Chapter 7

Conclusions and recommendations

7.1 The committee is persuaded that the management of environmental biosecurity poses unique difficulties. Evidence presented to the committee suggests these difficulties stem from a variety of factors, including:

- the large number of species and the complexity of ecosystems that require protection;
- the large number of species that are potentially invasive and environmentally damaging;
- the difficulty of detecting and then eradicating or containing incursions in remote and inaccessible locations, including freshwater and marine environments, without further damaging the natural environment;
- the lack of agreed methods by which to value the environmental impacts of incursions and thereby justify expenditure on responses;
- the lack of dedicated surveillance, motivated by economic interest, as exists in industry-focused biosecurity; and
- the lack of industry stakeholders with the capacity to financially contribute to preparedness and response work, as exists in industry-focused biosecurity.

7.2 The challenges presented by these characteristics of environmental biosecurity are compounded by the difficulties facing biosecurity activities more broadly, which include:

- increasing cross-border movements of people, cargo and mail;
- reductions in funding and staffing levels for biosecurity agencies and activities;
- reductions in, and ad hoc provision of, funding for biosecurity-focused research;
- reductions in scientific expertise at both state and federal levels in relevant fields, such as taxonomy, epidemiology and entomology;
- climate change altering the geographic range of invasive species, including pests and diseases already present in Australia; and
- inconsistent approaches arising from Australia's federal system of government.

7.3 Evidence presented to the committee indicates that incursions by exotic organisms with the potential to harm Australia's natural environment are a regular occurrence. Submitters and witnesses provided a wealth of examples to the committee, only a sample of which have been discussed in preceding chapters.

7.4 Evaluating the significance of this history of incursions is not, however, straightforward. As discussed in chapters 2 and 4, under the SPS Agreement Australia

has determined that its appropriate level of biosecurity protection provides 'a high level of sanitary and phytosantiary protection aimed at reducing risk to a very low level, but not zero'. The departments of agriculture and the environment further emphasised that reducing biosecurity risk to zero is unrealistic as it would require a complete halt in international trade and travel. This framework means that Australia has accepted a 'very low level' of biosecurity risk as the price of continuing international trade and travel.

7.5 The committee notes that, within this general policy framework, at least some incursions must be expected. It is therefore difficult to establish that a given rate of incursions, whether they impact primarily on the environment or on industry, constitutes a failure or a success of Australia's biosecurity system. There are no absolute markers of success or failure in this context.

7.6 The committee also notes evidence that, although it is possible to conceptually separate environmental biosecurity and industry biosecurity, in practice there are a great many organisms that are of concern in both categories. Furthermore, the committee accepts that, in terms of front-line biosecurity operations, it is desirable that biosecurity risks be treated as a whole, whether they be threats to human, animal or plant health, or fall into environmental or industry categories. Evidence presented to the committee suggests this is currently the case.

Environment Health Australia proposal

7.7 On the basis of evidence it has received, the committee acknowledges that, although biosecurity is treated as a unified whole at the border, preparedness for environmental biosecurity threats and the capacity to respond to incursions that pose a threat to the environment lag behind industry biosecurity.[1] As noted above, this appears to have occurred because environmental biosecurity cannot draw on stakeholders with significant economic resources, as industry biosecurity can. The examples of Plant Health Australia (PHA) and Animal Health Australia (AHA), which are organisations funded jointly by industry and government, illustrate this situation.

7.8 The Invasive Species Council submitted that this deficit could be addressed by establishing an equivalent environment-focused body, Environment Health Australia (EHA). The Invasive Species Council suggested that such a body would have to be government-funded, but that such funding would not be unreasonable given the level of government funding already committed to supporting PHA and AHA. This suggestion was supported by many other submitters to the inquiry.

7.9 The EHA proposal was not, however, supported by the departments of agriculture and the environment, PHA and AHA, and the Nursery and Garden Industry Australia (NGIA). Opposition to the proposal was based primarily on concerns over how it would be funded and its potential to further fragment biosecurity governance in Australia.

1 See discussion in chapter 3.

7.10 The committee believes that the establishment of a new body along the lines suggested in the Environment Health Australia proposal would not be the best use of the limited resources available for biosecurity measures. Rather, based on the evidence provided to it during the inquiry, the committee considers that Australia's environmental biosecurity performance can be improved through better coordination and information sharing between existing organisations and through addressing shortcomings in present response agreements such as the National Environmental Biosecurity Response Agreement.

7.11 To this end, the committee has sought to address specific problems with the operation of environmental biosecurity raised in submissions and evidence. In making these recommendations the committee notes that much of the complexity of biosecurity arrangements in Australia stems from the division of responsibilities in this area between Commonwealth and state and territory jurisdictions. As such, improvements in this area require not only improved organisation at the Commonwealth level but also the cooperation of all jurisdictions. Many of the recommendations below, if they are to be implemented, will require a greater willingness to pursue national harmonisation.

Inspector-General of Biosecurity

7.12 As discussed in chapter 2, the Biosecurity Bill 2014 was introduced without accompanying legislation to establish the Inspector-General of Biosecurity as an independent statutory position, as had occurred with the Biosecurity Bill 2012. This created uncertainty over the future of the Inspector-General position.

7.13 The committee notes that the Biosecurity Bill 2014, as passed by the House of Representatives on 9 February 2015, included delegable review and investigation powers provided to the Minister for Agriculture under clauses 567, 568 and 643. The committee did not consider that such provisions would guarantee that the biosecurity system is regularly subject to independent, systematic and transparent review processes.

7.14 The committee therefore supports the establishment of the position of Inspector-General of Biosecurity, via dedicated legislation, with broad audit and investigation powers to examine the operations of the federal biosecurity agency, as originally envisaged by the Beale review.[2] The committee believes that the Inspector-General of Biosecurity, through monitoring and reporting on how well the biosecurity system at the federal level is addressing environmental biosecurity threats, will be able to identify both strengths and weaknesses and opportunities for improvements. This is particularly important given that responsibility for biosecurity is shared by both the Department of the Environment and the Department of Agriculture and that any lack of coordination may seriously undermine the effectiveness of Commonwealth policy aimed at protecting Australia's environment and agricultural interests.

7.15 One area where the committee considers that the Inspector-General could play a significant role is in reviewing pathways and risk analysis. The committee received

2 Beale, Roger et al, *One Biosecurity: a working partnership*, September 2008, p. xx.

considerable evidence of failures in environmental biosecurity preparedness with respect to specific entry pathways or industries—for example, mail, cargo, the horticulture industry and the live animal trade. The committee has made recommendations regarding each of these areas below, however, this accumulation of examples leads the committee to believe that the pathway and risk analyses undertaken by the Department of Agriculture have not adequately addressed species of environmental concern. The committee therefore believes the Inspector-General of Biosecurity should conduct a general investigation of the extent to which existing pathway and risk analyses account for high-risk environmental biosecurity threats.

7.16 The committee also received evidence of instances of inconsistent or incomplete information gathering and sharing between jurisdictions regarding environmental biosecurity threats. This appears to present a barrier to developing accurate assessments of which entry pathways or industries require tighter control. Several examples of where improvements could be made within the live animal trade are discussed below.

7.17 The committee therefore believes that, as part of the suggested review of pathway and risk analyses relevant to environmental biosecurity, the Inspector-General of Biosecurity should also examine opportunities for the Department of Agriculture to facilitate more consistent information gathering and better information sharing across jurisdictions.

7.18 The committee considers that the establishment of the statutory position of Inspector-General of Biosecurity, as originally envisaged by the Beale review, is a vital measure to ensure the integrity of Australia's biosecurity system. Accordingly, the committee welcomes the amendments to the Biosecurity Bill 2014 made on 12 May 2015 in the committee stage of the Senate that will provide for a statutory Inspector-General of Biosecurity.

Recommendation 1

7.19 The committee recommends that, once established, the Inspector-General of Biosecurity conduct a systematic review of how effectively high-risk environmental biosecurity concerns are addressed within the broader biosecurity system, with a particular focus on identifying gaps in pathway and risk analyses and on improving information gathering and sharing between jurisdictions.

National Environmental Biosecurity Response Agreement

7.20 The committee received evidence of a number of weaknesses in the framework for managing environmental biosecurity.

7.21 The committee notes that the National Environmental Biosecurity Response Agreement (NEBRA), which was designed to establish a process for responding to environmental biosecurity incursions, is a relatively new agreement between the federal and state and territory governments. To date there has been only one response managed under this agreement, that is, the response to the red imported fire ant

incursion at Yarwun in Queensland.[3] The committee therefore believes that improvements to the NEBRA should be pursued by signatories as any shortcomings in the structure or scope of the agreement become apparent over time.

7.22 Several aspects of the NEBRA were highlighted during the inquiry as potential weaknesses. In particular clause 6.7, which details conditions under which a response will not go ahead, was the focus of concern. This clause states that a national biosecurity incident response will not commence, or continue, unless the parties to the NEBRA have reached a consensus. This effectively provides each state or territory with the power to veto, or bring to an end, a response. This provision may prove a problem in the future. In this regard, the committee notes the different opinions expressed in submissions from the South Australian and Western Australian governments regarding the worth of continuing to fund the red imported fire ant response in Queensland.[4]

7.23 Clause 6.7 also states that a response should not go ahead if a technical feasibility analysis indicates that eradication is not possible or likely. Submitters raised concerns that the terms 'possible' and 'likely' were not adequately defined and that the precautionary principle was not effectively implemented in the agreement. In particular, the concern was raised that due to the need for consensus among the parties and the high cost of mounting responses, only eradication attempts that are highly likely to succeed will be attempted. This arrangement may lead to inaction on incursions with a potentially high impact on the environment where the technical feasibility of eradication is uncertain.[5]

Recommendation 2

7.24 The committee recommends that the Commonwealth Government work with state and territory governments to revise the National Environmental Biosecurity Response Agreement such that disagreement by a single party need not prevent a response under the agreement from going ahead.

Recommendation 3

7.25 The committee recommends that the Commonwealth Government work with state and territory governments to include in the National Environmental Biosecurity Response Agreement an explicit precautionary principle which states that a lack of full scientific or technical certainty regarding the feasibility of eradication must be weighed against potential biosecurity risks when determining whether to mount a response.

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3 Department of Agriculture, *Answer to question on notice No. 7* (received 18 November 2014).

4 Government of South Australia, *Submission 86*, p. 9; Department of Agriculture and Food (WA), *Submission 80*, p. 4.

5 Invasive Species Council, *Submission 74*, p. 47.

7.26 Many submitters discussed the fundamental difficulty involved in attempting to determine the value of environmental impacts of invasive species incursions so as to include it in cost-benefit analyses.[6] The committee accepts that it is difficult to translate environmental values into economic terms, and notes that qualitative measures are often used instead. However, the committee believes that the lack of an agreed method under the NEBRA for undertaking such evaluations is a significant weakness, given that the agreement is focused on responding to incursions that are primarily a threat to the environment.

Recommendation 4

7.27 The committee recommends the Commonwealth Government work with state and territory governments to develop a nationally consistent methodology for incorporating environmental impacts into cost-benefit analyses under the National Environmental Biosecurity Response Agreement.

7.28 A further weakness of the NEBRA is also common to the better established Emergency Animal Disease Response Agreement (EADRA) and the Emergency Plant Pest Response Deed (EPPRD)—that is, the lack of clear arrangements for decision making and cost sharing after it has been determined that eradication of a biosecurity threat is no longer possible. This phase in the response to an incursion is referred to as 'transition to management'. Activities undertaken in this phase of a response generally focus on adapting to, and minimising the impact of, an invasive species, rather than attempting to eradicate it.

7.29 The committee notes that this gap was identified in the submission of the Department of Agriculture and the Department of the Environment.[7] The submission also stated that signatories to the EPPRD had agreed in principle to include a transition to management phase in those agreements, and negotiations are continuing with signatories to the EADRA to also include a transition to management phase. However, no such agreement appears to have been reached for the NEBRA, nor have any negotiations commenced.

7.30 The committee believes that efforts should also be made to expand the NEBRA to include a transition to management phase in order to clarify the responsibilities of the parties in the event that eradication is no longer feasible but further management activities are still of national importance.

Recommendation 5

7.31 The committee recommends that the Commonwealth Government work with signatories to the National Environmental Biosecurity Response Agreement to include in that agreement a transition to management framework to clarify the responsibilities of the parties for ongoing management activities if eradication is deemed to be no longer feasible.

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6 See discussion in chapter 3.

7 Department of Agriculture and Department of the Environment, *Submission 59*, p. 35.

Biodiversity conservation targets

7.32 The committee notes that Australia has committed, under target 7 of *Australia's Biodiversity Conservation Strategy 2010–2030*, to reduce the impacts of invasive species on threatened species and ecological communities in terrestrial, aquatic and marine environments by 10 per cent by 2015.

7.33 The committee notes evidence put to it that, although this target appears precise, progress towards it is in fact unmeasurable due to the lack of baseline data. This situation appears to be confirmed by comments on this target contained in *Australia's Fifth National Report to the Convention on Biological Diversity*.[8]

7.34 The committee believes that, if such quantitative targets are to be meaningful, there must some means of measuring progress towards them. This should be a consideration when the Department of the Environment conducts its 2015 review of *Australia's Biodiversity Conservation Strategy 2010–2030*.

Recommendation 6

7.35 The committee recommends that the Department of the Environment review targets contained in *Australia's Biodiversity Conservation Strategy 2010-2030* and develop measurement methodologies to ensure that Australia's progress can be meaningfully assessed.

Recommendation 7

7.36 The committee recommends that the Australian National Audit Office conduct a performance audit of the Department of the Environment's implementation of *Australia's Biodiversity Conservation Strategy 2010–2030* with a particular focus on how progress towards targets is measured.

Natural resource management programs

7.37 The committee heard evidence from witnesses that delays in securing funding have detrimentally affected responses to invasive species, making the eradication task more difficult and ultimately more expensive than it would have been had funding been available more quickly.

7.38 Responses to tramp ant incursions in the Wet Tropics World Heritage Area and on Lord Howe Island and Norfolk Island that relied on gaining funding through natural resource management programs such as Landcare were cited as examples of this problem.[9]

7.39 Given the importance of early intervention to achieving success when responding to incursions, the committee considers that attention should be given to minimising delays in the funding application process for programs such as Landcare. The committee also notes evidence put to its recent inquiry into the National Landcare

8 See discussion in chapter 4.

9 See discussion in chapter 4.

Program that, beyond addressing new incursions, there is a need for ongoing support for monitoring and management of established invasive species, particularly weeds.[10]

Recommendation 8

7.40 The committee recommends that the Department of Agriculture and the Department of the Environment review processes for allocating funding under their natural resource management programs with a view to minimising delays for time-sensitive projects.

Prioritisation of pests and diseases of environmental biosecurity concern

7.41 The committee notes that, although the Department of Agriculture was able to provide on notice a list of six invasive species that are of high concern to the department and are considered as threats to the environment, neither it nor the Department of the Environment appears to have developed a comprehensive prioritised list of pests and diseases of environmental biosecurity concern.[11]

7.42 The committee believes that the development of such a list is important to strategically focusing the scarce resources available for environmental biosecurity work on those species that present the greatest threat.

Recommendation 9

7.43 The committee recommends that the Department of the Environment work with the Department of Agriculture to develop and publish a national priority list of pests and diseases not yet established in Australia that are of environmental biosecurity concern.

Departmental resourcing

7.44 Evidence presented to the committee suggests that staff reductions in the Department of Agriculture have led to pressure being placed on front-line staff and a reduction in the quality of Australia's biosecurity regime. The committee notes information provided by the Department of Agriculture regarding the different sources of funding it relies on to support different areas of its activities, and its belief that staff reductions have been accompanied by changes to business practices and the introduction of improved technology which have increased the department's efficiency.[12] Nevertheless, the committee is concerned that large reductions in staff numbers will lead, at some point, to a reduction in capability.

7.45 The committee received evidence particularly concerned with reductions in Commonwealth biosecurity staff numbers in northern Australia. The committee notes that northern Australia is exposed to a high level of biosecurity risk due to its proximity to other countries and its climate. Any reduction of biosecurity staff in this region is therefore particularly concerning.

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10 Senate Environment and Communications References Committee, *National Landcare Program*, March 2015.

11 See discussion in chapter 5.

12 See discussion in chapter 5.

7.46 The committee notes that the final report of the Joint Select Committee on Northern Australia recommended that the number of biosecurity officers be significantly increased in northern Australia to increase the chances of early detection of pest and disease incursions, and reduce the time taken to identify specific pests and diseases and put in place remedial action.[13]

7.47 In this context, the committee also notes that the Northern Australia Quarantine Strategy is now 25 years old. The committee considers that, while the strategy has worked well, it would be timely to review and update that strategy.

7.48 The committee notes the suggestion of the Invasive Species Council that the strategy does not address environmental biosecurity threats as comprehensively as it might. The committee therefore suggests that such a review should also examine whether greater attention should be paid to environmental biosecurity in this strategy.

Recommendation 10

7.49 The committee recommends that the Department of Agriculture review and update the Northern Australia Quarantine Strategy by mid-2016, and that this review specifically examine the adequacy of resources available to implement the strategy and suggest changes that can be made to improve environmental biosecurity outcomes under the strategy.

Environment Protection and Biosecurity Conservation Act—threat abatement plans

7.50 The committee notes evidence provided by the Department of the Environment that, although it has responsibility for the development, review and, in part, implementation of threat abatement plans developed under the EPBC Act, there is no substantive Commonwealth investment in the implementation of these plans.[14]

7.51 The committee heard evidence, with particular reference to the tramp ant abatement plan, that once these plans are developed they are often not properly implemented.

7.52 The committee acknowledges that the implementation of these plans requires the cooperation of a large number of stakeholders, including the various tiers of government, research institutions, landholders and community groups. Nevertheless, the committee believes that the Commonwealth ought to play a greater role in leading the implementation of these plans.

Recommendation 11

7.53 The committee recommends that both the Department of Agriculture and the Department of the Environment conduct reviews to assess whether their existing resources can be better targeted to address known areas of environmental biosecurity risk. In particular, the committee recommends that

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13 Joint Select Committee on Northern Australia, *Pivot North: Inquiry into the Development of Northern Australia: Final Report*, September 2014, pp 180–181 and recommendation 24.

14 See general discussion in chapter 5 and specific commentary on the tramp ant abatement plan in chapter 4.

the Department of the Environment examine whether resources can be directed towards effective implementation of existing threat abatement plans under the Environment Protection and Biodiversity Conservation Act.

Scientific expertise and research capacity

7.54 The committee received concerning evidence regarding the state of scientific expertise of relevance to biosecurity in general and to environmental biosecurity more specifically. There appears to be an overall lack of funding to support scientific work in this area, a situation that is exacerbated by the way this funding is delivered.

7.55 The committee notes recent CSIRO warnings that Australia's biosecurity science capability has declined across the board and that the fields of taxonomy, epidemiology and entomology will all lose significant numbers of experienced staff in coming years.[15] The committee believes that the provision of adequate support for scientific research in this area is vital to maintaining Australia's biosecurity capabilities.

Recommendation 12

7.56 The committee recommends that the Department of Industry and Science develop a strategy to address the current, and projected, decline in the level of scientific expertise in areas relevant to biosecurity.

7.57 The committee has concluded that the provision of funding through short-term competitive grant processes also leads to inefficiencies in the utilisation of existing expertise.

7.58 The committee heard evidence from both the Plant Biosecurity CRC and the Invasive Animals CRC that they currently operate only because they were able to win grants via competitive grants programs. If they had not been successful in these rounds, the capability provided by these organisations would not exist. As it stands, the two CRCs have no certainty as to their continuation beyond their current funding arrangements.[16]

7.59 The committee accepts that both the Plant Biosecurity CRC and the Invasive Animals CRC were established for a finite period; nevertheless, the committee believes that the general approach of employing short-term, ad hoc funding arrangements to support research in this area works against the strategic need to maintain Australia's biosecurity science capacity and the need to conduct long-term research.

15 See discussion chapter 5; also see CSIRO, *Australia's Biosecurity Future: preparing for future biological challenges*, 2014, pp 44–45.

16 See discussion in chapter 5.

7.60 A variety of submitters and witnesses highlighted the impact that climate change will have on biosecurity. Alterations to Australia's climate will mean that some species previously considered low risk will become more threatening, whereas some current high-risk threats will be less suited to the changed environment.[17]

7.61 The committee believes that, as changes in Australia's climate will alter the risk profiles of many biosecurity threats, Australia must devote significant scientific resources to identifying potential new biosecurity threats that arise from these processes.

Recommendation 13

7.62 The committee recommends that the Department of Industry and Science, in cooperation with the Department of Agriculture and the Department of the Environment, conduct a review to prioritise Australia's biosecurity research needs, both environmental and industry-focused, and determine what long-term institutional structure will best address these needs.

7.63 The committee also recommends that this review specifically investigate whether Australia possesses sufficient research capacity to examine the effects of climate change on invasive species and, if not, how this can be addressed.

7.64 The committee received evidence that the expertise, particularly taxonomic expertise, currently housed in Australia's natural history museums is not being utilised as efficiently as it could be. The committee was impressed by the example of the New Zealand Marine Invasive Taxonomic Service, detailed in evidence from the Australian Museum, which is a centralised identification service that utilises the taxonomic expertise present in New Zealand to provide rapid identification of organisms of concern.[18]

7.65 The committee believes that a similar coordinated system should be established in Australia to utilise existing expertise to improve the speed and reliability of identification. Although the New Zealand example was restricted to marine invasive species, the committee believes this model can be expanded to cover terrestrial and aquatic invasive species.

Recommendation 14

7.66 The committee recommends that, following the example of the New Zealand Marine Invasive Taxonomic Service, the Commonwealth Government work with state and territory governments to establish a coordinated taxonomic identification service that utilises existing scientific expertise, particularly that present in natural history museums.

17 See discussion in chapter 5.

18 See discussion in chapter 6; also see Australian Museum, *Submission 36*, p. 6.

Pathways and industries of concern

7.67 The committee received evidence regarding specific pathways and industries that appear to pose a particular threat to Australia's environmental biosecurity. The following recommendations address issues raised regarding mail, cargo, the horticulture industry and the live animal trade.

Mail pathway

7.68 The committee notes that the Department of Agriculture provided evidence suggesting that the mail pathway presents a relatively low level of risk. While this may be true in general, the committee received concerning evidence regarding the ease with which prohibited plants and seeds can be obtained from online retailers and imported into Australia via the mail system.

7.69 The Invasive Species Council documented the process it followed to purchase prohibited plants and seeds via eBay and the ease with which they passed through the mail system, even in the case where the prohibited plant seeds were identified on the customs declaration.

7.70 The committee notes the apparent lack of action taken by eBay in response to complaints from the Invasive Species Council regarding the availability of these prohibited plants via specific online sellers.[19]

7.71 The committee sought further information from eBay regarding how its plants and seeds policy is displayed to potential purchasers; however, eBay failed to provide a response. The committee notes that, although eBay provided a submission to its inquiry, it declined to appear at a public hearing.

7.72 The committee is aware of recent work undertaken by the Department of Agriculture with several online retailers to improve their compliance with Australia's plant and seed import requirements and to inform consumers about these requirements. However, evidence presented to the committee suggests that, at least in the case of eBay, no action is being taken against online retailers who breach Australia's import requirements, nor is eBay's plant and seed policy being displayed prominently to customers.

Recommendation 15

7.73 The committee recommends that the Department of Agriculture undertake enforcement activities against internet retailers and marketplaces that repeatedly breach Australia's plant and seed import requirements and work with these businesses to ensure warnings are displayed when customers attempt to purchase prohibited plants and seeds.

19 See discussion in chapter 5; also see Invasive Species Council, *Submission 74*, Attachment 1, p. 65.

Cargo pathway

7.74 Committee notes that Australia has suffered regular tramp ant incursions in recent years, in some cases more than once in the same location. Several witnesses suggested that this indicates a systematic weakness in cargo surveillance measures. The committee agrees with this assessment and believes that, given the potential impact of tramp ants, greater efforts must be made to prevent tramp ants reaching Australia.

7.75 The committee also notes evidence provided by Dr Lach that the measures outlined under the Tramp Ant Threat Abatement Plan, developed in 2006, have not been fully implemented.[20]

Recommendation 16

7.76 The committee recommends that the Department of the Environment work to ensure that the measures described in the Tramp Ant Threat Abatement Plan are fully implemented.

Recommendation 17

7.77 The committee recommends that, within the next 12 months, the Department of Agriculture review its cargo surveillance measures with the aim of achieving better detection rates of invasive species in general and of tramp ants in particular.

Horticulture industry

7.78 The committee received evidence that the horticulture industry has played a role in the spread of many plants species that pose a threat to the environment. In some cases known weeds have been sold under incorrect labels and thereby spread to new locations around Australia.

7.79 The committee notes comments from Nursery and Garden Industry Australia that it believes the commercial nursery industry is heavily regulated but that significant threats to environmental biosecurity are posed by internet retailers of plant material, as noted above, and by small-scale, non-commercial nursery activities.

7.80 The committee received evidence that regulation of the horticulture industry suffers from a lack of national coordination. The committee agrees with this assessment and believes greater work needs to be done by both Commonwealth and state and territory agencies to establish harmonised protocols regarding which plants can be sold, how weeds are identified and the tracking of plant sales.

7.81 The committee also believes the establishment of permitted lists to govern the sale of plants in nurseries, as currently exists in Western Australia, rather than prohibited lists, would improve the regulation of the industry.[21]

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20 See discussion in chapter 4.

21 See discussion in chapter 5.

Recommendation 18

7.82 The committee recommends that the Commonwealth Government work with state and territory governments, and the horticulture industry, on establishing standardised labelling, weed identification, and sales tracking protocols across the industry.

Live animal trade

7.83 The committee received concerning evidence regarding the rate at which live animals, particularly birds, are entering Australia and either escaping or being deliberately released into the wild. These animals appear to be entering Australia by both legal and illegal means.

7.84 The committee notes evidence provided by the Zoo and Aquarium Association that, although the zoo industry is heavily regulated, the private wildlife trade is significantly less restricted, particularly with regard to exotic birds.

7.85 The committee is also concerned by the lack of a nationwide information source regarding seizures of wildlife. At present it appears that the Zoo and Aquarium Association maintains the most comprehensive database of this information. The committee believes that the development of a nationwide database would improve efforts to restrict illegal live imports and also better understand the biosecurity issues that are presented by this trade.[22]

Recommendation 19

7.86 The committee recommends that the Department of Agriculture review and, where appropriate, strengthen current regulations governing private aviculture imports, given the high rate at which privately kept birds escape into the wild.

Recommendation 20

7.87 The committee recommends that the Department of Agriculture identify the pathways by which exotic birds are entering the country, including illegal pathways, and work to better regulate or close these pathways.

Recommendation 21

7.88 The committee recommends that the Department of Agriculture work with relevant state and territory agencies to develop a national database of seized exotic wildlife.

Marine, freshwater and island biosecurity

7.89 The committee received evidence highlighting the role of shipping in the movement of organisms in the marine environment. The roles of ballast water and biofouling and their respective regulatory schemes were highlighted in evidence.

22 See discussion in chapter 5.

7.90 The committee notes that the Biosecurity Bill 2014, which was introduced to the Parliament after the committee had received submissions and held hearings, addresses the need to develop a national ballast water regime, but does not address the need to better regulate biofouling.

7.91 The committee acknowledges the complexities of regulating this area, but believes a national mandatory regime must be implemented as soon as possible given the contribution of this pathway to marine incursions. Evidence presented to the committee suggests that biofouling poses a significantly greater threat to Australia's biosecurity than ballast water.

7.92 The committee also received evidence that surveillance for marine biosecurity is significantly under resourced. The failure of some states to properly implement marine pest monitoring programs under the Marine Pest National Monitoring Strategy is a stark example of this situation.

7.93 Another surveillance weakness highlighted in evidence was the lack of regular inspections by the Department of Agriculture targeted at biofouling.[23]

Recommendation 22

7.94 The committee recommends that, following the completion of the current review of national maritime pest policy by the Department of Agriculture, the Commonwealth Government amend biosecurity legislation to incorporate a national mandatory biofouling management regime.

Recommendation 23

7.95 The committee recommends that the Department of Agriculture conduct more regular ship inspections targeted at biofouling.

7.96 The committee received evidence highlighting the ornamental fish trade as the source of a significant number of incursions into Australia's aquatic ecosystems. Evidence suggests that, of the 30 ornamental fish species established in Australia, around 10 are on the permitted import list.

7.97 The committee notes the existence of a national strategy for the management of ornamental fish, including a banned list of noxious species and a grey list of species that require further assessment. However, it appears that there are many species currently traded in the ornamental fish industry that are not on the permitted species list under the EPBC Act.

7.98 Several witnesses expressed concern to the committee that ornamental fish were generally not subject to screening with regard to their species or their disease status at Australia's borders. In this regard the committee notes the intention of the Department of Agriculture to introduce an on-arrival fish health monitoring program.

23 See discussion in chapter 6.

7.99 Evidence provided to the committee suggests that there is a lack of national coordination in relation to information sharing and responses to freshwater fish incursions and that the risk assessments used to assess ornamental fish imports are based on overseas information which may not be relevant to Australian conditions.[24]

7.100 The committee believes that Australia's preparedness in this area must be improved.

Recommendation 24

7.101 The committee recommends that the Commonwealth Government work with state and territory governments to establish a national monitoring and data sharing regime for freshwater fish incursions.

Recommendation 25

7.102 The committee recommends that the Department of Agriculture improve border surveillance of freshwater fish imports, review the relevance of its risk assessments for Australian conditions and implement as soon as practicable the on-arrival fish health monitoring program.

7.103 The committee received compelling evidence regarding the important role Australia's islands play as biodiversity refuges. The committee also saw examples of how critical biosecurity protection is to keeping islands in a state that would allow them to fulfil this function in future. The cases of Christmas Island and Barrow Island were presented as contrasting examples of biosecurity failure and success.

7.104 In its 2013 report, *The effectiveness of threatened species and ecological communities' protection in Australia*, this committee urged the Department of the Environment to develop biosecurity strategies as part of action plans to protect island sanctuaries. The Commonwealth Government responded that it was doing so for islands for which it has responsibility.

7.105 The committee notes the division of responsibility for Australia's islands between the Commonwealth and the states but believes that a nationally coordinated approach to island biosecurity, along the lines suggested by Dr Burbidge in his submission outlining a National Island Biosecurity Initiative, would nevertheless improve the management of islands with respect to biosecurity.[25]

Recommendation 26

7.106 The committee recommends that the Commonwealth Government work with state and territory governments to establish a national framework for managing biosecurity on Australia's islands.

7.107 Finally, the committee wishes to acknowledge that this is an exceptionally complex area of environmental management, requiring coordination between all levels of government, industry and the community, as well as a range of difficult decisions about where scarce resources should be allocated to maximise their effectiveness.

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24 See discussion in chapter 6.

25 See discussion in chapter 6 and Dr Andrew Burbidge AO, *Submission 13 Attachment 1*, p. 1.

These complexities are further exacerbated by the partial state of scientific knowledge, both of potentially invasive species and of Australia's environment itself, as well as the influence of climate change.

7.108 Nevertheless, the committee considers that there is room to strengthen Australia's performance in relation to environmental biosecurity in order to protect our unique ecosystems.

Senator Anne Urquhart
Chair