

SUBMISSION TO

**SENATE ENVIRONMENT AND COMMUNICATIONS
REFERENCES COMMITTEE**

INQUIRY INTO ENVIRONMENTAL BIOSECURITY

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August 2014

**Submission by Sophie Riley, to the Senate Environment and Communications
References Committee on the Inquiry into Environmental Biosecurity**

1. INTRODUCTION

1.1 Expertise

My name is Sophie Riley and I am a senior lecturer in the Faculty of Law at the University of Technology Sydney. Amongst other things, my scholarship, research interests and publications encompass the regulation of invasive alien species and animal welfare regulation.¹ Select conferences and publications relevant to this submission include:

2014

- Sophie Riley, Rio + 20: What Difference has Two Decades Made to State Practice in the Regulation of Invasive Alien Species (2014) 38 (2) *William and Mary Environmental Law and Policy Review* 371.
- Sophie Riley ‘Buffalo Belong Here, as Long as he Doesn’t Do too Much Damage: Indigenous Perspectives on the Place of Alien Species in Australia’ (2014) 16 (2) *Australasian Journal of Natural Resources Law and Policy* 157.
- Sophie Riley, Australia - Country Report, (2014) *IUCN Academy of Environmental Law e-journal*, 42; Online Files: ej2012-1-v3[1].pdf.
- Sophie Riley, conference presentation, ‘The Birds and the Bats: Using Adaptive Management to Find the Balance of Public Interest in Wind Farm Development’, IUCN Colloquium July 2014, Tarragona, Spain.

2013

- Keely Boom, Dror Ben Ami, Louise Boronyak and Sophie Riley, ‘The Role of Inspections in the Commercial Kangaroo Industry’, Occasional Papers (2013) *International Journal of Rural Law and Policy*, 162.
- Sophie Riley, ‘Peak Coordinating Bodies And Invasive Alien Species: Is The Whole Worth More Than The Sum Of Its Parts?’ (2013) 35 (3) *Loyola of Los Angeles International and Comparative Law Review*, 453.
- Sophie, Riley, Submission to the Australian Senate on the draft exposure of Australia’s Biosecurity Bill.
- Sophie Riley, Australia - Country Report, (2013) *IUCN Academy of Environmental Law e-journal*, 50; <http://www.iucnael.org/en/e-journal/current-issue-.html> .

2012

- Sophie Riley, ‘Law is Order and Good Law is Good Order: the Role of Governance in the Regulation of Invasive Alien Species’ (2012) *Environmental Planning and Assessment Law Journal* 16.
- Sophie Riley, Using ‘Threatening Processes’ To Protect Freshwater Biodiversity From Invasive Alien Species’ (2012) 1 *Canberra Law Review* 58.

¹ Other research interests include pedagogy for widening participation in higher education, particularly with respect to improving learning outcomes for international students.

- Sophie Riley, Australia - Country Report, (2012) *IUCN Academy of Environmental Law e-journal*, 42; <http://www.iucnael.org/en/e-journal/previous-issues/239-issue-20111.html>
- Paul Martin, Miriam Verbeek, Sophie Riley, Robyn Bartel and Elodie Le Gal *Innovations in Institutions to Improve Weed Funding, Strategy and Outcomes, Research Agenda*, RIDC (2012).

2011

- Sophie Riley, ‘Heads I Win, Tails You Lose: Uncertainty and the Protection of Biodiversity from Invasive Alien Species’ (2011) 14 (1&2) *Asia-Pacific Journal of Environmental Law*, 139.
- Robyn Bartel and Sophie Riley, ‘How do We Radically Improve Weeds Laws? Critical Action for Wicked Problems’, 16th NSW Weeds Conference, July 2011 in Coffs Harbour

2010

- Sophie Riley, Submission on Australia’s Native Vegetation Framework Consultation Draft: a national framework to guide the ecologically sustainable management of Australia’s native vegetation for ecosystem resilience.

2009

- Sophie Riley, ‘Preventing Transboundary Harm from Invasive Alien Species’ (2009) 18 (2) *RECIEL* 198.
- Sophie Riley, ‘A Weed by any Other Name: Would the Rose Smell as Sweet if it Were a Threat to Biodiversity’, (2009) 22 (1) *Georgetown International Environmental Law Review* 157.
- Submission to The Department of the Environment, Water, Heritage and the Arts on Australia’s Biodiversity Conservation Strategy 2010-2020.

2005

- Sophie Riley, “Invasive Alien Species and the Protection of Biodiversity: The Role of Quarantine Laws in Resolving Inadequacies in the International Legal Regime” *Journal of Environmental Law* (Oxford) JEL Vol 17 No 3. Available from <http://jel.oxfordjournals.org/cgi/content/abstract/eqi028?ijkey=zcsWXONzbH12x3x&keytype=ref>

1.2 Scope of Submission

The inquiry is very broad-ranging and accordingly, this document focusses on four matters: the identification of high priority risks (item b(i)); adequacy of community engagement (item b(vii)); institutional arrangements (item b(viii)); and information portals (items b(vii & viii)). The term “IAS” used in this submission refers to invasive alien species. These are defined as species that have been introduced by humans, and that threaten biodiversity, environmental values, agricultural, and/or economic interests.

2. IDENTIFICATION OF HIGH PRIORITY RISKS

The threats posed by IAS have been well documented in the literature and this fact is implicitly acknowledged in paragraph 3.2 of the Intergovernmental Agreement on Biosecurity, where they are referred to as “exotic pests and diseases”. Notwithstanding recognition of this problem, there are at least two areas of risk that warrant further attention: first, scientists anticipate that the problem of IAS will be exacerbated by environmental co-stressors, such as climate change; and, second, regulation needs to engage more deeply with the differing values ascribed to species, and the fact that species considered useful by one group of stakeholders may develop into significant IAS.

Turning to climate change first, the Subsidiary Body on Scientific Technical and Technological Advice of the Convention on Biological Diversity has highlighted that climate change will hasten loss of biodiversity by putting “further stress on endangered species”.² Against this backdrop, the deleterious impacts of IAS are increasingly singled out as an area of major concern.³ Accordingly, regulators need to develop new approaches that take climate change into account when designing policy and measures to deal with IAS. At the Federal level, the government has launched the NRM Climate Change Impacts and Adaptation Research Initiative (NRM) that encourages research on invasive species. Elsewhere, work on IAS has tended to focus on agriculture and land productivity. Research generated by the NRM has the potential for a broader application, but needs to be translated into regulation that specifically deals with environmental protection. This type of approach would be consistent with advances at the state level, where some jurisdictions, such as New South Wales, have acknowledged that regulators must develop novel ways of dealing with the combined impacts of climate change and IAS.⁴

The second issue stems from the fact that a species may be regarded as a resource by one group of stakeholders even though the species is potentially harmful to the environment. Examples of concern include introduced biofuel plants, pasture plants, and fin fish (aquarium

² Report of the Ad Hoc Technical Expert Group on Biodiversity and Climate Change, at the Ninth Meeting of the Subsidiary Body on Scientific Technical and Technological Advice, UNEP/CBD/SBSTTA/9/INF/12 (30 September 2003), paragraph 26 at 18. See also John Stachowicz, Jeffrey Terwin, Robert Whitlatch and Richard Osman, ‘Linking Climate Change and Biological Invasions: Ocean Warming Facilitates Nonindigenous Species Invasions’, (2002) 99: 24 *Proceedings of the National Academy of Sciences of the United States of America* 15497, at 15497. With respect to the impact of IAS and climate change generally, see Tim Low, *Climate Change and Invasive Species: A review of Interactions*, November 2006 Workshop Report, Department of the Environment, Water, Heritage and the Arts, Commonwealth of Australia (2008), 3, 10.

³ Will Steffen, Andrew Burbidge, Lesley Hughes, Roger Kitching, David Lindenmayer, Warren Musgrave, Mark Stafford Smith and Patricia Werner, *Australia’s Biodiversity and Climate Change (Summary for Policy Makers 2009)* Department of Climate Change, Commonwealth of Australia 2009, 1; Department of Environment and Climate Change, NSW, *Adaption Strategy for Climate Change Impacts on Biodiversity* DECC (2007), 34; John Stachowicz, Jeffrey Terwin, Robert Whitlatch and Richard Osman, ‘Linking Climate Change and Biological Invasions: Ocean Warming Facilitates Nonindigenous Species Invasions’, (2002) 99: 24 *Proceedings of the National Academy of Sciences of the United States of America* 15497, at 15497; Tracy Benning, Dennis Lapointe, Carter Atkinson and Peter Vitousek, ‘Interactions of Climate Change with Biological Invasions and Land Use in the Hawaiian Islands: Modeling the Fate of Endemic Birds Using a Geographic Information System’ (2002) 99: 22 *Proceedings of the National Academy of Sciences of the United States of America* 14246, at 14249.

⁴ NSW Office of Environment and Heritage, *Priorities for Biodiversity Adaptation to Climate Change* (2010) <<http://www.environment.nsw.gov.au/resources/biodiversity/10771prioritiesbioadaptcc.pdf>> paragraph 3.1 of the executive summary (last visited August 2014).

fish).⁵ Threats to the environment are frequently relegated to a secondary status when pitted against economic interests. This point is exemplified by clause 165 of the lapsed Biosecurity Bill. The clause had made provision for the Minister of Agriculture to direct the Director of Biosecurity to commence a risk analysis, yet there was no equivalent power for the Environment Minister. The IAS regime needs to provide space for environmental concerns and also ensure that these concerns are integrated into the regime's institutional arrangements and decision-making processes.

2. COMMUNITY ENGAGEMENT

Effective community engagement should consider a range of societal outlooks and perspectives. In the case of IAS, for example, a noteworthy omission is the lack of specific voice given to Indigenous perspectives. Indigenous views provide a broad base for regulation that take into account society's relationship with alien species as part of nature, as well as considering the threats posed by IAS to environmental and human values.⁶ These views are consistent with a growing awareness that eradicating animal IAS engages moral and ethical considerations that are currently not being integrated effectively into regulation.⁷ Although Model Codes have been developed on a national level for the humane control of species such as cats, camels, goats and foxes, the Codes proceed on the basis of culling as a first point response. While Indigenous outlooks do not proscribe the killing of animal IAS, culling is not necessarily regarded as the preferred option. In addition, commentators are starting to address the long-term failure of culling as a means of eradicating IAS, except in controlled circumstances, such as islands.⁸

These developments indicate that a platform needs to be provided in order to allow community and stakeholder viewpoints to be discussed in a holistic manner. Some of the institutional arrangements relevant to such a platform are discussed in the next section.

⁵ See for example, Tim Low and Carol Booth, Invasive Species Council, *The Weedy Truth about Biofuels* (2007); Convention on Biological Diversity, *The Potential Impacts of Biofuels on Biodiversity, Matters arising from SBSTTA recommendation XI/7*, Report of the Ninth Meeting of the Conference of the Parties to the Convention on Biological Diversity, UNEP/CBD/COP9/26 (24 April 2008), para § 29; Convention on Biological Diversity SBSTTA, *Report of the Subsidiary Body on Scientific, Technical and Technological Advice on the Work of Its Twelfth Meeting, Recommendation XII/7 'Biodiversity and Fuel Production'*, UNEP/CBD/COP/9/2, 36 (July 2007); J Corfield, B Diggles, C Rubb and ors, *Review of the Impacts of Introduced Aquarium Fish Species that have Established Wild Populations in Australia*, Commonwealth of Australia (2010), 36.

⁶ Jeanine M Pfeiffer and Robert A Voeks, 'Biological Invasions and Biocultural Diversity: Linking Ecological and Cultural Systems', (2008) 35 (4) *Environmental Conservation* 281; D Trigger, 'Indigeneity, Fertility and What 'Belongs' in the Australian Bush: Aboriginal Responses to 'Introduced' Animals and Plants in a Settler-Descendant Society' (2008) 14 *Journal of the Royal Anthropological Institute*, 628; David Trigger, Jane Mulcock, Andrea Gaynor and Yann Toussaint, 'Ecological Restoration, Cultural Preferences and the Negotiation of 'Nateness'', (2008) 39 *Geoforum*, 1273, 1275; Lesley Head and Pat Muir, 'Nateness, Invasiveness and Nation in Australian Plants', (2004) 94 (2) *The Geographical Review*, 199.

⁷ Werner Scholtz, 'Animal Culling: A Sustainable Approach or Anthropocentric Atrocity?' (2005) 2 *MqJICEL* 9.

⁸ Penny Olsen, *Australia's Pest Animals, New Solutions to Old Problems*, Bureau of Rural Sciences (1998), 31, 41 and 53; Bexxiang Zeng and Rolf Gerritsen, 'Inadequate Contribution of Commercial Harvest to the Management of Feral Camels in Australia', (2013) 56 (8) *Journal of Environmental Planning and Management*, 1212.

3. INSTITUTIONAL ARRANGEMENTS

As already noted, in many jurisdictions IAS regulation is most developed for the agricultural product sector. Moreover, IAS regimes invariably proffer a “crisis” response to what is a chronic problem.⁹ Institutional arrangements, for example, traditionally focus on dealing with outbreaks of species that have become detectable and hence already invasive. Yet, at this stage it is difficult, if not impossible, to eradicate and/or control the species. Part of the problem flows from the tendency of jurisdictions, government agencies and some stakeholder groups to consider the IAS problem according to their specific remit and in isolation from the IAS regime as a whole. This approach creates a common but problematic challenge for regulators in determining how to coordinate and synthesize processes across many lines of responsibility and levels of government.¹⁰

The Intergovernmental Agreement on Biosecurity has the potential to be more than a crisis response, even though it does not adequately tackle the problem of IAS that are already established – the latter still being largely left to state and territory jurisdictions. Proposed institutional arrangements include: a national surveillance and diagnostic system (parag 5(e) and schedule 4); a biosecurity commission (parag 7.3); a National Engagement and Communication Framework (schedule 6); and. a national biosecurity information and intelligence system (parag 5(d)). However, much of the success of these initiatives depends on how the agreement is implemented. Australian regulators would find developments in overseas jurisdictions informative.

In a paper titled, “Peak Coordinating Bodies and Invasive Alien Species: Is the Whole Worth More than the Sum of Its Parts?” (2013) 35 (3) *Loyola of Los Angeles International and Comparative Law Review*, 453, I undertook a comparative study of IAS regimes in Great Britain(GB), the United States(US) and Australia. In particular, the paper evaluated the effectiveness of using a peak body to implement centralised coordination of IAS regulation. I argued that these bodies are well-placed to consider the “big picture” and take the lead in implementing initiatives that can draw IAS regimes together, including: developing overarching policy, defining an IAS, providing services such as one-stop information portals, and fostering community engagement.

In the US, *Executive Order 13112* of 1999 sets up the National Invasive Species Council (NISC) and the Invasive Species Advisory Committee (ISAC). The NISC provides guidance to federal administrators and regulators on IAS regulation and also coordinates IAS measures across a range of “state, tribal and local” stakeholders. The ISAC is comprised of experts and other interested parties who are not affiliated with Federal departments or agencies, meaning that it is independent of government. It meets at least twice a year and provides advice to the NISC.

⁹ Department of the Environment Food and Rural Affairs (DEFRA), *Review of Non-Native Species Policy* Report of the Working Group DEFRA Publications, London (2003) 21-22; Environmental Law Institute, *Status and Trends in State Invasive Species Policy: 2002-2009*, ELI (2010), 17.

¹⁰ Guiding Principles for the Prevention, Introduction and Mitigation of Impacts of Alien Species that Threaten Ecosystems, Habitats or Species. Adopted April 2002 as part of Decision VI/23 of the Conference of the Parties. Report of the Sixth Meeting of the Conference of the Parties to the Convention on Biological Diversity, UNEP/CBD/COP/6/20 (23 September 2002), paragraphs 10 (b), (c), (d) and (f); Department for Environment, Food and Rural Affairs, *The Invasive Non-Native Species Framework Strategy for Great Britain*, DEFRA (2008) 6; Environmental Law Institute, *Status and Trends in State Invasive Species Policy: 2002-2009*, Environmental Law Institute, *Status and Trends in State Invasive Species Policy: 2002-2009*, ELI (2010), 15.

In 2008, GB established the *Invasive Non-Native Species Framework Strategy for Great Britain* (GB Non-Native Species Strategy)¹¹ along with the following institutions to assist in the work of the GB Non-Native Species Strategy: the GB Non-native Species Coordination Mechanism; the Coordination Mechanism that comprises the Non-Native Species Programme Board, the Non-native Species Secretariat (NNSS), the Risk Analysis Panel, the Stakeholder Forum and a number of Working Groups.

The Non-Native Species Programme Board develops and implements the GB Non-Native Species Strategy and comprises senior representatives of government agencies from England Scotland and Wales. The Programme Board also runs the annual Stakeholder Forum which provides an opportunity for discussion, debate and awareness of emerging IAS issues that extend beyond the parameters of those issues that government may consider important. The Non-Native Species Secretariat was established in 2006 to support the Programme Board; and additionally, provides an avenue for communication between the Board and stakeholders.¹² The Non-Native Species Risk Analysis Panel undertakes risk assessment and “horizon scanning” with respect to introduction of alien species.¹³ The reports of the Non-Native Species Risk Analysis Panel will guide the operation of the Programme Board.

Both the US and GB systems go some way towards avoiding the “crisis” approach by keeping the IAS problem on the agenda and providing regular platforms for wide-ranging stakeholder input. In a practical sense, it encourages input on IAS beyond the traditional focus on agriculture and resource consumption. However, in each case the regime is led by a peak body that is responsible for coordinating activities, with an emphasis on environmental protection.

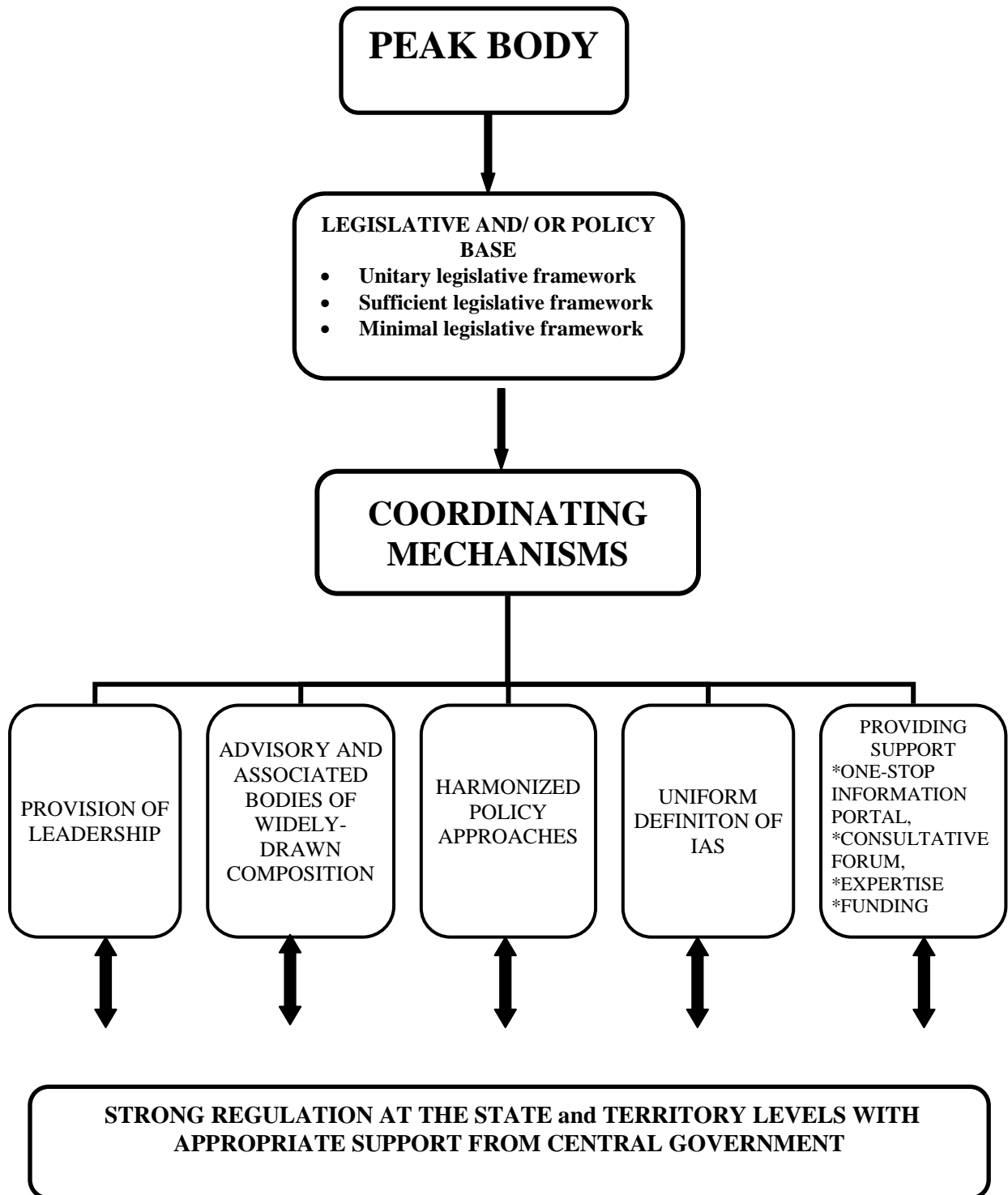
Figure 1, on the next page, demonstrates how a regime headed by a peak body might appear. This model is designed to deal with species once they have gained entry within a jurisdiction and does not specifically deal with border controls, although these would form part of the legislative and policy base of the coordinating mechanisms. The model provides inbuilt flexibility allowing regulators to adjust the degree of centralised control according to relevant political and legal circumstances. This would also allow regulators to keep existing structures intact, if they wish, and make changes and adjustments that evolve with the need of the regime. The important operative features are the coordination mechanisms, including development of uniform policy, a uniform definition of an IAS, providing consultative forums and making funding available. The model is predicated on a strong regulatory base at the state and territory levels. Of course, not all Australian jurisdictions have strong or harmonised IAS regulation, but strong leadership and coordination can assist in promoting a nationally robust IAS regime.

¹¹ Department for Environment, Food and Rural Affairs, *The Invasive Non-Native Species Framework Strategy for Great Britain*, DEFRA (2008).

¹² Department for Environment, Food and Rural Affairs, *The Invasive Non-Native Species Framework Strategy for Great Britain*, DEFRA (2008) 34.

¹³ Department for Environment, Food and Rural Affairs, *The Invasive Non-Native Species Framework Strategy for Great Britain*, DEFRA (2008) 34. The Non-Native Risk Analysis panel web site is available from <<https://secure.fera.defra.gov.uk/nonnativespecies/index.cfm?pageid=51>> (last visited August 2014).

Figure 1
PEAK COORDINATING BODY



4. INFORMATION PORTALS

Currently, Australia lacks a dedicated information portal for IAS. Instead, details on IAS are gathered, held, and sometimes made available on the Internet by numerous agencies and organisations, including local government. Websites set up by these instrumentalities provide information gateways for specific IAS such as weeds¹⁴ or feral animals.¹⁵ However, this information is located at separate electronic sites, varies in quality and lacks the cohesiveness of a one-stop information portal. In addition, some relevant information, such as incursion rates and interception rates, is not publicly available. Non-government organisations, such as the Invasive Species Council, have established websites to provide information and up-to-date material.¹⁶ Yet, it is unrealistic to expect NGOs to fund the construction and upkeep of dedicated information portals for an entire regime and for the whole of Australia.

The establishment of one-stop information portals, accessible via the Internet, is a key feature of the IAS regimes in the US and GB. In GB, the GB Non-native Species Coordination Mechanism has established the “Non-Native Species Information Portal”;¹⁷ while in the US the National Invasive Species Council was instrumental in launching the National Invasive Species Information Centre (NISIC) in 2005.¹⁸ The portal links online information and the websites of government departments and agencies as well as non-government groups.¹⁹ As such, it facilitates dialogue on IAS across a range of government and non-government agencies. For example, it allows regulators, researchers and community groups to determine whether they are working towards the same goals and objectives and also facilitates scrutiny of regulatory processes for consistency and acceptance by stakeholders. In this way, the NISC has become a hub for the dissemination of information on IAS, and also for encouraging the development of harmonised regulatory objectives. These are important initiatives, because as The National Biodiversity Network in GB has noted:

although a huge amount of information exists, it isn't always easy to access. The...idea could not be simpler: capture... data once in a standard electronic form [can be integrated]...from different sources;...[and] used many times in different ways by as many people as possible.²⁰

¹⁴ Weeds of National Significance web site, available from < <http://www.weeds.org.au/WoNS/> > (last visited August 2014).

¹⁵ Feral Animals in Australia, web site, available from < <http://www.environment.gov.au/biodiversity/invasive/ferals/index.html> > (last visited August 2014).

¹⁶ Invasive Species Council which is a non-government organization in Australia, website available from, < <http://www.invasives.org.au/> > (last visited August 2014).

¹⁷ See Web site < <http://www.nonnativespecies.org/factsheet/> > (last visited August 2014).

¹⁸ See website of the National Invasive Species Information Centre (NISIC): < <http://www.invasivespeciesinfo.gov/> > (last visited August 2014).

¹⁹ National Invasive Species Council (NISC), Five-Year Review of Executive Order 13112 on Invasive Species, NICS (2005), 2.

²⁰ The National Biodiversity Network (NBN) Sharing Information About Wildlife is an electronic gateway for sharing information about wildlife. Available < www.nbn.org.uk > (last visited August 2014).

SUMMARY

- There are two areas of risk that warrant further attention: first, the impacts of climate change on IAS; and second, the fact that species considered useful in product sectors, such as agriculture or the aquarium trade, may develop into IAS;
- The IAS regime needs to include an environmental protection rather than focusing on agriculture and resource consumption;
- Fora need to be arranged to facilitate widespread community engagement;
- An information portal should be established
- The regime would benefit by the constitution of a peak body to oversee the regime.

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31 August 2014