

Environment Health Australia: a proposal to strengthen environmental biosecurity

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Summary Australia needs a more ecological, coordinated and collaborative approach to environmental biosecurity. The Invasive Species Council believes that the complexity and scale of environmental challenges warrant the establishment of a new national body, Environment Health Australia. The body would bring together major participants in environmental biosecurity, including community groups, to strengthen biosecurity preparedness, develop more ecological approaches, facilitate collaboration and report on progress in environmental biosecurity. Environment Health Australia would be a cost-effective solution to fill a major gap in Australia's biosecurity system.

Keywords Biosecurity, environment, community, invasive species, environmental biosecurity.

INTRODUCTION

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 (ISC 2008, Low 2008). Invasive species are second only to land clearing in the numbers of Australian species and ecological communities threatened (Evans *et al.* 2011). Australia's latest state of the environment report records that 60% of nationally endangered species are affected by invasive plants and animals and 15% by pathogens (mostly introduced) and that Australia's natural heritage is under pressure from a 'fast-growing number of invasive species' (State of the Environment 2011 Committee 2011). It rated the impact of invasive species on biodiversity as 'very high' with a 'deteriorating' trend and found that management effectiveness in terms of outputs and outcomes was 'ineffective'.

Under Article 8(h) of the international Convention on Biological Diversity Australia has a commitment to 'prevent the introduction of, control or eradicate those alien species which threaten ecosystems, habitats or species'. The relevant target in Australia's 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' (NRMMC 2010).

The fact that the target date of 2015 is almost upon us and as yet there is not even a plan for how this target can be achieved suggests a lack of national commitment to it. The target has not been integrated into national biosecurity policies and priorities. A lack of national coordination was highlighted in the state of the environment report: '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' (State of the Environment 2011 Committee 2011).

BIOSECURITY 'PARTNERSHIPS' AND COMMUNITY SECTOR

There has been considerable emphasis on the importance of partnerships, including with the community, for effective biosecurity. The independent review of national biosecurity arrangements concluded it was fundamental, as reflected in the title of the report 'One biosecurity: a working partnership' (Beale *et al.* 2008).

'Partnership' is a demanding concept, implying shared power and responsibility. The 2008 national biosecurity review said a new approach was needed and that engagement with the business and community sectors '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 *et al.* 2008).

The Invasive Species Council (ISC) is part of the community sector, an advocacy non-government organisation focused on invasive species threats to the natural environment. The Invasive Species Council has been engaged in federal biosecurity processes – for example, as the sole environmental non-government organisation (NGO) sector in a government working group on new biosecurity laws and on the National Biosecurity Committee Stakeholder Engagement Consultative Group. The Invasive Species Council's experience has been that federal government biosecurity engagement with the community sector, while improving, is minimal, and very far from constituting a 'partnership'. It stands in contrast to government-community partnerships established for on-ground

control of invasive species (many bush rehabilitation programs for example) and various government-business biosecurity partnerships, particularly as engendered through Plant Health Australia (PHA) and Animal Health Australia (AHA), through involvement under emergency response agreements and through representation in various federal biosecurity committees. The Biosecurity Advisory Council (2011) has characterised community biosecurity engagement strategies as ‘fragmented, under resourced and uncoordinated’.

ENVIRONMENT HEALTH AUSTRALIA

Given the invasive species threats to biodiversity, the deteriorating trends and national environmental obligations outlined above, Australia clearly needs a more concerted focus on environmental biosecurity that is ecologically informed, well-coordinated and collaborative. Here, ISC proposes the establishment of Environment Health Australia (EHA) to bring together major participants in environmental biosecurity, effectively involve the community sector, and facilitate cross-jurisdictional, cross-sectoral collaboration (for detail, see ISC 2012).

Environment Health Australia is proposed as the environmental equivalent of (and to collaborate with) AHA and PHA, which appear to be an excellent model for engendering industry-government partnerships. The 2008 biosecurity review noted they ‘have been integral to Australia’s biosecurity success’ (Beale *et al.* 2008). Plant Health Australia (2008) recognised the advantages of establishing a similar independent body ‘to create the framework and coordination for partnerships to operate’ for environmental purposes.

The Invasive Species Council considers that a similar collaborative approach with similar levels of resources, focused on environmental biosecurity priorities and with meaningful involvement of the community sector, would greatly strengthen Australia’s capacity for environmental biosecurity. As is appropriate for such a proposal, ISC has been seeking support and feedback from a wide range of biosecurity participants.

FUNCTIONS AND MEMBERSHIP

The functions of the proposed EHA could include the following:

- Improve Australia’s biosecurity preparedness, e.g. develop contingency plans and surveillance protocols, and conduct foresighting.
- Strengthen the foundations of environmental biosecurity by promoting more ecologically informed approaches to biosecurity.

- Promote effective responses to environmental invasions, e.g. develop emergency response plans and facilitate training.
- Enhance community awareness, vigilance and action in biosecurity.
- Improve environmental biosecurity capacity, e.g. identify and prioritise research and capacity needs and act as a clearing house for information.
- Improve coordination and collaboration between jurisdictions, agencies and sectors.
- Monitor and report on progress in environmental biosecurity.

Potential members of EHA include:

- Federal, state and territory government environment and biosecurity agencies.
- Environmental NGOs.
- Indigenous land management organisations.
- Natural resource management and conservation land management organisations.
- Research institutions focused on biosecurity and ecology.
- Professional bodies for people involved in environmental biosecurity (e.g. weed societies, Ecological Society of Australia, Australasian Plant Pathology Society).
- Environmental and allied primary production industry bodies (e.g. in ecotourism, environmental restoration, zoo and wildlife industry, botanic gardens).

THE NEED

In recognition of the need to improve environmental biosecurity and the benefits brought by PHA and AHA, there have been proposals to expand their functions to include a focus on environmental issues (e.g. Beale *et al.* 2008). However, for the following reasons ISC considers that bolting on environmental functions to the existing structures will not achieve the ecological, collaborative and coordinated approach needed for environmental biosecurity.

Plant Health Australia and AHA are not-for-profit companies that coordinate government-industry partnerships to protect plant and animal industries. The industry membership of these bodies is understandably unlikely to accord environmental threats the priority and specific focus they require. It is difficult to see how the wide variety of stakeholders in the community sector could assume an effective partnership role in these organisations, and there has been no consultation with the community sector about this.

The ‘one biosecurity’ approach to biosecurity advocated by the 2008 biosecurity review (Beale *et al.* 2008) requires recognising differences as well as similarities to biosecurity for industry and environmental

purposes. Although many invasive species affect both business and environmental assets and warrant a joint approach, protecting nature differs in many ways from protecting industry assets, including in the following ways.

The values to be protected Conservation requires a biosecurity focus on the hundreds of thousands of species, and their populations and interactions that constitute ecosystems and ecosystem processes (Burgman *et al.* 2009, Chapman 2009). In contrast, industry biosecurity is mostly focused on protecting a few particular economically valuable species. The values at stake for industry are quantifiable in economic terms and often replaceable (by new breeds, species or enterprises). The values at stake in conservation are typically irreplaceable – each species and ecosystem is important – and ‘there are no generally accepted methods for valuing’ them (Biosecurity Advisory Council 2011). This means they are more likely to be ignored or undervalued when biosecurity priorities are decided.

Scale and complexity of threats Because of the diversity and complexity of the natural environment, there are far more invasive species that threaten or potentially threaten environmental values than production values. For example, Groves *et al.* (2003) found that about twice as many weed species were a ‘major problem’ in natural ecosystems (798 species) as were a major problem to agricultural enterprises (426 species). The threats are often more complex, influenced by interactions between species, ecological processes (such as fire regimes) and other threats such as habitat fragmentation (DEWHA 2009).

State of knowledge The 2008 review of biosecurity found that ‘Australia has a relatively poor knowledge of the biosecurity threats to its natural environment’, largely due to ‘the absence of commercial incentives’ and low priority for government funding (Beale *et al.* 2008). Much more is known about cultivated species and the invasive threats to them than about biodiversity and invasive species threats (Burgman *et al.* 2009).

Predictability and timeframes While impacts on individual cultivated species can be predicted with reasonable accuracy, there are high levels of uncertainty in predicting impacts in the natural environment due to complex interactions, long timeframes and lack of knowledge (Burgman *et al.* 2009). The combination of great uncertainties, long timeframes and limited management options warrants a highly precautionary approach.

Management approaches and options There are many more management options in relatively simple, delimited agricultural systems than there are in complex natural environments. Weeds in agricultural systems are generally much more detectable than in complex habitats such as rainforest and weeds cannot be controlled with broadacre mechanical or chemical control in many natural situations. There are commercial incentives for industry management of invasive species but environmental biosecurity relies on government and community investment for the public good (Beale *et al.* 2008).

Stakeholders and resources A multitude of stakeholders, often with conflicting agendas, make 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 – invasive pasture grasses, for example. Commercial incentives and government support also mean that industry biosecurity is better resourced than environmental biosecurity (Beale *et al.* 2008).

There is considerable work to be done to bring the state of environmental biosecurity preparedness up to par with that for industry. There is no environmental equivalent of the prioritisation, planning and training done through PHA and AHA. Plant Health Australia has identified more than 300 high priority quarantine risks for plant industries and developed contingency plans for the management of over 90 pests (Plant Health Australia 2013). Only 8% of plant biosecurity surveillance programs in 2012 were focused on amenity or environmental target hosts (21% were focused on multiple targets, so some may have been environmental targets) and only 5% of plant research, development and extension projects were focused on the natural environment (Plant Health Australia 2013).

FINANCIAL ISSUES

The major impediment to the proposal for EHA seems to be financial due to budgetary constraints as governments reduce spending, including on biosecurity and conservation.

The community relies on governments to invest resources on their behalf to protect the environment for the public good. The 2008 biosecurity review recognised that biosecurity research for the natural environment had ‘not received a high priority for funding’ (Beale *et al.* 2008).

Given that improving environmental biosecurity is so critical to conservation and that environmental biosecurity lags that for industry, in part because of

government investment in the work of PHA and AHA, there is a strong rationale for governments to also invest in a body focused on environmental priorities. Other potential sources of funding include development offsets, industry levies under the ‘polluter pays’ principle, philanthropic funding and memberships and in-kind support

Many groups in the community sector have limited capacity to contribute financially but EHA could potentially leverage considerable in-kind contributions. The community sector already contributes substantially to management of invasive species threats. Respondents to a national survey of organisations managing invasive species threats included 485 community organisations providing \$61 million of effort per year. By extrapolation, the annual value of the community effort was estimated to be in the order of \$600 million (ISC 2013).

CONCLUSION

The Invasive Species Council recommends the establishment of Environment Health Australia to help address some of Australia’s most challenging environmental problems through: improved environmental biosecurity preparedness and capacity; more effective responses to environmental incursions; a more biosecurity aware, vigilant and active community; improved coordination and collaboration between jurisdictions, agencies and sectors; and monitoring of progress in environmental biosecurity.

Investment by governments would be multiplied many times over in the benefits to Australia of strengthened environmental biosecurity and partnerships with the community.

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