jurisdictional and cross-sectoral collaboration.

As recent environmental and biosecurity reviews have found, invasive species threats to the environment have been neglected in comparison to those threatening industry.[vi] Current biosecurity systems were established to protect the relatively few cultivated species that are the basis of plant and animal industries, not the multitudes of species and complex interactions that constitute biodiversity.

Invaders will increasingly dominate and destroy native biota unless biosecurity structures and processes are adapted for the natural environment. It will not be sufficient to bolt on environmental responsibilities to existing structures. The complexity and scale of environmental challenges warrants a comprehensive biosecurity focus.

The Invasive Species Council proposes the establishment of ENVIRONMENT HEALTH AUSTRALIA as an essential element in reforming the nation's biosecurity systems to protect the environment. Through partnerships, planning, research, monitoring and outreach, EHA will facilitate more effective ways to safeguard terrestrial and aquatic environments from invasive pathogens, weeds and pests.

Environment Health Australia would complement existing industry-government biosecurity partnerships (such as Plant Health Australia and Animal Health Australia) established to protect species used in agriculture, and collaborate with these bodies.

The establishment of Environment Health Australia would lead to:

- Improved environmental biosecurity preparedness and capacity
- More effective management of environmental invasions
- A more biosecurity aware, vigilant and active community
- Improved coordination and collaboration between jurisdictions, agencies and sectors to create a seamless, all-embracing biosecurity net
- Monitoring of progress in environmental biosecurity
- Improved biodiversity outcomes to assist Australia in meeting its national and international obligations

A stronger focus on invasive species management as an essential adaptation to climate change

See Box 3 for more details about the proposed functions of Environment Health Australia.

Box 3 Proposed functions of Environment Health Australia

Create strong environmental biosecurity foundations

- Develop and promote more ecologically informed approaches to protect species, ecological communities and ecological processes from invasive species.
- Enhance the capacity of biosecurity systems to prioritise and manage the environmental threats of invasive species.

Improve Australia's biosecurity preparedness

- Develop biosecurity plans for high-risk potential environmental invaders.
- Develop strategies to improve prevention and management of environmental incursions, drawing upon the best of disaster preparedness and response methodologies.
- Undertake regular foresighting and reporting to identify emerging and future threats to the environment along the biosecurity spectrum.
- Develop surveillance protocols for environmental incursions.
- Develop strategies to limit the exacerbation of invasive species impacts under climate change.

Promote effective responses to environmental invasions

- Lead the development of National Environmental Biosecurity Response Agreement (NEBRA) processes to promote effective responses to environmental incursions.[1]
- Lead the development of an environmental technical response plan similar to PlantPlan and AusVetPlan to guide emergency responses to environmental pest incursions.
- Develop rapid response capability with scientific, management, training and communication expertise to assist governments in responding rapidly to incursions and environmental biosecurity emergencies.
- Commission, co-ordinate, facilitate and manage nationally agreed environmental health and biosecurity projects.

Enhance community awareness, vigilance and action in biosecurity

- Build public awareness of environmental biosecurity and support the community to become involved in biosecurity policy development and implementation.
- Develop best practice communication and community activation approaches in environmental biosecurity.

- Promote adoption of biosecurity best-practice for environmental values by all land managers.
- Support and facilitate community involvement in detection, monitoring and management of invasive species.

Improve environmental biosecurity capacity – knowledge, people and resources

- Facilitate governments, community groups and researchers to work together to improve environmental health in Australia.
- Share learnings and information – act as a clearing house for publications, reports and data.
- Identify high priority research needs for environmental biosecurity.
- Collect relevant economic data and develop strong economic rationales and costings for prioritising and managing environmental incursions.
- Identify and prioritise invasive species management actions which can deliver carbon offsets.
- Identify and prioritise invasive species management actions which can deliver improved biodiversity outcomes through landscape-scale wildlife corridors.
- Develop, with state and federal regulatory partners, an invasive species offsets policy that directs offset payments to mitigate priority invasive species threats, and assist in ensuring that offset proposals meet criteria and are properly monitored.

Improve coordination and collaboration between jurisdictions, agencies and sectors

- Cooperate and collaborate with industry biosecurity bodies to jointly develop biosecurity responses where invaders have both environmental and industry impacts
- Collaborate with and advise government agencies to ensure that environmental biosecurity threats are properly considered in relevant policies, eg. on climate change, mining, vegetation management.
- Promote environmental outcomes in biosecurity processes and policy making within governments.

Monitor and report on Australia's progress in environmental biosecurity

- Develop indicators for monitoring progress on meeting environmental biosecurity targets.
- Monitor and report on the establishment, spread and containment of ecologically important invasive species.
- Undertake regular independent assessments of Australia's progress in meeting various targets relevant to invasive species impacts (eg. Australia's Biodiversity Conservation Strategy).
- Provide information for the National Environmental Accounts regarding invasive species.

Rock snot has already degraded many NZ waterways. Improved environmental biosecurity can keep it out of Australia. Photo: NIWA

Budget priority 3: Implementation of biosecurity reforms recommended by Beale review

Outcome sought: Implementation of Beale review reforms for strengthened environmental biosecurity and effective operation of the National Environmental Biosecurity Response Agreement.

The Beale review of Australian biosecurity and quarantine made many recommendations that are essential to improve environmental biosecurity, including the creation of a statutory authority (the National Biosecurity Authority) and an expert-based decision-making panel (the National Biosecurity Commission). The review estimated that an extra $260 million was needed annually to achieve the proposed reforms. ISC supports the model proposed to achieve independent and evidence-based decision-making.

One reform arising out of the Beale review is the recently released National Environmental Biosecurity Response Agreement (NEBRA). While strongly supportive of the development of the NEBRA, ISC has major concerns that it will fail to deliver effective responses to new incursions.

Despite the Beale review emphasising the need for stronger involvement of the community in biosecurity, there has been no consultation of the sector in the development of the NEBRA. There is no indication that the government intends for the sector to be meaningfully involved in decision-making and policy setting under the Agreement, instead favouring contributions of manual labour. We submit that community involvement in all aspects of biosecurity is essential for its effective operation.

ISC is greatly concerned that the recent reluctance of the National Management Group to promptly and decisively pursue eradication of two serious environmental threats – myrtle rust and Asian honeybees – is symptomatic of a broader reluctance of governments to fund eradications.

We strongly recommend that decision-making under the NEBRA be transparent and be on the basis of independent publicly available expert advice about the potential for eradication.

Effective operation will require consistent funding for contingency planning (as occurs for priority industry threats) and surveillance programs.

We recommend that a national fund be established that can be drawn on to fund or supplement funds for public good eradications, on the advice of an independent expert advisory body.

Budget priority 4: Reforms of EPBC Act to enhance environmental biosecurity

Outcome sought: Use of the Environment Protection & Biodiversity Conservation Act 1999 to facilitate management of priority invasive species threats to biodiversity.

The Hawke review of the EPBC Act recognised that there are major holes in Australian laws on invasive species.

Dr Hawke found that most states and territories are failing to prevent the deliberate movement of thousands of exotic plant species, many of which are known invaders and the majority of which have never been assessed for their weed risk. Of the ~30,000 exotic plant species in Australia, more than 10% have already established in the wild; another 6000 are weedy overseas and therefore likely to become weeds in Australia; and most have not undergone risk assessment. Apart from Western Australia, which takes a 'white list' approach to exotic plant species, there are no restrictions on the sale and movement of more than 95% of exotic plant species in most parts of Australia. Without reforms, weed problems will worsen as new species establish and existing invaders spread further, exacerbated in many cases by climate change.

Given the already huge costs of weeds to agriculture and the environment, this lack of basic precautions is one of the biggest biosecurity failings in Australia and one of the biggest gaps in environmental law:

> *Movement of established, potentially damaging exotic species between States and Territories represents a substantial failure of State and Territory-based environmental regulation. Development of national protocols, in cooperation with the States and Territories, for assessing resident, potentially damaging exotic species, and for designing and implementing criteria to manage their movement within Australia, may be a useful first step towards remedying this situation (*Hawke Review, 6.43*).*

The Federal Government already has the legal capacity to manage movement of damaging exotic species in s301A of the EPBC Act. ISC strongly recommends that the Federal Government use s301A to implement a science-based, cost-effective

national approach to limit the movement and sale of species within Australia unless they pass a risk assessment. There is no other way to meet the national target of a reduction in impacts of invasive species: relying on each state and territory to individually reform will not work, as has been demonstrated by the many years of failure to do so.

In hindsight, much could have been done to prevent many of Australia's invasive species problems. Rather than just respond to threats as they arise, Australia should be focused on identifying potential and future threats and setting in place preventative strategies. The proposed foresighting capacity recommended by the Hawke review (recommendations 23 (2, 3)) will provide Australia with this opportunity. A foresighting unit, for example, could consider the environmental risks associated with the emerging biofuels industry and recommend policy measures to prevent adverse weed consequences rather than have individual states respond once particular species become a problem after it is too late to stop them. In recognition of the importance of foresighting, ISC urges that this unit be optimally funded and empowered.

The Government, in response to Hawke, said it will establish a foresighting unit to identify and guide management responses to emerging threats (Government Response Rec 23(2)). It will require publication of outlook reports on emerging threats but only as part of 5-yearly state of environment reporting. This timeframe should be reduced to facilitate the capacity to prevent threats before they become entrenched. Foresighting is important to facilitate early and rapid responses to emerging threats but effectiveness will depend on resourcing and priority accorded.

The Hawke review also recommended expanding the use of key threatening process listings and threat abatement plans. These are discussed in the next section.

Feral horses breed faster than current programs can remove them. Photo: Bill Kosky

Budget priority 5: Containing and reducing the threat of established invasive species

Outcome sought: More effective containment and control of established invasive species that threaten biodiversity

The Federal Government has a vital role to play in managing the impacts of invasive species that threaten biodiversity, in providing leadership, defining priorities and funding programs. Current tools and programs include:

- Key threatening processes (KTPs) and threat abatement plans (TAPs), under the EPBC Act, the majority of which involve invasive species.
- Weeds of National Significance: A program that focuses on 20 high priority weed species/groups, which are a small proportion of the weeds significantly threatening biodiversity.
- Caring for our Country: A substantial proportion of projects are focused on invasive species, as is appropriate for the second-greatest current threat to biodiversity.
- Biodiversity Fund: It is unclear as yet the extent to which funds will address invasive species threats.

As highlighted in the State of the Environment Report and other analyses, current programs to address the threat of invasive species to biodiversity are highly inadequate and failing. As recommended in priority 1, it is vital to assess the extent of funding shortfall to meet the national biodiversity target and develop a costed plan to achieve it.

One tool that warrants a much greater focus is the listing of key threatening processes under the EPBC Act and development of threat abatement plans. They offer the means to tackle the major national threats to biodiversity but are poorly used and poorly funded.

Two-thirds of the current KTPs are invasive species. This is consistent with invasive species being the second greatest threat, after habitat loss, to threatened biodiversity, and the great diversity of invasive species threats. It is also indicative of the failure of state and territory governments to regulate invasive species, as concluded by the Hawke review. Nominating invasive species as a key threatening process is the tool of last resort when state and territory governments fail to regulate.

The government has said it accepts recommendations by the Hawke review to undertake regional threat abatement plans, and to expand the definition of 'key threatening processes' to include both immediate and longer-term threats to Australia's national environmental assets. These would be positive reforms if there were sufficient resources for assessing and listing KTPs and developing and implementing TAPs.

Current resources for assessments and development and implementation of TAPs are highly inadequate. They also rely primarily on states and territories to implement them resulting in inconsistent follow-through, dependent upon state priorities.

In order to achieve its biodiversity target, the federal government needs to greatly strengthen its capacity to address the major threatening processes to biodiversity – by focusing on the priority invasive species threats, and by ensuring the implementation of effective threat abatement plans.

In the two main funding programs for biodiversity conservation – Caring for our Country and the Biodiversity Fund – it is not possible to separate out funding for invasive species management from other conservation measures. The guidelines and plans for each plan recognise invasive species as a priority threat, and a large proportion of projects funded under Caring for our Country have been directed to invasive species threats. The insufficiency of funding for invasive species threats is part of a broader insufficiency of funding for biodiversity conservation. As a signal of its commitment to meet the national biodiversity target, the Australian Government should at least double its funding commitment in the 2012-2013 budget to contain and control the threats of invasive species, across the listed programs. The needs assessment and costed plan recommended in Priority 1 can be used to guide the extent of future investments.

Budget priority 6: Environmental biosecurity research

Outcome sought: Research programs that address priority knowledge gaps in effective management of invasive species threatening Australian biodiversity.

The Invasive Species Council congratulates the Australian Government for renewing funding for the Invasive Animals CRC and Plant Biosecurity CRC, organisations that will make important contributions to the capacity to meet the national biodiversity target.

Overall, however, as the Beale review recognised, Australia lacks much of the basic knowledge about biodiversity and invasive species impacts to effectively manage the threats:

> *[T]he principal responsibility for biosecurity research as it relates to the natural environment lies with governments and the community. These activities have not received a high priority for funding.*

The CSIRO[vii] has also emphasized the need for more government funding for environmental biosecurity:

> *[W]e lack national capacity to respond to pathogen and invertebrate threats to environmental biosecurity ... Research and development relevant to urban and environmental risks, as identified under AusBIOSEC, are unlikely to attract industry support.*

To meet the national biodiversity target will require research directed to the highest priority research questions. The extent of research funding needed should be determined in the needs assessment recommended in Priority 1.

There is a major gap in research funds for weed management. The loss of the CRC for Weed Management has left a substantial hole in research effort that has not been replaced by the RIRDC-administered The National Weeds and Productivity Program. We urge that national weed research capacity be restored in Australia, with a CRC-like program to develop effective technical and policy responses to the great challenges of weed prevention, eradication and control.

The level of federal government funding dedicated to environmental biosecurity research is dwarfed by that dedicated to industry research. We commend the government for its commitment to match dollar-for-dollar industry funds to rural development corporations, a substantial proportion of which is devoted to biosecurity issues. However, the need for research funding in environmental biosecurity is even greater than that for industry biosecurity – with more species impacted, more invasive threats and less knowledge – and the public good rationale for funding is more compelling. In the short-term, the government should fund environmental biosecurity research to a level at least equivalent that going to industry biosecurity research.

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[i] Invasive Species Council. 2008. Invasive Species: One of the top three threats to Australian biodiversity. Backgrounder.

[ii] Beale R, Fairbrother J, Inglis A, Trebeck D. 2008. One Biosecurity: A working partnership, The Independent Review of Australia's Quarantine and Biosecurity Arrangements', Report to the Australian Government.

[iii] Choquenot, D. and M. Clout. 2011. Another inconvenient truth: How much pest control will it take to halt the decline in biodiversity? Security from the impact of vertebrate pest animals.15th Australasian Vertebrate Pest Conference. Sydney.

[iv] See DAFF website at <http://www.daff.gov.au/animal-plant-health/pests-diseases-weeds/animal/fmd>

[v] Beale et al. 2008. See note ii.

[vi] Beale et al. 2008. See note ii.

Hawke A. 2009. The Australian Environment Act: Report of the Independent review of the Environment Protection and Biodiversity Conservation Act 1999. Department of the Environment, Water, Heritage and the Arts, Australian Government.

[vii] CSIRO 2008. CSIRO submission to the Beale review of biosecurity and quarantine. Canberra, ACT.