Environment Health Australia

FAQs

RELEASED JUNE 2012

The Invasive Species Council proposes the establishment of EHA - Environment Health Australia, a national body to collaborate on solutions for environmental biosecurity.

The short answers to these FAQs contain links to detailed responses.

1. About EHA

1.1 What is Environment Health Australia?

A national organisation proposed by the Invasive Species Council to foster partnerships, planning, research, monitoring and outreach to facilitate more effective ways to safeguard terrestrial and aquatic environments from harmful invasive pathogens, plants and animals. EHA will ensure better environmental outcomes from biosecurity investments. More here...

1.2 Why does Australia need Environment Health Australia?

Invasive species threats to the environment are overwhelming current biosecurity systems. Australia needs EHA to facilitate a comprehensive cross-sector, cross-jurisdictional focus on solutions for this top-three threat to nature. The environment has been seriously short-changed by biosecurity arrangements to date. More here...

1.3 Who would participate in Environment Health Australia?

Environment Health Australia would be structured to foster partnerships between major participants and stakeholders in environmental biosecurity and promote collaboration with industry bodies where there are shared interests. Potential members include NGOs with a focus on environmental policy, land management, and natural resource management, indigenous organisations, environmental and biosecurity agencies in federal and state/territory governments, research institutions, professional bodies and environmentally focused industry bodies. Environment Health Australia is not a vehicle for self-serving interests to direct government policy; it is the portal through which community sectors can contribute to the national interest. More here...

2. The need for a specific environmental biosecurity focus

2.1 Wouldn't it be better to bolster the environmental focus within existing industry institutions rather than create a new body?

Bolting on environmental responsibilities to the existing industry-focused organisations Plant Health Australia and Animal Health Australia will not work to fill the multiple gaps in environmental biosecurity and will not foster the partnerships with community and environmental sectors essential to reform. While industry and environment share many invasive threats, there are substantial differences between the two that warrant a specific environmental focus. More here...

2.2 How does environmental biosecurity differ from industry biosecurity?

Many invasive species have both economic and environmental impacts, warranting joint surveillance and response. But there are many differences between the natural environment and agricultural systems that mandate a distinctive approach to environmental biosecurity, including differences in:

- Values to be protected: Hundreds of thousands of species and their interactions compared to a few dozen important agricultural species
- Scale and complexity of threats: Many more invasive species are of threat to environmental values than to agriculture, involving poorly understood and complex direct and indirect impacts.
- State of knowledge: Much more is known about cultivated species and the invasive threats to them than about biodiversity and invasive threats.
- 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 and lack of knowledge.
- Management approaches and options: There are many more management options in relatively simple, delimited agricultural systems than there are in complex natural environments.
- Stakeholders and resources: A multitude of stakeholders, often with conflicting agendas, makes environmental biosecurity a much more socially and politically challenging policy area than industry biosecurity. There are commercial incentives for industry management of invasive species but environmental biosecurity relies on consistent government and community investment for the public good. More here...

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3. Economic issues

3.1 How much will Environmental Health Australia cost?

The quantum of funding required needs to be derived from its agreed functions in consultation with the proposed membership. State and Federal Governments contribute about $4 million a year in operational funds to Animal Health Australia and Plant Health Australia (the industry-focused biosecurity bodies), as well as project funding. Their total revenue for 2009-10 was about $20 million, and they employed more than 40 staff. It is important to ask what it will cost not to fund EHA – the Australian environment is precious and necessary beyond words and dollars. More here...

3.2 Who will pay for Environment Health Australia?

The operational costs of Environment Health Australia would be shared between its members, which include the federal and state/territory governments, industry and research bodies, and community groups. Funding for particular projects would come from a wide variety of government and non-government sources. As is warranted for a public good and to meet national governmental commitments, governments should contribute the majority of funding on behalf of the community. Potential sources of funding include the Biodiversity Fund, offsets and levies. Because there is little direct commercial advantage (although great community-wide economic benefits), government needs to fund EHA for the public good. More here...

3.3 With current budget constraints, isn't Environmental Health Australia too expensive?

Its functions are vital to Australia meeting national environmental and biosecurity goals. Invasive species are already costing Australia dearly and these costs will continue to grow. Preventing invasive species incursions and containing spread will deliver great cost savings. EHA would deliver large environmental, social and economic benefits for relatively small investment. The mounting costs of continued failure to reform environmental biosecurity make it too expensive to do otherwise. More here...

3.4 What funding is needed for environmental biosecurity beyond that for Environment Health Australia?

Current funding levels and approaches are far from sufficient to reduce the threat of invasive species to biodiversity. There needs to be substantial long-term investment to bring environmental biosecurity functions at least up to par with those for primary industries. The Invasive Species Council has recommended that the Productivity Commission be tasked to assess levels of funding needed to achieve the invasive species target of the National Biodiversity Conservation Strategy, and potential funding models. Pressing national needs must be met with systemic change. More here...

3.5 Isn't environmental biosecurity a black hole for taxpayers?

Environment Health Australia will assist in ensuring that taxpayer funds are directed to priorities, using cost-effective methods and that there is value for community investment in environmental biosecurity.

Many environmental biosecurity programs are successful, and failures are often symptomatic of the failure to properly invest in programs. Effective biosecurity investment can make a big difference to preserving our environment. More here...

4. The role of community

4.1 Why can't governments do the work of Environment Health Australia?

Protecting the environment from invasive species cannot be achieved by government alone. The great challenges of environmental biosecurity require community participation and environmental expertise at all levels, including in setting policies and priorities. A major message of the recent federal review of biosecurity was the importance of partnerships between community, governments and industry. History has proved top down only approaches are inadequate. More here...

4.2 What can the community contribute to biosecurity?

Community sectors provide extensive biosecurity services in land management, bush regeneration, feral animal control and threatened species conservation but their energy and expertise is yet to be comprehensively tapped in setting policy directions and shaping biosecurity programs. Governments have set up industry-government biosecurity partnerships, and similar arrangements with community sectors would assist with environmental biosecurity. In the community, there are tremendous resources of intellect, experience and goodwill waiting to be tapped by effective partnerships. More here...

4.3 What does a partnership for environmental biosecurity require?

'Partnership' will be a meaningless buzzword unless there are substantial changes to the way that governments interact with the community and environmental sectors for environmental biosecurity. It will require a commitment to the goals of environmental biosecurity, recognition of the role of the community and environmental sectors and support for participation at all levels, institutional arrangements that reflect the importance of environmental biosecurity and greater environmental expertise within biosecurity agencies. Environment Health Australia will be a vital component in fostering partnerships. Government must not insult the community by asking for their manual labour alone. More here...

5. The relationship with industry biosecurity

5.1 What are Plant Health Australia and Animal Health Australia?

PHA and AHA are companies established in 2000 and 1996 respectively to coordinate government-industry partnerships to protect plant and animal industries from invasive species incursions. Environment Health Australia would function as a sister body focusing on environmental aspects of biosecurity. More here...

5.2 Will a greater focus on environmental biosecurity mean that primary industry will suffer?

Biosecurity should not be a competition between the needs of industry, community and the environment. All are important and have overlapping needs. We propose a collaborative model. Industry bodies should not be concerned that the establishment of Environment Health Australia would compromise their biosecurity capacity. The Invasive Species Council supports maintaining a strong focus on industry biosecurity as important for both industry and the environment, and a stronger community involvement would benefit biosecurity across all sectors. More here...

Detailed responses

1. About Environment Health Australia

1.1 What is Environment Health Australia?

The Invasive Species Council proposes the establishment of Environment Health Australia, a national organisation that fosters collaborative action by government, community, research and industry sectors to improve environmental biosecurity.

Through partnerships, planning, research, monitoring and outreach, EHA will facilitate more effective ways to safeguard terrestrial and aquatic environments from harmful invasive pathogens, plants and animals.

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 help meet national and international obligations
- Better invasive species management as an essential adaptation to climate change

1.2 Why does Australia need Environment Health Australia?

Australia urgently needs a more ecological, coordinated and collaborative approach to environmental biosecurity. As one of the top three threats to Australia's biodiversity, invasive species are overwhelming the capacity of current biosecurity systems and are set to worsen under climate change.

Australia's 2011 State of the Environment report found, the environmental impacts of invasive species are 'very high' and 'deteriorating'. Current management outputs and outcomes to protect biodiversity from invasive species are 'ineffective':

> *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*.

Recent federal environmental and biosecurity reviews have found that invasive species threats to the environment have been neglected in comparison to those threatening industry. 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.

Invasive species 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. Australia needs Environment Health Australia to facilitate a comprehensive cross-sector, cross-jurisdictional focus on environmental solutions.

1.3 Who would participate in Environment Health Australia?

Environment Health Australia would be structured to foster partnerships between major participants and stakeholders in environmental biosecurity and promote collaboration with industry bodies where there are shared interests.

One potential model is that of Plant Health Australia and Animal Health Australia, which are public non-profit companies, with industry and government members and an elected board. It will be important to ensure a balance between government and community representatives and processes that foster genuine partnerships.

Members of Environment Health Australia should include:

- Federal Government: environment and biosecurity agencies
- State/Territory Governments: environment and biosecurity agencies
- Environmental NGOs with an environmental biosecurity focus
- Indigenous land management organisations
- NRM and conservation land management organisations
- Research institutions focused on biosecurity and ecology, eg. CSIRO, Invasive Animals CRC, Australian Centre of Excellence for Risk Analysis, The Ecology Centre
- Professional bodies for people involved in environmental biosecurity (eg. weed societies, Ecological Society of Australia, Australasian Plant Pathology Society)
- Environmental and allied primary production industry bodies: eg. in ecotourism, environmental restoration, zoo and wildlife industry, botanic gardens.

2. The need for a specific environmental biosecurity focus

2.1 Wouldn't it be better to bolster the environmental focus within existing industry institutions rather than create a new body?

It has been proposed that the industry-focused Animal Health Australia and Plant Health Australia should encompass environmental pests and diseases.[i] But these industry-focused structures cannot fill the multiple gaps in environmental biosecurity and will not be able to foster the partnerships with community and environmental sectors essential to reform. Environmental functions cannot simply be bolted on to existing institutions, as recognised by Plant Health Australia:

> *'For environmental pests there are many more stakeholders across government, industry and the community than is the case with commercial specific pests. Major challenges lie ahead in forming links and partnerships between these groups and along the continuum. Trust, goodwill and impartial decision making will be important and* ***consideration needs to be given to establishing an independent body similar to Plant Health Australia to create the framework and coordination for partnerships to operate.****'*
> *[bolding ours]*
>
> Plant Health Australia (2008) Submission to Quarantine & Biosecurity Review

While industry and environment share many invasive species threats, there are substantial differences between the two that warrant a specific environmental focus (see differences below).

Priority environmental threats are much more numerous and complex than industry threats and if accorded appropriate attention would overwhelm the work of these bodies. Inevitably, they would not accord environmental threats the priority and specific focus they require, and would exclude community sectors from an effective partnership role in environmental biosecurity. The environment sector would strongly oppose environmental biosecurity being subsumed within industry bodies.

PHA and AHA were set up to service their membership of industry organisations (a total of about 50 between them). Industry groups paying for their involvement in PHA and AHA would be unlikely to accord environmental and community groups a major role in decision-making or support a strong environmental focus.

2.2 How does environmental biosecurity differ from industry biosecurity?

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. Many invasive species have both economic and environmental impacts, and sometimes social impacts as well, warranting joint surveillance and response. But there are many differences between agricultural systems and the natural environment that mandate a distinctive approach to 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). Conservation requirements are increasingly landscape-scale and blind to tenure in contrast to industry biosecurity.

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 changes in biological and physical interactions.

State of knowledge: Due to commercial incentives, 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 (decadal to millennial) 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 requires 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 the recently introduced myrtle rust, plant industries can use fungicides, breed resistant varieties or use tolerant species, none of which are options in the natural environment. In many natural situations, weeds cannot be controlled with broadacre mechanical or chemical control. Australia's post-border biosecurity (managed by the states and territories) is more reactive rather than defensive, focussed 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 options for control once a species is established are very limited.

Stakeholders and resources: There are commercial incentives for industry management of invasive species but environmental biosecurity relies on consistent 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 their 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 whilst maintaining competent industry biosecurity capacity.
- 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.

3. Economic issues

3.1 How much will Environmental Health Australia cost?

The Invasive Species Council has not nominated a firm cost for Environment Health Australia, as the quantum of funding required needs to be derived from its agreed functions in consultation with the proposed membership.

An indicative operational cost can be obtained by considering the budget of the relevant industry bodies Plant Health Australia and Animal Health Australia, keeping in mind that the proposed functions of Environment Health Australia are considerably more numerous and complex than those of Plant Health Australia and Animal Health Australia.

State and Federal Governments contribute about $4 million a year in operational funds to Animal Health Australia and Plant Health Australia, as well as project funding. Their combined revenue for 2009-10 was about $20 million, and they employed more than 40 staff. In advance of detailed costing, it is reasonable to expect that EHA operational funding would need to be at least equivalent to that for AHA and PHA.

There can be little question that governments should fund environmental biosecurity to a greater extent than they fund industry biosecurity – given the greater challenges, the catch-up needed, the lack of commercial incentives for environmental biosecurity and the public good at stake.

Despite the propensity for economic indicators alone to be considered worthy in determining the value of things to society, two facts should remain paramount in determining national priorities:

- our society and economy require a healthy environment, and
- the non-economic values of nature are immeasurably greater than usually credited.

3.2 Who will pay for Environment Health Australia?

The operational costs of Environment Health Australia would be shared between its members, which include the federal and state/territory governments, industry and research bodies, and community groups. Funding for particular projects would come from a wide variety of government and non-government sources.

As is warranted for a public good and to meet national governmental commitments, governments should contribute the majority of funding on behalf of the community. Other groups should contribute according to their capacity and the economic benefit derived.

Although most community and environment groups have limited financial resources, they will contribute valuable services in the form of policy formation, facilitation of vital community engagement and biosecurity services.

Potential sources of funding include the following.

- Federal and State/Territory Government contributions from general revenue, in the same way that Plant Health Australia and Animal Health Australia, and R&D corporations, are funded.
- The Biodiversity Fund, to be funded from the proposed carbon tax to protect Australian biodiversity from climate change: the exacerbation of invasive species impacts is recognised as one of the major threats to biodiversity under climate change.

- Carbon offsets: Managing invasive species can prevent and reduce greenhouse gas emissions.
- Development offsets: More effective management of invasive species is a worthy focus for offsets required as part of development approvals under federal and state regimes.
- Industry levies: Consistent with the 'polluter pays' principle, the industries responsible for and benefiting from introductions of environmentally harmful invaders should be required to contribute to mitigating the environmental damage caused.
- Philanthropic funding: Some projects may attract support from the philanthropic sector.
- Memberships and in-kind support: Some members with commercial activities may be able to pay a subscription. Other members may contribute in-kind services.

3.3 With current budget constraints, isn't Environment Health Australia too expensive?

The establishment of Environment Health Australia is clearly in the public interest and its functions are vital to Australia meeting national environmental and biosecurity goals. There are compelling reasons for EHA to be prioritised for public funding. EHA would deliver large environmental, social and economic benefits for relatively small investment. The mounting costs of continued failure to reform environmental biosecurity make it too expensive to do otherwise.

EHA is a sound and relatively inexpensive investment that will deliver high returns for the following reasons.

- EHA is essential to address high priority threats: Invasive species already threaten more species than any other factor besides land clearing, and are set to get much worse unless environmental biosecurity is greatly improved. 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 ....'

- EHA is essential to meet national environmental commitments: 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.

- EHA would fulfill vital environmental and biosecurity functions recognised in several government reviews as major gaps:

> 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)[ii]

- Environmental biosecurity lags industry biosecurity in preparedness, research, stakeholder engagement and many other respects yet receives less public funding: The level of funding required annually for EHA would be only a small proportion of that provided over the past few years to assist industry biosecurity. Governments have funded industry-focused biosecurity organisations for more than a decade. The $390 million spent by governments on responding to the equine influenza outbreak[iii] or the more than $500 million the Federal Government says it will commit to foot and mouth disease preparation and management could fund EHA for many years.

- EHA will return greater value for existing biosecurity investment: By fostering collaboration between sectors and across jurisdictions, identifying priorities and fostering community involvement, EHA will leverage maximum value from funding.

- Improving environmental biosecurity will bring substantial economic and social advantages.

> *…in light of the environmental impacts and production losses due to weeds and other invasive species, it is expected that any reforms should engender a high return on the investment.*
>
> Hawke review of the EPBC Act (2009)

A healthy environment is a prerequisite for a healthy economy, including for animal and plant industries. Many incursions which harm the environment also harm the economy, human health and amenity. Just

as current governments rue the expensive failures of previous governments to prevent introductions of harmful exotic species, so future generations will rue current biosecurity failures. The longer the delay in addressing biosecurity shortfalls and in implementing prevention-focused strategies, the greater will be the future burden.

Deferring environmental biosecurity expenditure will create bigger and more intractable problems for the future. It would leave a legacy debt to be confronted after the economic benefits from the mining boom have washed through the economy and when government expenditure will be increasingly stretched to fund adaptation to climate change.

Stronger community involvement in surveillance, control and monitoring of invasive species is of great economic benefit. Governments committed to biosecurity will also benefit from having stronger community awareness and support for policies and programs. Industries will benefit from greater harmonisation between jurisdictions and enhanced cooperation with the community sector.

3.4 What funding is needed for environmental biosecurity beyond that for Environment Health Australia?

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.[iv] 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:[v]

'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.

Despite myrtle rust being regarded by the Commonwealth Primary Industries Ministerial Council as 'one of the most serious threats to Australian production forests and natural ecosystems' and assessed as having a high environmental impact and a high-to-extreme economic impact, insufficient preparations for its incursion were made.

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:[vi]

> '…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. This will include greater community contribution, including greater involvement in development of biosecurity policy and implementation.

The Invasive Species Council has recommended that the Productivity Commission be tasked to assess levels of funding needed to achieve the invasive species target of the National Biodiversity Conservation Strategy, and potential funding models by which to achieve funding needs. Public funding should be supplemented by implementing 'polluter pays' approaches and more effective motivation and harnessing of community contributions.

3.5 Isn't environmental biosecurity a black hole for taxpayers?

Eradication and control of invasive species are very challenging – typically requiring long-term or sustained programs, technical innovation and monitoring. It is important to ensure that taxpayer funds are directed to priorities, using cost-effective methods and ensuring that there is value for community investment. An important role for Environment Health Australia will be to provide advice about these issues so as to increase return on investment.

It is important to document successes and assess reasons for program failures so as to improve guidelines for success, avoid repeating mistakes and to identify priority research areas and funding needs.

Many invasive species programs have been successful, with the interception of harmful invaders such as black-spined toads; the eradication of environmental invaders, particularly rats, foxes and cats from islands; and the control of invasive species to protect many high-value conservation areas. Certain high-profile failures (most recently Asian honeybees and myrtle rust) and the increased spread of many invaders are not reason to consider invasive species programs as largely futile. They are arguably symptomatic not of futility but instead of the failure to properly invest in environmental biosecurity. When programs are chronically under-resourced or inconsistently resourced, failure rates are inevitably high.

There are strong economic rationales for the proposed investment in Environment Health Australia. EHA would facilitate more cost-effective approaches to environmental biosecurity that ensure best value for investment of public funds. There are synergistic benefits for the economy in collaborative environmental and industry biosecurity efforts. There are significant community human resources, for example with an increasing population of retirees that can contribute if given the appropriate support. Finally, the maintenance of environmental health is also of great economic benefit. Investments insuring the health of our greatest national asset, the environment, make sound business sense.

4. The role of community

4.1 Why can't governments do the work of Environment Health Australia?

Effective biosecurity requires community involvement. A major message of the 2008 federal review of biosecurity and quarantine was the importance of partnerships between community, governments and industry, and the need for engagement of the community:

> Engagement with business and the general community on biosecurity must occur consistently and continually at several levels, from policy setting through co- regulatory alternatives to actions by individuals and companies, before, at and after the border.
>
> *The message of One Biosecurity: a working partnership needs to be made available to a wide audience. Effective awareness campaigns and education that target all facets of the biosecurity continuum are essential, but particularly focusing on areas that have lacked representation in the past. These include aquatic and environmental biosecurity, travelers from non-traditional countries and Internet business transactions. This will require a more concerted involvement from the general community, the environment sector, organisations and businesses with a direct interest in the aquatic environment, airlines and travel agents, and Internet business providers.*

The need for community engagement and partnerships is also stated in Australia's Biodiversity Conservation Strategy 2010–2030:

> *Engaging all Australians is fundamental if we are to succeed in building ecosystem resilience in a changing climate.'*
>
> *'Cooperation between different parts of the community is essential to increase effective engagement in biodiversity conservation. … [P]artnerships between sectors are necessary for successful outcomes.'*

Currently, the community sector is treated mainly as a group to be educated about responsible biosecurity practices and as a workforce to undertake weeding and pest control. There is very little engagement of the community or environmental sector in policy setting. In contrast, industry and business groups are involved as key stakeholders at all levels of biosecurity.

The effect of this neglect of the community and environmental sectors is that environmental biosecurity is hamstrung and their potential contributions are unrealised. Sustainability of community participation is undermined when volunteers cannot engage in higher order functions.

Effective community participation is crucial to reforming environmental biosecurity and unlocking efficiencies not achievable by government alone. Major government reforms rarely occur without strong community advocacy and support. Fostering involvement of the community sector and supporting capacity building to promote productive input is very much in the interests of any government committed to environmental biosecurity.

4.2 What can the community contribute to biosecurity?

Effective biosecurity requires the collaboration and cooperation of government, community, research and industry sectors. Community sectors already provide extensive biosecurity services in land management, bush regeneration, feral animal control and threatened species conservation but their energy and expertise is yet to be comprehensively tapped in setting policy directions and shaping biosecurity programs. Continued enthusiasm for the manual labour of pulling weeds can only be sustained through effective involvement in direction-setting.

Governments have set up industry-government biosecurity partnerships through Animal Health Australia and Plant Health Australia. Similar arrangements with community sectors are required for environmental biosecurity to secure community involvement at all levels in biosecurity.

> *Engagement with business and the general community on biosecurity must occur consistently and continually at several levels, from policy setting through co- regulatory alternatives to actions by individuals and companies, before, at and after the border.*
>
> Beale review of biosecurity and quarantine (2008)
>
> *Engaging all Australians is fundamental if we are to succeed in building ecosystem resilience in a changing climate.*
>
> Biodiversity Conservation Strategy 2010–2030

4.3 What does a partnership for environmental biosecurity require?

There is now considerable rhetoric about the importance of partnerships in biosecurity. It was a dominant theme in the 2008 review by Beale and colleagues 'One Biosecurity: A Working Partnership. But 'partnership' will be a meaningless buzzword unless there are substantial changes to the way that governments interact with the community and environmental sectors about biosecurity.

Currently, there is little engagement of the community and environment sectors, particularly in policy setting, and such engagement is often tokenistic – eg. when one environmental representative is invited to sit on an advisory committee dominated by industry representatives. The dominant focus on primary industries and the business culture within biosecurity agencies often promotes an adversarial relationship.

Unfortunately, the biosecurity review report does not set out how partnerships can be fostered with the community and environment sectors. Clearly there are more challenges with these sectors than with industry because of disparate stakeholders, agendas and capacities. Achieving genuine partnerships will require at least the following:

- Commitment by biosecurity agencies to the goals of environmental biosecurity, such as the invasive species target in the national Biodiversity Conservation Strategy.
- Recognition of the important role of the community and environmental sectors in biosecurity and support for participation at all levels.
- Institutional arrangements that reflect the importance of environmental biosecurity and promote collaboration between biosecurity and environmental agencies within and between governments
- Greater environmental and engagement expertise within biosecurity agencies at all levels

With industry, partnerships have been fostered through Plant Health Australia and Animal Health Australia. Environment Health Australia will be vital to similarly foster partnerships with the community and environmental sectors. Within Environment Health Australia, genuine partnerships will require a strong commitment by EHA members to shared goals and protocols that respect the roles and contributions of each member body to effective biosecurity.

5. The relationship with Industry biosecurity

5.1 What are Plant Health Australia and Animal Health Australia?

PHA and AHA are not-for-profit companies established in 2000 and 1996 respectively to coordinate government-industry partnerships to protect plant and animal industries from incursions.

Plant Health Australia has 31 industry and 8 government members. Its strategic objective is to 'ensure a strong biosecurity partnership with government and industry minimises pest impacts on Australia, enhances market access and contributes to industry and community sustainability.'

Animal Health Australia has 16 industry and 8 government members. Its objectives are to 'strengthen Australia's national animal health system and maximise confidence in the safety and quality of

Australia's livestock products in domestic and overseas markets'.

PHA and AHA activities are funded by member subscriptions – with about one-third contributed by industry members and two-thirds by government members – industry levies and special project grants.

PHA and AHA administer guidelines (PLANTPLAN and AUSVETPLAN) and deeds of agreement (Emergency Plant Pest Response Deed and The Emergency Animal Disease Response Agreement) outlining arrangements for responding to emergency incursions. The deeds specify that costs of eradicating emergency pests are to be shared by government and industry based on an assessment of the relative private and public benefits of eradication. PHA and AHA also develop contingency plans for particular high priority pest threats. AHA and PHA also have some environmental functions – for example, wildlife is included in AHA's disease surveillance program and contingency plans by PHA include environmental actions where economic pests also have environmental impacts.

AHA and PHA do not generally address policy and priority setting for established pests, a function that is essential for any environmental biosecurity body.

5.2 Will a greater focus on environmental biosecurity mean that industry will suffer?

Biosecurity should not be a competition between the needs of industry, community and the environment. All are important and have overlapping needs. Industry bodies should not be concerned that the establishment of Environment Health Australia would compromise their biosecurity capacity. The Invasive Species Council supports maintaining a strong focus on industry biosecurity as important for both industry and the environment.

A stronger involvement by the community and environment sectors within biosecurity will benefit industry in multiple ways - by increasing awareness about shared threats, improving biosecurity knowledge and systems and generating greater support for government expenditure on biosecurity. There will be benefits for industry in having greater consistency in environmental biosecurity policies across jurisdictions. The joint interests of industry and environmental stakeholders are far greater than areas of potential conflict.

Where there are areas of conflict between industry and environment (eg. where organisms that have commercial value are an invasive threat to the environment), protocols and methods should be developed by which to properly consider the costs and benefits of particular responses.

In part because of institutional barriers and insufficient capacity, environment NGOs do not focus on biosecurity reform to the extent warranted by the severity of invasive species threats to the environment. The proposed Environment Health Australia would facilitate a stronger NGO focus that would be of benefit to all biosecurity sectors.

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i The 2008 Beale review of biosecurity recommended that: 'the membership of Animal Health Australia and Plant Health Australia should be broadened to encompass environmental pest and disease issues including those affecting the aquatic and terrestrial environments.'

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.

iii Watson J, Daniels P, Kirkland P, Carroll A and Jeggo M. 2011. The 2007 outbreak of equine influenza in Australia: lessons learned for international trade in horses. Rev. Sci. Tech. Off. Int. Epiz. 30: 87-93.

iv 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.

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

vi 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.