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Recommendations

Recommendation 1
Governments work to determine an agreed, consistently applied, and routinely audited risk assessment policy for assessing plant pest risks across borders, regions and across industries.

Recommendation 2
That recommendations of the Primary Industries Standing Committee working group on Post Entry Quarantine be revisited and actioned as appropriate.

Recommendation 3
That support be provided for new, more cost effective and accurate diagnostic methodologies for Post Entry Quarantine and emergency response diagnostics.

Recommendation 4
That a review of Australia’s Post Entry Quarantine arrangements be undertaken against the Emergency Plant Pest Response Deed schedule of emergency plant pests.

Recommendation 5
That the Australian Government consult with stakeholders to determine the most appropriate policy to ensure there are no gaps in the introduction of high risk nursery stock and that charges do not provide a disincentive for compliance.

Recommendation 6
That a national framework be established to coordinate and resource monitoring and surveillance for high priority exotic plant pests and for information collected along the continuum to be shared.

Recommendation 7
That interception data collected by AQIS be made available to Plant Health Australia and state biosecurity agencies to ensure the resources and effort placed on risk mitigation activities is appropriately directed.

Recommendation 8
That diagnostics on pest and disease interceptions, where possible, be carried out to the species level.

Recommendation 9
That the Import Risk Assessment process have regard to the outcomes of post-border risk analysis and the status of emergency plant pest preparedness in regions and industries at highest risk.

Recommendation 10
Where new evidence that infected material is breaching Australia’s border is provided to AQIS and BA, action to determine the means of the breach and a review of the adequacy of risk controls be immediately taken, with emergency measures implemented if appropriate.
Recommendation 11
That government and industry signatories to the Emergency Plant Pest Response Deed constantly review their compliance with their full range of obligations and adjust levels of resourcing accordingly.

Recommendation 12
That governments and industries support the introduction of a mandatory insurance scheme to protect growers from losses not eligible for reimbursement under the Emergency Plant Pest Response Deed.

Recommendation 13
That governments, consistent with their obligations under the Emergency Plant Pest Response Deed, should ensure that there is a national shared capability to respond to plant pest emergencies. This includes provision of adequate funding and a willingness to train personnel and share resources where required.

Recommendation 14
That the Australian Government recognise the relative economic importance of plant industries when making future decisions on quarantine and biosecurity resourcing.

Recommendation 15
That AQIS’s regime of intervention targets be reviewed to determine whether a more focussed risk-based inspection system might deliver greater net benefits to Australia.

Recommendation 16
That AQIS integrate its surveillance systems with those of the states/territories as part of the implementation of the National Plant Health Surveillance Strategy.

Recommendation 17
That research occur to determine shifts in pest-host dynamics under accepted climate change scenarios and that the findings be taken into account in risk assessment processes across the continuum.

Recommendation 18
That monitoring and surveillance activities across the plant based agricultural and environment sectors be nationally coordinated and the information gathered be freely exchanged.

Recommendation 19
That governments do not divert funding from plant biosecurity activities to support delivery of AusBIOSEC commitments.

Recommendation 20
That a national cross continuum communications strategy be prepared to identify gaps, define roles and responsibilities and elevate post-border community biosecurity awareness and practices.

Recommendation 21
That government quarantine and biosecurity legislation confirm roles and responsibilities of stakeholders as agreed under the National Plant Health Strategy.
Recommendation 22
That present work to harmonise and align Commonwealth and state/territory legislative and regulatory instruments for quarantine and biosecurity with international standards be accelerated.

Recommendation 23
That capability be established within domestic quarantine regulatory arrangements to regulate and manage plant pests on a bio-geographical basis.

Recommendation 24
That governments develop and implement a national electronic documentation system to enhance operational efficiencies in quarantine regulation.

Recommendation 25
That governments accelerate completion of biosecurity strategies demonstrating how responsibilities under the Emergency Plant Pest Response Deed will be met.

Recommendation 26
That sufficient resources are allocated to implement all agreed roles and responsibilities of the Australian Government under the National Plant Health Strategy.

Recommendation 27
That governments provide sufficient resources to enable implementation of the National Plant Health Diagnostic Strategy.

Recommendation 28
That governments provide sufficient resources to enable implementation of the National Plant Health Surveillance Strategy.

Recommendation 29
That a national succession, training and resourcing plan be developed and agreed by governments and industry to ensure Australia has the essential skills and personnel to effectively meet commitments under the Emergency Plant Pest Response Deed and National Plant Health Strategy.

Recommendation 30
That AQIS and BA have representation at PHA meetings, Industry Biosecurity Planning Groups and National Communications Network meetings.

Recommendation 31
That AQIS and BA support the Australian Biosecurity Intelligence Network project by making available information and data held by both agencies and contributing as appropriate to the Australia Biosecurity Intelligence Network linked projects.

Recommendation 32
That governments consider appointing PHA to conduct future post-incursion reviews.
Introduction

In drafting this submission Plant Health Australia (PHA) has sought the views of its 45 Members. While Member views are reflected, the positions expressed in this submission are those of PHA. For the most part they take a broad perspective, drawing on PHA’s observations and experiences over the past seven years in managing plant health programs and contributing to the enhancement of the national plant health system. PHA understands that many of its Members will lodge specific submissions. It could be expected that many of the general issues raised by PHA will be explored in more detail in these submissions and/or new perspectives offered.

PHA’s submission has been structured around the seven main “Issues For Consideration” identified in the “Quarantine and Biosecurity Review Issues Paper – 14 March 2008”. Questions posed in the Issues Paper are not individually addressed although inferences can be drawn from this submission as to PHA’s views in relation to these.

As well as commenting on the quarantine and biosecurity system as it is, PHA is well placed to present views on future challenges and directions for the national plant health system. In February this year, PHA hosted a two day workshop to begin development of a National Plant Health Strategy for the period to 2020. Attendees at the workshop included representatives from the Australian Government, state and territory governments, industry representatives and associated stakeholders such as research bodies and downstream service providers. From the Australian Government, participants were drawn mainly from the Department of Agriculture, Fisheries and Forestry portfolio, and specifically the Product Integrity Animal and Plant Health Division (PIAPH), Office of the Chief Plant Protection Officer (OCPPO), Australian Quarantine Inspection Service (AQIS), Biosecurity Australia (BA) and AusBIOSEC. The workshop identified a range of areas requiring attention across the plant health system into the future and began the process of determining the outcomes needed, roles and responsibilities, and consideration of sustainable funding arrangements.

Another important input to PHA’s response is the National Fruit Fly Strategy (NFFS) which has been developed by governments and affected key industry peak bodies. As Australia’s number one horticulture pest and biggest present threat to trade, work done on the NFFS will have significant payoffs but will require some changes to Australia’s quarantine and biosecurity systems.
Background

When the Nairn Review *Australian Quarantine: a shared responsibility* was published in 1996, it recommended the creation of an independent body “to identify national priorities in plant health and to facilitate joint industry and government cooperation in maintaining acceptable national plant health standards that meet consumer and market requirements”\(^1\).

This finding led to the establishment of Plant Health Australia (PHA) in 2000. Since that time PHA has made advances towards achieving a genuine partnership approach to plant health between the Australian Government, State and Territory Governments and Australia’s plant industries. Working in partnership with government and industry, PHA (and its equivalent Animal Health Australia (AHA) for the animal industries) has built shared understanding and commitment to national plant biosecurity objectives and acted as an independent broker.

PHA’s work to date has dealt primarily with the post-border part of the biosecurity continuum. Input is provided by PHA to activities in other parts of the continuum through its engagement with industry and government. It is also responsive to information, policy and strategies developed by others along the continuum that have implications for Australia’s overall biosecurity management and status – although there is an opportunity and capacity to be engaged more comprehensively across the whole continuum.

PHA’s strategic and operational focus is on mitigating risks of post-border biosecurity breaches and reducing their impact through improving national response capability and preparedness. This recognises that Australia’s Acceptable Level of Protection (ALOP) settings do not eliminate the risk of pest and disease incursions, and that outbreaks of exotic pests and the continued spread of serious endemic pests are inevitable.

Australia’s quarantine and biosecurity system plays an integral and critical role for our agricultural industries in the international and domestic context and makes a significant contribution to the public good by preserving the economic health of many businesses, regions and industries, while safeguarding the availability and safety of Australia’s food supply.

Given PHA’s purpose, the robustness and reliability of Australia’s border quarantine and biosecurity systems are of vital interest to PHA’s Members. The Emergency Plant Pest Response Deed (EPPRD) confers an obligation on all government and plant industry signatories to mitigate risks posed by exotic plant pests. As custodians of the EPPRD, PHA promotes compliance and action by all signatories. Border quarantine, including post-entry quarantine activity, is one of the chief means by which the Australian Government discharges its risk mitigation obligations. The Australian Government has also made a substantial commitment to response activities by committing to fund pre-agreed shares of eradication costs, and to preparedness activities through investment in such activities as biosecurity research and development (R&D), diagnostic protocol development and response personnel training.

The Australian Government has a substantial stake in PHA and is its single largest Member contributing close to one-third of the company’s annual subscription income.

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Through PHA, the Australian Government has extended its involvement in post-border biosecurity, as well as accepted a share of the responsibility for ensuring risk mitigation and response preparedness for emergency plant pests is strengthened.

As conferred by the Australian Constitution, primary responsibility for border and pre-border quarantine and biosecurity rests with the Australian Government. While PHA has no legislative or operational role in these areas, PHA projects can span the whole biosecurity continuum in the interests of achieving comprehensive and integrated national solutions to significant problems. For example, with the PHA led NFFS it has been critical to ensure that the requirements for delivery of the Strategy are addressed by the appropriate participants in the continuum. This has enabled all parties to be assured there are no gaps in the risk assessment arrangements.

Defining the ALOP for Australia is undoubtedly a complex and dynamic task. The interests of Australia’s agricultural industries must be taken into account, as must considerations about national, jurisdictional and regional post-border risk mitigation and emergency plant pest response capability. Balanced against this, consideration must also be given to international and bilateral trading rules, especially adherence to standards governing acceptable quarantine restrictions and controls. As a major exporter of plant products access to overseas markets is paramount. Failures in quarantine and biosecurity put this access at risk and can impact on the agricultural production base, environment and biodiversity.

Along the continuum there is no uniform and effectively integrated approach to mitigating the risks to agriculture posed by pests and diseases. This view was supported by the Agriculture and Food Policy Reference Group who highlighted in their 2006 report that long term management of Australia’s biosecurity would be enhanced by a more coordinated approach.

With roles and responsibilities not always clearly defined, understood or accepted, resource allocation decisions have occurred that fail to address all weaknesses in the system, or keep pace with evolving market and phytosanitary developments. Surveillance is a particular area of concern. With international trade rules ever tightening around phytosanitary issues, our incapacity to prove “evidence of absence” will become an increasing market access risk for both interstate and international trade. The solutions lie in a partnership between governments and industries.

Risk mitigation for industries will not be comprehensively achieved until biosecurity becomes an intrinsic part of farm management practices. As with surveillance, the picture for on-farm biosecurity nationally and across industries is variable. In most cases practices are well short of what is needed to make a real difference, and biosecurity is not universally recognised as a component of business risk plans and quality assurance programs. This must change. In the absence of market signals, other incentives will need to be found to create greater awareness of biosecurity and the conditions for behavioural change.

Australia’s preparedness to respond to emergency plant pest incursions is also compromised, with capability limited by:

- availability and skills of plant health experts across essential scientific disciplines.
- availability and skills of response personnel.
- ability of funding parties to meet their obligations.

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• availability of, and familiarity with, agreed contingency plans to guide responses for specific pests and incursion situations.
• surveillance arrangements which must be capable of demonstrating absence of pests, and delivering effective early detection and spread assessments.
• availability of nationally agreed, and internationally accepted, diagnostic tests for high priority pests.
• availability and affordability of eradication technologies and approaches.
• effective predictive and simulation tools, to ensure that responses are not being dealt with on a “best guess” basis.
• ready and tested communications strategies to ensure all stakeholders, and the wider community, are informed and continue to remain supportive of responses.
• recovery plans across industry and government, covering issues such as production capacity, market access and social impact.

International market access issues are both quarantine and non-quarantine based and given the complexity of issues, progress to improve market access conditions can be relatively slow.

With all sectors of the plant health community facing increasing production and sustainability challenges, and with increasing people and plant produce movement around the globe, the threat of plant pest and disease incursions is very real with potentially devastating effects on our $21.4 billion plant industries3 and the communities and consumers they sustain.

These threats are not always from known sources, or where traditional quarantine controls would be particularly effective, or where post-establishment eradication is an option. As a result, Australia’s quarantine and biosecurity systems need to be responsive to intelligence about emerging pest and disease threats and effectively share this information with researchers and industry. Ug99 is an example of an emerging and rapidly spreading disease of wheat with potentially catastrophic consequences for production around the world. Ug99 is a virulent strain of black stem rust fungus (*Puccinia graminis*) with airborne spores which was first discovered in Uganda in 1999 and has since spread through Africa and the Middle East and is on track to spread into Asia. Since the Green Revolution, farmers everywhere have grown wheat varieties that resist stem rust, but Ug99 has evolved to take advantage of those varieties, and almost no wheat crops anywhere are resistant to it.

The significance of plant pest incursions to national and regional economies should not be underestimated. For instance, in October 1995, Australia experienced one of the most serious exotic plant pest incursions in its history when an outbreak of the Asian papaya fruit fly (PFF) (*Bactrocera papayae*) was detected in papaw fruit near Cairns.

At the time of detection there was very limited trapping of adult flies conducted near the port or in other urban areas of Cairns and the pest had spread over a relatively wide geographical area before being detected. As a consequence of limited trapping and an inability to rapidly determine the extent of the incursion, the trade impacts of the PFF incursion were felt over a large area of Queensland, until the actual distribution of PFF was determined and the pest eventually eradicated. Although the Mediterranean fruit fly (*Ceratitis capitata*) and the Queensland fruit fly (*B. tryoni*) are of economic importance in Australia, PFF was considered to be a much greater threat to Australian horticultural industries. Losses and increased costs due to restrictions on both the export of fruit trade and interstate fruit movement, increases in insecticide usage and social and economic impacts were estimated to be

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worth many millions of dollars. It was thought that trade restrictions alone cost more than AUD$100 million per annum.

Eradication of PFF was a lengthy and costly exercise. Over its four-year duration the nationally cost-shared eradication program cost approximately AUD$34 million. The impact in dollar terms on industry and the cost of eradication would probably have been considerably lower if there had been an existing national program that encompassed trapping of fruit flies in high-risk areas. This fact is supported by the detection of an exotic fruit fly in Darwin some time later. In this instance a national fruit fly trapping grid was in place and the incursion detected early. The cost of the eradication program was only AUD $5 million. There is no estimate on impact on trade even though trade restrictions were applied by trading partners.

Although Australia has not experienced an incursion of the serious wheat pest, Karnal bunt, economic modelling conducted by PHA has shown that an outbreak in Western Australia’s wheat belt could have a flow-on national impact of up to $1.3 billion\(^4\) in reduced trade, eradication and control measures.

History has also shown that perceptions about Australia’s pest and disease status are sufficient to alter our trading status and cause economic loss. For example, on two occasions in the last five years Pakistan has cited biosecurity concerns as justification for withdrawing from contracts for Australian wheat worth hundreds of millions of dollars\(^5\). Anecdotal evidence from Pakistani press reports indicate that the Australian Wheat Board is seeking AUD $600 million in damages as a result of losses incurred from the last allegation incident. A reputation for clean, green production and pest and disease freedom is certainly a benefit to Australia and a hard-earned marketing advantage that must be protected. But it is not sufficient. Having the ability to quickly verify or disprove these claims in a coordinated way across the continuum is critical to the continued trading success of our agricultural industries.


Responses to the Review Issues Paper

1. Risk across the quarantine and biosecurity continuum

Effective biosecurity and quarantine policies, systems and procedures are crucial in maintaining Australia’s status as a clean and green producer that is relatively free of serious pests and diseases. Management of risks across the quarantine and biosecurity continuum requires a nationally coordinated approach that integrates the activities undertaken by the Australian Government, state and territory governments, industry and landholders. The frequency of exotic pest incursions across plant and animal sectors in recent times have demonstrated that risk is not being managed as well as it should across the continuum. There is urgent need to address deficiencies through a range of measures which must include:

- Regular reviews of Import Risk Assessments and associated product treatment and quarantine protocols.
- Regular performance audits and compliance checks of organisations with responsibility for quarantine and biosecurity across the continuum.
- Building capacity and capability to effectively mitigate risks and impacts of serious pest threats and meet commitments under the EPPRD.
- Periodic simulation exercises, involving government and industry, to test response readiness and cement cooperative approaches.
- Shared responsibility between governments and industries for planning, management and investment along the continuum.
- Information sharing and consultation as standard operating procedures.

1.1. Risk Assessment

Plant industries expect government to take a very conservative approach to managing quarantine risks, based on quality science and diligent implementation of quarantine protocols. It is PHA’s view that improvements are needed in Australia’s quarantine and biosecurity system to enable maintenance of Australia’s current ALOP. These relate both to present quarantine arrangements and operational resourcing, but also to biosecurity capability for prevention, preparedness and response. For the most part greater trust, coordination and cooperation between governments and industries at the outset of the risk assessment process are the keys to achieving these improvements. A demonstration of this trust would be to regularly and transparently audit compliance of AQIS quarantine protocols.

Variation exists between jurisdictions in the processes used for the assessment of risk. PHA acknowledges that there are a wide range of factors which have contributed to this variability but also that inconsistency is working against the national interest. As risk assessment processes often form the basis upon which legislative and regulatory directives are developed, a consistent, transparent and scientifically sound approach across jurisdictions will strengthen the national system and provide for more certain outcomes. To achieve this degree of harmonisation it will be necessary to establish a nationally consistent risk-assessment process to be used by all jurisdictions.
Recommendation 1: Governments work to determine an agreed, consistently applied, and routinely audited risk assessment policy for assessing plant pest risks across borders, regions and across industries.

It is PHA’s view that while there is fair community understanding of the purpose of Australian quarantine there is far less appreciation that the ALOP is set above zero risk and that biosecurity arrangements play a crucial role in managing those residual risks.

Australian plant industries on the other hand are acutely aware that quarantine and biosecurity systems are predicated on there being some level of risk to the introduction of exotic pests. Their chief problem with the ALOP is faith in the process for assessing risk, and the adequacy of measures and resourcing applied to managing that risk. Serious consideration needs to be given as to how consultation can be used more effectively to convey that the “appropriate” level of risk occurs. This consultation though, should not, impose greater burden on industry who are already stretched in engaging on quarantine and biosecurity matters across the continuum. Greater consultation with industry in determination of ALOP for each threat may provide a solution.

1.1.1. Post Entry Quarantine

One of the areas needing consideration is the area of Post Entry Quarantine (PEQ). Currently PEQ is a one of two pathways for entry of propagation material into Australia. PEQ material ranges from high risk material such as germplasm for horticultural crops (e.g. apples), to low risk imports (e.g. live orchids). The other method of entry into Australia for new genetic material is via the seed pathway.

For the grains and vegetable industries seed is the primary import pathway, whereas for horticultural crops vegetative material is more common. Given this material is used as the source of new genetic material for Australian agriculture, the implications of a pest escaping the screening process is much higher when compared to the risk posed by imported commodities, which are used and then discarded.

BA risk assessment methodologies are applied to determine the precise post-entry quarantine conditions for each type of introduction. However, there are concerns, arising from industry and state/territory governments, that the current system needs review. One of the areas needing further consideration is the ongoing status of the two Australian Government facilities. More detail on this aspect of PEQ is covered further in this submission.

Another area raised by PHA Members is the reliance on private facilities, and on visual inspections by non specialist quarantine staff, which is believed contribute to PEQ being a high risk pathway. For many pests visual detection is very difficult because of the way in which it is expressed in the plant. Another difficulty is that the period in PEQ is often not sufficient to see visible signs of the pest expressed. This last point is particularly true for viruses and other slow growing pathogen species e.g. {Fusarium}.

The incursion of Wheat Streak Mosaic Virus in 2003 was as a result of a PEQ breach and there is anecdotal evidence that the Mango Malformation recently detected in the Northern Territory also came through PEQ in legally imported material. In the case of Wheat Streak the virus was known to be seed borne at low levels but it was felt visual screening would be sufficient for detection. Given the wheat plants in PEQ are grown in pots in a glasshouse (a very artificial environment) it is not
surprising minor symptoms were missed. In the case of Mango Malformation the causal organism is very slow growing and will sit saprophytically on host material for up to several years. Expression will only occur when the environmental conditions are favourable.

Both these examples demonstrate the complexity of plant pest biology and the difficulty in reconciling expectations for fast access to new varieties against the risks of introduction of exotic pests into Australia. Negativity about the current PEQ system is further compounded by current screening charges which, for high risk material, can be substantial even allowing for Australian Government rebates. There is a clear risk where these high charges apply that circumvention of legal systems of entry will become attractive, and thereby increasing the risk of biosecurity breaches.

Following the Wheat Streak Mosaic Virus breach\(^6\), reviewed the system of PEQ in place at the time and raised a number of issues requiring attention. Primary Industries Standing Committee (PISC) considered these issues and formulated recommendations to address them. To date, PHA is not aware, that the recommendations have been implemented by AQIS.

Recommendation 2: That recommendations of the Primary Industries Standing Committee working group on Post Entry Quarantine be revisited and actioned as appropriate.

An important need identified through the Radcliffe et al\(^6\) review process was for improvements to the PEQ pest diagnostic capability. AQIS uses a standardised set of testing procedures for PEQ but these tests do not reflect the work being undertaken by PHA Members to develop national diagnostic standards for emergency plant pests. It is important that Australia uses its limited diagnostic capacity to its best advantage and this includes using the most current diagnostic tests that have been endorsed by all governments as the national standard for use in an emergency incident. Making better use of international networks to share access to standards, technologies and expertise will also bolster capacity without requiring major outlays.

Significant gaps exist in the coverage of diagnostic protocols for high priority plant pests (refer Section 6). Funding is limited and the competition fierce to apply scarce dollars to improve diagnostics for pests already present in Australia rather than on exotic species. Compounding problems of under-investment, there is a perception from governments that industry should be sharing, or meeting, the costs of their development.

Recommendation 3: That support be provided for new, more cost effective and accurate diagnostic methodologies for Post Entry Quarantine and emergency response diagnostics.

In the PEQ setting there are also concerns about the ‘open quarantine’ system, the use of private post entry quarantine facilities for medium to high risk material, and the relationship between the state/territory PEQ facilities and the Australian Government facilities. PHA is aware PEQ is an issue of significance across all of its Members and recommends a complete review of Australia’s PEQ arrangements which looks at levels of risk of imported material, screening arrangements on-shore and off-shore and diagnostic testing. This review needs to focus on the schedule of emergency plant pests under the EPPRD and be inclusive with all relevant stakeholders involved.

Recommendation 4: That a review of Australia’s Post Entry Quarantine arrangements be undertaken against the Emergency Plant Pest Response Deed schedule of emergency plant pests.

A particular issue raised with PHA that is of direct relevance to this review is the status and future support for national PEQ facilities for high risk nursery stock. Australian industries need access to this stock to remain competitive.

Many high risk pests can only be transported through propagating material. It was for this reason the Australian Government originally determined that nursery stock for commercially important crops must undergo PEQ screening in a government facility.

Currently the Australian Government operates two high-health post-entry quarantine facilities at Eastern Creek in Sydney and Knoxfield, in Melbourne. PHA is aware that the leases on these two facilities are coming to an end and that they will not be renewed. There is a need within Australia for facilities that can house high risk nursery stock as the risk posed by nursery stock is far greater than for produce. One national facility will not be sufficient as PEQ facilities would need to approximately represent the growing conditions required for different plant materials e.g. tropical, cool temperate and warm temperate. One option would be to consider having the states and territories provide PEQ services on behalf of the Australian Government on a mutually agreed financial framework. It will be important to monitor any charges placed on post-entry quarantine services to ensure they do not provide an incentive for non-compliance.

Recommendation 5: That the Australian Government consult with stakeholders to determine the most appropriate policy to ensure there are no gaps in the introduction of high risk nursery stock and that screening charges do not provide a disincentive for compliance.

1.1.2. Interception Data
As part of the Import Risk Analysis (IRA) process, BA undertakes a Pest Risk Assessment (PRA) for regulated pathways which determines if the risk of incursion is above Australia’s ALOP. If the assessment shows the risk is higher than the ALOP, then risk mitigation treatments need to be applied by the exporter or the product is not permitted entry.

One of the ways available to measure the effectiveness of the PRA is by examining interception data. If the risk mitigation treatments are effective then the level of detection of target pests will be within the acceptable level. If not, the PRA should be reviewed and the treatment regime adjusted to ensure compliance with Australia’s ALOP. Equally, if the interception data shows pests other than those considered in the PRA process are being detected, then the PRA needs to be reviewed to take these pests into account.

Very little data is available that might enable an informed evaluation of Australia’s border quarantine and biosecurity system and its appropriateness for maintenance of the ALOP. Up until 2003, detection information at the species level was available through the Pest and Disease Interception (PDI) database operated by AQIS. Since then, there has been a winding back of resourcing for routine confirmatory diagnostic work which is undermining the effectiveness of PRA processes and reducing capability to detect new and emerging pest species and strains. PHA understands that while interception data is still collected it is not widely available, is not uniformly recorded and often
predicated on visual diagnosis only, a procedure which may not be appropriate for the detection of all pests.

As a matter of priority, AQIS interception data needs to be shared with the organisations holding responsibility for biosecurity in the post-border environment as it will be state and territory agencies and affected industries that will be called on to detect, scope and then manage pests if they establish post border.

Recommendation 6: That a national framework be established to coordinate and resource monitoring and surveillance for high priority exotic plant pests and for information collected along the continuum to be shared.

Recommendation 7: That interception data collected by AQIS be made available to Plant Health Australia and state biosecurity agencies to ensure the resources and effort placed on risk mitigation activities is appropriately directed.

Recommendation 8: That diagnostics on pest and disease interceptions, where possible, be carried out to the species level.

PHA through its Industry Biosecurity Planning process has identified over 230 high priority pests (species) for 25 of Australia’s leading plant industries, which if detected would be considered for eradication. The analysis that created the list of priority pests was carried out without direct access to AQIS interception data.

Sharing of this data would be informative for subsequent analysis of priority pests and greatly aid state/territory governments and industries in their ability to target risk mitigation investments and prepare for future incursions. Without it, the chances of early detection and, therefore successful eradication, are hampered.

Access to interception data would also enable the development of diagnostic protocols to be targeted. This point is important as it is not possible, or necessary, to develop diagnostic protocols for all 230 high priority pests. PHA is aware that at least one state agency is currently working with its stakeholders to develop priorities within the agency for high priority pests but is concerned about the validity of their conclusions because access to the data has been blocked.

1.1.3. Import Risk Assessments
IRA’s are integral to Australia’s biosecurity arrangements but regularly been a controversial element. Industries have expressed concern that the best science and research is not always applied to IRAs, that trade considerations have diluted the scientific basis for IRAs, and that the quality and thoroughness of IRAs is variable.

Substantial resources are devoted to IRA processes by BA and industry groups. While this is appropriate given their importance, PHA is concerned about the adversarial interactions that characterises their development and release. As a consequence, relationships are strained and resources expended that could be more productively applied.

There have been too many instances in the past where scientifically-based challenges by industry to IRAs have brought about amendments. The consequence has been to undermine industry
confidence in BA in managing the IRA process and to place smaller industries at what they perceive to be a disadvantage because of their capacity to properly assess whether the IRA is valid and to finance any challenge.

To be truly effective, systems at the border need to recognise the layered levels of responsibility under the Australian Constitution for quarantine and biosecurity and ensure that these arrangements operate as seamlessly as possible. For instance, the work of PHA in determining high priority pests through the industry biosecurity planning process, if fully integrated in BA and AQIS decision making, should make a substantial contribution to resource decisions for surveillance, diagnostics, quarantine and treatment. However, the evidence suggests this is not happening to the extent that it should.

**Recommendation 9:** That the Import Risk Assessment process have regard to the outcomes of post-border risk analysis and the status of emergency plant pest preparedness in regions and industries at highest risk.

### 1.1.4. Feedback Loops

Feedback between the border and post-border levels of the continuum is an essential element of a coordinated, intelligent and adaptive system. If information is withheld and/or feedback ignored, vital discoveries may go unheeded and corresponding quarantine and biosecurity controls not match the actual level of risk.

A current example of this is with Potato Spindle Tuber Viroid (PSTVd). The current tomato seed entry conditions do not require any risk mitigation requirements on tomato seed from the Netherlands. These conditions were based on a thorough risk assessment and have been in place for some time. Since then a number of factors have changed. There have been multiple detections of PSTVd in tomato crops grown from imported seed. At the same time there is new research showing that PSTVd appears likely to be seed borne in tomatoes at low levels and the Dutch authorities recently advised that PSTVd is now endemic in the Netherlands. Another example comes from the almond industry which asserts that incoming *Prunus* spp seed is not screened for seed borne viruses because Prune Dwarf Virus and Prunus Necrotic Ringspot Virus are already present in Australia. This position ignores the fact that different strains are present overseas, which are more virulent than established Australian strains.

PHA would see that in situations such as these, where there is clear evidence that infected material is potentially breaching Australia’s border protection measures (and Australia’s ALOP) and new information about transfer and establishment risks exists, that import conditions should be promptly reviewed to ensure Australia remains free of these high priority pests. This feedback loop is another example where the whole quarantine system within Australia needs to work seamlessly to ensure Australia’s ALOP is maintained.

**Recommendation 10:** Where new evidence that infected material is breaching Australia’s border is provided to AQIS and BA, action to determine the means of the breach and a review of the adequacy of risk controls be immediately taken, with emergency measures implemented if appropriate.
1.2. Risk management

Industries have had an increasing involvement in supporting the plant health system over the last 10 years as they have recognised their key role in the quarantine continuum and the need to mitigate risks for their industry as far as practically possible. Plant industry associations have expanded their involvement in policy and strategy formation, through the development of Industry Biosecurity Plans, the introduction of on-farm biosecurity arrangements and promotion of sound plant health management to their members. In addition, industry research and development corporations (RDC’s), teaching and research institutions, production chain participants and agribusinesses have become more involved in supporting the plant health system. For the RDC’s, biosecurity has become one of the core research priority areas.

For both the Australian and state and territory governments, biosecurity continues to be a core responsibility with a number of agencies aligning and restructuring their organisations to improve the delivery of biosecurity commitments. PHA is aware that individual state/territory agencies will be submitting submissions directly to the Review Committee.

One of the benefits derived from the formation of PHA has been the partnerships that have developed in the area of risk management between government and industry. Examples include the development of the National Plant Health Strategy and Industry Biosecurity Plans which have provided the PHA Members the opportunity to work together for a common good.

1.2.1. Shared Responsibility

It is reasonable that governments continue providing the people, services and infrastructure needed to operate a national quarantine system. It is recognised that governments are best placed to provide these physical resources and are best able to translate international requirements in the national interest. Government leadership, however, does not preclude some components of quarantine being a shared responsibility where benefits to other individuals or groups are significant enough and can be sufficiently distinguished from the public good. Any co-investment, however, must be accompanied by a commensurate role in planning, management and decision making.

Notwithstanding efforts at co-regulation and certain consultative arrangements, government-industry cooperation is more evident in the post-border environment than at the border. The centrepiece for sharing responsibility is the EPPRD. The EPPRD binds parties to work in partnership and confers a number of rights and obligations. These include sharing costs but also the right to participate in decision making, and the requirement to manage biosecurity risks.

The EPPRD has been shown to be effective in the three incursions in which it has been activated. Nevertheless, experience with the sugarcane smut incident and, more recently, observations with the equine influenza response, indicate that political decisions outside agreed procedures and systems under the plant and animal deeds hold the potential to undermine commitment of both government and industry signatories.

All signatories to the EPPRD have a vested interest in seeing pests risks mitigated, as this reduces the potential costs and related impacts from an incursion response. Government Treasuries are particularly concerned to reduce contingent liabilities but to date this has not provided the impetus it might to grow risk mitigation investments.
PHA would encourage the Australian Government, as well as other government and industry signatories to place priority on meeting obligations to maintain an appropriate capability to measurably reduce risks and effectively manage emergency plant pest incursions.

**Recommendation 11:** That government and industry signatories to the Emergency Plant Pest Response Deed constantly review their compliance with their full range of obligations and adjust levels of resourcing accordingly.

With the EPPRD activated and the majority of industries having Industry Biosecurity Plans in place, attention is shifting to implementing risk mitigation strategies under these Plans. PHA is playing a lead role in this, with projects currently underway for the grains industry and, the apple and pear industry to elevate on-farm biosecurity practices and build them into enterprise management and quality assurance programs. A number of other industry groups are designing on-farm biosecurity models, however, progress is generally slow.

One of the main difficulties in getting wide-scale improvements in risk mitigation on the ground is that growers lack the incentive to improve on-farm biosecurity practices. This can be countered to an extent through communication about pest threats and appropriate biosecurity measures, backed up by education and training. But there remains a significant degree of inertia to behavioural change especially where financial benefits are not immediately perceived.

However without collective intervention by governments and industry it is unlikely that the market will provide sufficiently strong signals to achieve universal grower adoption.

A possible solution may lie with giving growers access to insurance against consequential losses from exotic pest and disease incursions – these are losses not eligible for reimbursement under the EPPRD and as part of an approved response plan. Presently, insurance of this type is not commercially available in Australia. To overcome the market failure in this area, PHA advocates that governments regulate to make the holding of such insurance compulsory (such as 3rd party compulsory insurance for motor vehicles) with premiums differentiated on the basis of biosecurity standards attained. It could be expected that this would create a sufficiently large premium pool to make the scheme viable.

The availability of insurance coverage for growers would not obviate the need for industries to be signatories of the EPPRD. Being a signatory is a pre-requisite for access to cost-sharing arrangements including owner reimbursement costs. Owner reimbursement covers specific eligible costs directly related to a response but excludes ‘consequential’ losses such as loss of markets or economic impacts to industry service providers. In the event that eradication is not deemed feasible or affordable, provisions of the EPPRD do not apply and growers would not be eligible for reimbursement of losses. Without some form of insurance such a situation could conceivably drive previously profitable enterprises out of business.

**Recommendation 12:** That governments and industries support the introduction of a mandatory insurance scheme to protect growers from losses not eligible for reimbursement under the Emergency Plant Pest Response Deed.
1.2.2. Capability and capacity

With an annual budget of $2.26 million, PHA has worked with Members to make advances in biosecurity planning, surveillance systems, diagnostic protocol development, risk mitigation, communications and response arrangements. But for all these achievements there are still alarming gaps in post border preparedness and capacity. Rectifying these is beyond the ability of PHA without additional resource commitments from governments and industries. There is strong evidence to suggest that state/territory agencies and industries have resources fully committed just meeting normal, day-to-day functions.

When major emergency animal or plant pest responses must be mounted, such as was seen in 2006 with Sugarcane smut and in 2007 with Equine influenza (EI), resources are typically drawn from a range of areas within combat agencies and from outside. The indications are that for smaller jurisdictions there may be insufficient personnel available to meet the needs of a response. For instance, the Northern Territory Department of Primary Industry, Fisheries and Mines has advised PHA that it would have insufficient personnel to manage a large-scale emergency plant pest response for longer than one week.

Even in small-scale responses, the evidence is clear that the capacity of government agencies and industries to manage routine business or simultaneous emergency responses is critically compromised. During EI, for instance, it was industry’s view that interstate plant/plant product certification services were curtailed, with the effect that trade in some crops into some states was halted.

PHA is deeply concerned about the shortage of trained and skilled personnel across the various disciplines and roles needed to mount an effective eradication response to an emergency plant pest. PHA has analysed the 230 high priority pests drawn from the 21 industry biosecurity plans completed and found that Australia does not have experts in key science areas for many of these pests. Exacerbating the shortage of specialists is the situation with diagnostic protocols. More than two-thirds of the 230 pests are without a validated diagnostic protocol, leaving Australia potentially exposed in the event of an outbreak.

PHA has advised the Australian Government of these gaps and submitted a proposal through DAFF under the previous government seeking substantial funding for training, diagnostics and regional biosecurity projects. The current government has contributed some new funding for these areas, tied to the horticulture sector and fruit fly, but it is far short of what will be required to address all the gaps and the underlying system issues.

It is PHA’s view that holding required capabilities in each jurisdiction for each of the 230 high priority pests is not an efficient use of resources. More realistic is the creation of a national capability with resources shared between jurisdictions and promoting the development of centres of specialisation, with sufficient depth to manage protracted incursions.

Recommendation 13: That governments, consistent with their obligations under the Emergency Plant Pest Response Deed, should ensure that there is a national shared capability to respond to plant pest emergencies. This includes provision of adequate funding and a willingness to train personnel and share resources where required.
In addition, Australia should look seriously at capability offshore and reach agreement where necessary to utilise these networks in the event of an emergency response. PHA supports a project commenced by OCPPO to identify overseas specialists and diagnostic protocols for pests which Australian specialists presently cannot cover.

1.2.3. Surveillance
The challenge of surveillance in the plant sector is arguably greater than for animals. Not only are there a far greater number of exotic pests of concern but other than accidental discovery and public reporting there are limited surveillance networks in place for detecting incursions. Where these networks do exist they are almost exclusively focussed on primary hosts with virtually no surveillance carried out on secondary hosts and often major contributors.

The experience in Australia has been that a significant number of plants need to show suspicious symptoms in order to raise concern that a newly introduced pest may be involved. This contrasts to the animal and human circumstance, where one unusual presentation of one individual would usually trigger an investigation.

**Recommendation 14:** That the Australian Government recognise the relative economic importance of plant industries when making future decisions on quarantine and biosecurity resourcing.

There is an urgent need for more comprehensive and effective plant surveillance systems. However, their introduction will continue to challenge the plant health community as they need to be properly targeted to areas of highest priority, cognisant of market access issues, well coordinated, based on sound science, and be cost effective. To achieve these requirements, national surveillance standards need to be determined, innovative methods for data collection found, distribution and analysis capabilities developed, and greater involvement of the entire plant health community promoted.

To coordinate these needs into a coherent national framework PHA has been leading the development of a National Surveillance Strategy. The Strategy’s success will ultimately depend upon gaining the commitment of all stakeholders, including Australian Government agencies such as AQIS and BA. Adequate resourcing, methods to capture all surveillance activities, resource allocation based upon risk analysis, an innovative R&D program and establishment of a robust communications network between all surveillance providers and users are all ongoing challenges being addressed in the Strategy.

**Border**
Under current arrangements, responsibility for border surveillance rests with the Australian Government. In addition to the issues outlined with border surveillance in Section 1.1.2, PHA Members have raised concerns about the benefits and opportunity costs of AQIS’s intervention inspection strategy. The view is that rather than a strategy based around inspection of predetermed percentages of passengers, mail and cargo, that a more efficient and effective approach might be to adopt a more targeted inspection regime on the basis of assessed biosecurity risk (as is the case with customs and immigration agencies in undertaking their border security responsibilities). This, it is argued would free up resources to expand high-risk at-port and post-entry quarantine and surveillance operations.
Recommendation 15: That AQIS’s regime of intervention targets be reviewed to determine whether a more focussed risk-based inspection system might deliver greater net benefits to Australia.

Post-border
In contrast, to arrangements at the border, post-border surveillance has involvement by a mix of the Australian Government, state and territory governments and industry. While this indicates responsibility is shared, there is not coverage of all emergency plant pests, nor is there national coordination of activities across regions and jurisdictions. Resourcing is also of concern. A study undertaken by OCPPO found that in 2002-2003 between $15 and $35 million dollars were expended on preventative and response surveillance activities across the continuum, involving 300 to 600 staff - the majority of these staff being employed by state and territory agencies. This is well short of the resources allocated to animal disease surveillance activities, even though the number of animal pests is far smaller.

Post-border surveillance would seem to be a low priority for the Australian Government with the role it has defined being quite limited. The most substantial involvement in post-border surveillance is through the Northern Australia Quarantine Strategy (NAQS), the national fruit fly trapping grid and support for development of national and pilot industry surveillance plans through the OCPPO.

The potential would seem to exist for AQIS to take a more active role in post-border surveillance particularly around ports, airports and other border entry points where it already has a presence. PHA recognises that for this to occur, current AQIS responsibilities would need to be broadened with corresponding commitment from the Australian Government and with potential co-funding support from states/territories and industries.

Recommendation 16: That AQIS integrate its surveillance systems with those of the states/territories as part of the implementation of the National Surveillance Strategy.

PHA Members need information from the border agencies to know what areas to target surveillance. For example, if an IRA is being undertaken and Australia has concerns over a targeted set of pests, post border surveillance for these pests should be in place. This would help BA justify having requirements on exporting countries to have risk mitigation measures in place and strengthen the case to elevate evidence of absence standards to at least those maintained by Australia. Along the same lines, where there is trade in products, surveillance systems should be in place for the target pests identified in the IRA to ensure they can be detected early should an incursion occur.

There are systems in place to monitor the effectiveness of the risk mitigation measures applied to imported products and these can also extend to the monitoring of known high risk pathways. These include the work of NAQS in northern Australia, the Port Surveillance Program for high risk pests such exotic fruit flies, Varroa mite, and Asian gypsy moth and, more recently, a program delivered through state/territory agencies deploying broad spectrum traps to detect target exotic wood borer species.

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PHA is advised that these systems are largely effective at detecting target pests determined by AQIS and BA but the systems are not used uniformly across the country and there is no overarching program that develops the target list or target locations in consultation with stakeholders operating in the post-border setting.

Support Systems
One of the challenges of Australia signing the World Trade Organisation (WTO) agreement is that there are increasing obligations on Australia to justify its phytosanitary area freedom statements or face significant export barriers. To do this PHA has worked with Members to develop a national database – the National Plant Surveillance Reporting Tool (NPSRT) - to collect nil detections. While the database is now in place there is a significant challenge ahead in gathering information together from existing data stores and achieving the collection and recording of “zero” results.

All governments have indicated a willingness to support NPSRT. Through its surveillance and on-farm biosecurity programs, PHA is collaborating with industries to promote greater involvement by growers and service agents such as agronomists, however it is recognised that securing grower participation will be difficult in the absence of any strong incentive and the likely time and costs involved for growers in collecting data.

Thusfar, data collected by AQIS through NAQS and by OCPPO through the Hazard Site Surveillance Program has been made available to NPSRT. However, to this point AQIS has resisted the incorporation of interception data into NPSRT (refer also to PHA comments in Section 1.1.2). It is also worth noting that AQIS did not support post-entry plant quarantine facilities being included in the Hazard Site Surveillance Program.

PHA is working with the CRC for National Plant Biosecurity (CRCNPB) to ensure new surveillance technologies and techniques being developed are both practical and cost effective to implement. PHA is also working to ensure Members are aware of, and comprehend, these tools so they can fast track implementation once they become available.

1.2.4. Climate change
PHA is aware of the work being undertaken by a number of organisations where climate change impacts on pests. Examples of this research include examining the effect of climate change on risk pathways, determining spread potential of emergency plant pests, assessing the potential and the impact of growing crops in new areas to take advantage of favourable climate and water availability.

The early data indicates all these are valid projects and concerns for plant health and the underlying message is that there will be significant changes to pest-host dynamics as a result of changes in climate. For Australia, this means that risks across the quarantine and biosecurity continuum will evolve. The questions unanswered are by ‘how much’ and ‘to what degree’.

It is important to build climate change thinking into the continuum within Australia. In this vein consideration should be given when undertaking IRAs as to where the crop may be grown in the future. Currently consideration is given to the geographic distribution of the present day industry but if patterns of changes can be confidently predicted these should be factored into the risk considerations. For example, there may be a citrus pest of minor significance in temperate regions (where the bulk of citrus production currently occurs) but that same pest may have a dramatic effect on production in a tropical environment (where production is likely to shift to).
It would be remiss of Australia not to take these likely shifts into account in negotiating market access. Similarly, it is important for industry and state/territory agencies to consider these climate induced changes when developing farm biosecurity or surveillance systems. Across the quarantine and biosecurity continuum there is currently poor co-ordination of activities in respect to climate change at the present time. PHA regards the need for this type of co-ordination to commence as essential.

**Recommendation 17:** That research occur to determine shifts in pest-host dynamics under accepted climate change scenarios and that the findings be taken into account in risk assessment processes across the continuum.

1.2.5. **Inter-sectoral coordination**

Inter-sectoral coordination of biosecurity matters is managed under the AusBIOSEC framework. Coordination is needed by virtue of the potential for pest species to migrate between sectors.

Earlier this year signoff was achieved on an inter-governmental agreement to manage incursions and risk mitigation activities in non-commercial sectors. The decision acknowledged that arrangements are already in place and functioning well in the plant and animal sectors through the EPPRD and Emergency Animal Disease Response Agreement (EADRA).

The value of this initiative should be acknowledged but much work needs to be undertaken to ensure the principles are operationally applied and that all parties understand and accept their roles and responsibilities.

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.

As with the commercial plant health sector, present monitoring and surveillance programs need to be expanded to ensure there is a clearer picture created about the presence and absence of high priority pests. Because of the sectoral cross-over of many plant pests, the results of this surveillance activity must lead to an open interchange of information between border quarantine, biosecurity agencies and AusBIOSEC if potential gains are to be realised.

**Recommendation 18:** That monitoring and surveillance activities across the plant based agricultural and environment sectors be nationally coordinated and the information gathered be freely exchanged.

Greater research efforts are required in investigating the interface between commercial plant production, amenity planting and natural ecosystems. This information gap may be impacting on the ability of industries and governments to develop effective risk mitigation strategies as part of industry biosecurity plans and pest-specific contingency plans. In addition there are examples of where Australian native species can be hosts of economically important plant pests. One example is *Citrus glauca* (an Australian native citrus species) which is a host of Citrus canker. In the Citrus canker eradication program significant dollars and resources have been allocated to managing the
Citrus glauca risk. There are many other examples where this interception between commercial and non-commercial host occurs.

Research is needed into the regional, social and environmental impacts of pests being considered under IRA processes in accordance with the International Plant Protection Convention (IPPC) requirements. Information from such research would also be invaluable for PHA and signatories to the EPPRD as environmental and social amenity impacts of emergency plant pests are key considerations in the categorisation process that determine respective emergency response cost-shares for governments and affected industries.

As pressure builds on governments to tackle these environmental biosecurity responsibilities there may be a temptation to scale back involvement and funding for activities that support commercial agriculture where market failure and public good is not so evident. PHA strongly believes that this would undermine the shared responsibility framework that has operated so successfully in the post-border environment over the past 10 years and jeopardise the gains achieved in improved national biosecurity.

Recommendation 19: That governments do not divert funding from plant biosecurity activities to support delivery of AusBIOSEC commitments

1.2.6. Risk communication

In implementing the Quarantine Continuum recommendation from the Nairn Review it is important to consider the implications of border action on post-border activities and vice versa. Divisions in responsibility, operations and communication along the interface of border and post-border activity appear to be working against the interests of each component and against achievement of cross-continuum outcomes. Put another way, improved communication and information flows along the continuum are keys to establishing trust, cooperation and a commitment to sharing responsibility.

Another area of significant concern is the present disconnect from biosecurity matters of urban and peri-urban growers. Whether commercial operators or hobbyists, these groups are generally not supported or represented in the same way as mainstream growers, nor are they as receptive to biosecurity messages or ready to adopt risk mitigation actions.

Being close to border entry points, usually less aware of the risk posed by exotic pests and diseases to their livelihoods or lifestyles, often having cultural or language barriers, with little knowledge of peak industry representation, and sometimes in close proximity to larger-scale commercial operations, these groups pose a significant biosecurity threat. While there have been programs developed by Commonwealth and state/territory agencies, industries and PHA to address this area, far more needs to be done.

Given the success of AQIS awareness campaigns such as Quarantine Matters and Top Watch, as well as the heightened community interest in border security, there is good reason to think border and post-border biosecurity objectives could be fulfilled more effectively through closer communications cooperation and expansion of government funding to pick up urban and peri-urban producers.

Recommendation 20: That a national cross-continuum communications strategy be prepared to identify gaps, define roles and responsibilities and elevate post-border community biosecurity awareness and practices.
2. The legislative framework

2.1 Whole of System Approach

Under the Australian Constitution, legal frameworks co-exist at a national and state/territory level. This arrangement, recognising the sovereign rights of both the Commonwealth and state/territory governments, increases the complexity when dealing with issues of concern to all governments. Biosecurity and quarantine is a sector legislated at both a national and state/territory level.

These legal and regulatory frameworks at the national and state/territory levels provide the mechanisms through which consistent plant health management programs are delivered. The importance of inter-connectedness between these levels is increased by the ‘whole-of-systems’ approach, recommended in the Nairn Review, and the basis of Australia’s plant health system. It is therefore important that Australia’s legislation and regulation is developed on principles of consistency and equivalency, and meets both national and international obligations.

AusBIOSEC recognises the need for a complementary high level legislative and regulatory framework. It aims to integrate the existing elements of Australia’s biosecurity system under an overarching framework of common principles and guidelines, so that biosecurity arrangements can be implemented consistently across sectors and jurisdictions.

Clarity in the legislative framework is vital to establish the roles and responsibilities of the various stakeholders who currently strive to maintain and enhance Australia’s plant health status. Without it, PHA anticipates difficulties in implementing the National Plant Health Strategy.

**Recommendation 21:** That government quarantine and biosecurity legislation confirm roles and responsibilities of stakeholders as agreed under the National Plant Health Strategy.

2.2 Harmonisation

Variations in legal and regulatory frameworks may result in added costs to industry, reduced competitiveness and potential confusion in market access and market maintenance negotiations. Where different state and territory regulatory requirements are not technically justifiable, costs of complexity are imposed on industries and regulatory authorities, and confidence in regulatory arrangements is damaged. It is therefore critical to ensure regulation is harmonised (aligned and compatible) both across Australia and with international standards, to the extent it is possible.

As a signatory to the World Trade Organisation (WTO) and its sanitary and phytosanitary (SPS) agreements, Australia is obliged to abide by the principles and requirements of these agreements. This obligation extends to all jurisdictions – national, and state and territory, while recognising the sovereign right of jurisdictions to apply their own ALOP provided it is not more trade-restrictive than required taking into account technical and economic feasibility. The adoption of the SPS principles provides a mechanism to achieve a consistent management approach.

Recognising this need, Australian governments have initiated activities to actively harmonise regulatory arrangements (e.g. through the Domestic Quarantine and Market Access Working Group). However at present harmonisation is handled ‘as needed’.

The benefits of a harmonised framework also extend to all areas of plant health which rely on legislation or sub-ordinate regulations. For example, risk mitigation and emergency capability (both
legal requirements under the EPPRD) will benefit from enhanced consistency in the event of an incursion.

Recommendation 22: That present work to harmonise and align Commonwealth and state/territory legislative and regulatory instruments for quarantine and biosecurity with international standards be accelerated.

2.3 Bio-geographical regions

Variations based on political boundaries that transect a bio-geographical region can reduce the effectiveness of management strategies, increase costs to producers and potentially undermine the integrity of the recognised status of the production area (e.g. pest free production areas). Also, regulation that does not reflect biological reality may appear arbitrary and undermine confidence in arrangements. Legislation, regulations and management activities should therefore be applied consistently across bio-geographical regions.

A bio-geographical region can be defined as an area that is common across its breadth with regard to distinct environmental factors (climate, soil, geography, geology, ecology and epidemiology - as they impact plant pests and disease) so that sanitary and phytosanitary measures can be, and are demonstrated to be, applied consistently to it as a whole. An example from a research and development situation is the Grains Research and Development Corporation (GRDC) which uses a number of bio-geographical regions as the basis for planning and prioritising proposals. In a biosecurity context, such areas may be:

- naturally free from pests or diseases due to the presence of barriers or environmental conditions
- maintained free from pests or diseases due to movement restrictions and related measures (even though fruit flies for example, have the potential to establish there), and/or
- made free from pests or diseases due to a successful eradication programme.

Recommendation 23: That capability be established within domestic quarantine regulatory arrangements to regulate and manage plant pests on a bio-geographical basis.

2.4 Efficient regulation and electronic certification

The purpose of interstate plant health certification for plant produce and other prescribed materials (e.g. machinery and packaging) is to provide evidence that the regulations of the importing state have been met. This system is designed to prevent the entry and establishment of pests and diseases of quarantine significance. Current certification methods for domestic quarantine, based on a paper system, are inefficient and outdated by today’s standards. Added to this is the increasing demand for evidence based certification both domestically and internationally and an increasing shortage of technical skills - factors that mandate a continuing drive for efficiency.

The establishment of a national electronic documentation system will provide a range of benefits such as enhanced security and integrity, improved trace-back ability, and the basis for integration of domestic and international certification, all of which have the potential for significant efficiency gains.

Recommendation 24: That governments develop and implement a national electronic documentation system to enhance operational efficiencies in quarantine regulation.
3. Jurisdictional and institutional arrangements

3.1 Biosecurity management

The Australian Government and state and territory governments have developed, or are developing, biosecurity strategies focusing on harmonising response arrangements, while identifying how best to address their individual responsibilities under the EPPRD. Governments are also ensuring staff participate in accredited training programs in order to undertake essential roles in the event of an emergency response.

Recommendation 25: That governments accelerate completion of biosecurity strategies demonstrating how responsibilities under the Emergency Plant Pest Response Deed will be met.

Industries are increasing their contribution to biosecurity management by:

- developing and implementing nationally agreed biosecurity plans
- ensuring compliance with quarantine regulations – both national and state/territory based
- ensuring that measures are in place to notify the relevant government authorities of unusual pest and disease symptoms
- maintaining an awareness of biosecurity with producers within their industry and encouraging adoption of recommended farm biosecurity practices
- training personnel to undertake decision making, liaison and operational roles as specified in the EPPRD, and
- collaborating with government agencies to ensure optimal biosecurity outcomes.

Industries are also contributing significantly to research and development, through levy contributions to the appropriate research and development corporations to develop innovative approaches to the prevention, detection and management of high risk pests. By undertaking these activities it is hoped that industries will increase their productivity and access to markets.

At the National Plant Health Strategy (NPHS) workshop facilitated by PHA in February 2008, a clear understanding of the roles and responsibilities of each of the players in the biosecurity continuum was identified as one of the most important challenges currently facing plant health stakeholders.

Inadequate collaboration and poorly defined roles between industry organisations and jurisdictions across the biosecurity continuum was also an issue identified at the workshop. This is leading to a duplication of efforts and wasted resources, as well reducing the effectiveness of a range of programs. Greater definition of roles and delivery responsibilities was seen as a priority to addressing this issue. Further, the workshop identified a disconnect with organisations and stakeholders that sit outside of the traditional plant health sphere, such as the wider community, local governments and suppliers/retailers.
3.2 National Plant Health Strategy

From PHA’s vantage in the post-border environment, there appears strong national commitment towards improving biosecurity management across the quarantine continuum. In this regard, the ongoing development of the National Plant Health Strategy (NPHS) as an agreed framework to increase the national focus for biosecurity activities and linkages across the continuum will be very timely.

Through the NPHS there will be opportunities to identify areas for improvement in the system, to elevate its general efficiency and effectiveness and to foster broader plant health community collaboration and coordination in biosecurity delivery. To achieve these, greater alignment of priorities and activities will be needed as will closer coordination and collaboration between key bodies such as BA, AQIS, state and territory governments, industries, RDCs, Collaborative Research Centres (CRCs) and Animal and Plant Health Australia.

To achieve the alignment needed across the continuum, jurisdictional roles and responsibilities may need to be redefined and institutional arrangements altered. The NPHS will consider whether new approaches are required or modifications or extensions to existing practices may be more appropriate. For example, the EPPRD embodies a model that has proven successful in bringing stakeholders in biosecurity together with a shared commitment and shared responsibilities to manage pest and disease incursions. A variation of this model is being used for environmental issues as part of AusBIOSEC. Looking across the continuum, arrangements like this may be applicable to other plant health issues, including arrangements for wider sharing of responsibilities with border quarantine and biosecurity responsibilities.

Recommendation 26: That sufficient resources are allocated to implement all agreed roles and responsibilities of the Australian Government under the National Plant Health Strategy.
4. Culture, efficiency and resourcing

4.1 Culture

A significant cultural issue to be addressed by this review should be the breakdown of coordination and cooperation across the quarantine and biosecurity continuum. Blame for this rests with all parties, as does the solution. Where there is a perceived disjunct between the philosophy of shared responsibility and the behaviour and approaches of parties, changes in structures and in roles and responsibilities across the continuum may be necessary to restore commitment. This should extend to providing a greater role for industry, including in market access discussions/negotiations.

The other issue to highlight concerns the standing of plant biosecurity relative to biosecurity across other sectors. PHA believes that this standing is disproportionate to the contribution made to the national economy; the number of industries, plant species, entry pathways and pest threats concerned; the relative state of maturity of surveillance, diagnostic and expertise bases; and is holding plants back from receiving equivalent funding and resourcing. Without additional support it is doubtful whether government commitments to risk mitigation and response preparedness under the EPPRD and NPHS will be met in full.

4.2 Efficiency and resourcing

PHA has made a number of observations throughout this submission where it is seen that potential exists to improve the allocation of resources and gain greater efficiency from the quarantine and biosecurity system. Central to this is the need to have coordinated, robust and well researched risk management at the core of decision making about resource allocations along the continuum.

The costs of carrying out quarantine and biosecurity functions across the continuum increase each year. Governments and industries alike are under pressure to meet these additional costs and to maintain funding among the myriad of other competing priorities. Each would like to see the other party meet more of the burden but, equally, each accepts that under the concept of shared responsibility they have a role and an obligation to meet a fair share of the costs.

State-based approaches to biosecurity service provision are becoming increasingly unaffordable and unsustainable. It is PHA’s view that there is substantial potential to improve efficiency across the plant biosecurity system through improved national coordination involving the Australian, state/territory governments and industry. As an example, a national diagnostic strategy would provide for access to nationally shared infrastructure, technology and people without each jurisdiction having to maintain equivalent capability.

By eliminating duplication, the prospect of funding improvements in capability and capacity would be significantly enhanced and alignment of diagnostic services with national biosecurity objectives achieved. Similar potential exists for nationally integrated solutions to be adopted for surveillance activities, biosecurity communications, response services, human capital and for a range of endemic pest issues such as fruit fly.

Recommendation 27: That governments provide sufficient resources to enable implementation of the National Diagnostic Strategy.

Recommendation 28: That governments provide sufficient resources to enable implementation of the National Surveillance Strategy.
Not all the potential gains will be realised through national solutions. Development of regional biosecurity plans, for instance, would enable multiple industries in one area to pool resources to ensure adequate capacity is available in an emergency situation, without each industry having to fund the full cost or duplicate efforts. Their political palatability may also encourage government investment in training to counter the critical capability shortfalls with government and industry personnel for agreed roles under the EPPRD and PLANTPLAN\textsuperscript{8} (refer Capacity and Capability Section 4.3).

**Funding Innovation**

Technological advances are the key to improving biosecurity diagnostics and surveillance outcomes. While these high end technologies deliver quantum improvements they also generally add to the cost of delivering these services. In many cases application of technology delivers a net benefit. However, these increased costs compete with other essential biosecurity services and operations for funding, with different priorities determined across jurisdictions and industries.

To achieve uptake, innovative solutions need to be found. More often than not these ideas have been developed and driven by industry. A good example of this is the creation of the Phylloxera and Grape Industry Board of South Australia. In creating the Board, the viticulture industry in South Australia recognised the potential to apply technological solutions, particularly aerial surveillance, to identify potential phylloxera affected areas for field-based inspection and testing. The program has succeeded in keeping phylloxera out of the state’s vineyards and is having spinoff benefits in raising awareness of biosecurity among vine growers and the wider community.

Another dimension to these funding tensions exists between biosecurity investments for known endemic pests and emergency plant pests. Because of their immediate effects on grower productivity and returns, endemic pest issues often receive higher funding priority than emergency plant pests. Given the limited funding available in operational and research settings, this tension is understandable, but mechanisms need to be established to ensure adequate funding is available for emergency pest management in the post-border setting.

There is an opportunity with the development of a National Plant Health Strategy to ensure new approaches and linkages are developed that enable future funding needs to be addressed. Whether these funding arrangements extend to the border and pre-border parts of the continuum will be a matter on which this Review may have a bearing.

### 4.3 Capacity and capability

**Human Capital**

There is a shortage of people with appropriate plant health skills and knowledge across all plant health stakeholders. This situation is a reflection of the broader difficulties in attracting and retaining people in the agricultural sector and key scientific disciplines. The recent outbreak of Equine Influenza (EI) highlighted that plant and livestock sectors share the same problem. Despite EI invoking a whole-of-government approach, drawing in trained personnel from across plant, animal and aquatic sectors, there was still insufficient capacity in the system to readily sustain the national

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\textsuperscript{8} PLANTPLAN is the nationally accepted technical response plan for managing emergency plant pest incursions under the principles of the EPPRD.
response for the duration of the incursion (some eight months). The Emerald Citrus canker eradication program by comparison was more localised, however has extended to date over a four year period.

Significant numbers of Australia’s plant health experts have already left the system or are nearing retirement and students coming out of university do not have the broad based experience to meet the immediate needs of peak industry bodies, government departments, research centres and university teaching and research positions. Over time, this skills shortage and lack of funding on preparation will escalate to a loss of ability to even train the people needed to perform in these biosecurity roles.

The other worrying trend is that numbers of plant pest incursions are remaining fairly constant despite improvements in systems and technologies in support of biosecurity. Over the last 10 years Australia has had an average of one major plant pest incursion every 18 months and up to 40 minor plant incursions per year. These figures might be expected to rise as trade volumes expand, movement of people through Australian borders grow and trading patterns change.

Outside of minor incidents, experience with emergency plant pest responses has shown that operational capability is rapidly exhausted within state and territory agencies, and industries quickly become overwhelmed. Problems are compounded when emergency incidents (natural and pest related) coincide.

Previous national plant health capacity surveys have identified significant shortfalls in many specialist areas and this situation has not improved with time. Incursions and large scale simulations have similarly demonstrated the well developed capability of Australia’s plant health experts but have also shown inadequate numbers to perform all functions effectively, especially over longer periods.

Across most industry bodies, the absence of key skills and people is a critical impediment to meeting expectations and obligations in biosecurity. Most organisations are already stretched addressing the needs of their constituents and are unable to give biosecurity the priority warranted. A recent national survey of plant industries found that:

- 70% of industries had less than three people available for emergency plant pest responses (the survey did not investigate the level of training or expertise of these staff)
- 81% of industries particularly rely on the government for technical specialists, and
- 85% look for external assistance for biosecurity matters.

It also found that none of the industries surveyed had dedicated biosecurity personnel, meaning that in the event of an incursion staff involved in the day to day running of the industry body or industry leaders are pulled away from other important peak body tasks.

PHA believes that there needs to be a co-ordinated national approach to ensure there are sufficient trained and experienced resources, and disruption to the normal business managed by governments and industries is minimised. In saying this, it is not proposed that each jurisdiction maintain expertise in every aspect of biosecurity and emergency response. This would create unnecessary duplication and draw resources away from other biosecurity priorities. Instead, it should be the national goal that there is adequate coverage of all the fields of expertise, response teams trained and ready for rapid deployment, sufficient capacity to manage large-scale sustained responses, defined arrangements between jurisdictions to maintain required resources and to share
resources as necessary to meet response commitments, and performance standards as defined by the EPPRD and PLANTPLAN.

Finding sustainable solutions will not be easy. Innovative and affordable answers need to be found on both supply and demand sides. To address supply side issues bodies including the CRCNPB have developed a post-graduate degree in biosecurity. Research projects are also providing some continuity of employment for graduates and opportunities for PhD and Honours students. But for supply side initiatives to work there must be commitment from prospective employers to support training and a commitment to employment opportunities at the other end. Demand side solutions will require a long-term commitment from stakeholders to biosecurity capability building to provide necessary job security and career pathways. Investment will be required by governments and industries.

Moves in government agencies to converge emergency response units and harmonise training across agriculture sectors makes good sense and is supported by PHA. For their part, PHA and AHA have worked cooperatively to ensure standardisation of job descriptions and training requirements for emergency response roles to the maximum extent possible. The greatest impediment to building a national reserve of trained and accredited personnel for emergency response operational roles is funding. For technical roles funding is also limited but deeper systemic issues relating to career opportunities and job security are a drag on progress and need to be tackled as a structural issue by governments and industry.

In the context of Australia’s quarantine and biosecurity system relying on access to scientific, operational and decision making expertise, it is recommended that the Review support the development of a national biosecurity human resources plan. This should provide for a stable funding stream to encourage, promote and train plant health experts, succession planning strategies and the national sharing and utilisation of specialists’ skills across programs and institutions.

**Recommendation 29:** That a national biosecurity succession, training and resourcing plan be developed and agreed by governments and industry to ensure Australia has the essential skills and personnel to effectively meet commitments under the Emergency Plant Pest Response Deed and National Plant Health Strategy.

### 5. Communication and consultation

#### 5.1 Public communications

PHA regards the present level of public awareness of biosecurity threats and of Australia’s associated biosecurity policies and processes as unsatisfactory. PHA acknowledges that some very good work in raising awareness has been done by AQIS at the border with domestic and international travellers. However, the communications is not always appropriately targeted or cognisant of the highest priority pest threats to the plant industries.

Beyond the border, all governments and industries have an involvement in awareness raising activities with the public but these tend to be un-coordinated, non-ongoing and under-resourced. Additional investment, particularly by governments is needed to effectively engage the public in helping to share the responsibility for mitigating the risks of pest entry and establishment along the continuum. As was the case with the 2007 detection of Khapra beetle in Western Australia
experience shows that members of the public with sufficient levels of awareness can play a vital role on the front line in detecting and reporting serious exotic plant pests.

Communication efforts across the plant health spectrum are progressively moving from building general awareness to more specific industry/region/grower understanding and acceptance. The end point of this transition is to achieve action by growers to improve on-farm biosecurity practices and for industries and the community to support action on early detection and reporting of pests and diseases.

PHA has long supported these objectives through initiatives such as the Look, Be Alert, Call an Expert call to action for the Exotic Plant Pest Hotline – 1800 084 881. Industries are also beginning to ramp up their communications activities, but typically with very limited resources and reach. Examples include PHA’s work with the Apple & Pear Australia Ltd., promoting on-farm biosecurity practices to apple and pear farmers in key growing regions.

The Domestic Quarantine and Market Access Working Group has a communications program with a range of tactics targeting the travelling public, including a brochure and website which list interstate restrictions and permit requirements for plants and plant products. Some state agencies have programs targeting producers or consumers in their jurisdiction, such as Queensland’s Fire ant awareness campaign, but these tend to be focused on incursion management rather than prevention and risk mitigation activities. The recent outbreak of EI is a good example of this.

PHA has joined forces with AHA to establish a cross sectoral ‘Farm Biosecurity’ communications program to raise awareness of the need for early reporting of suspicious pests, promote on-farm biosecurity measures, and deliver tools to help growers/producers improve practices. It builds on the high profile “Spotted Anything Unusual” awareness campaigns run by PHA and AHA in the past.

Industry acceptance and responses to messages from these campaigns has been positive, however gaps in coverage exist in high-risk areas such as: urban and peri-urban based hobbyist and small landholder growers; new and emerging industries; and established industries that are not PHA Members and/or do not have an Industry Biosecurity Plan. The through chain is also missed in all post-border biosecurity communications strategies currently in place.

PHA has commenced work with the grains industry through an on-farm biosecurity program to address some of the downstream gaps in coverage. However, investment by industry on this scale is the exception rather than the rule.

It is important to understand the significance of the role of the through chain in achieving biosecurity goals. For an industry like grains, a serious pest such as Khapra beetle will most likely be detected at bulk storage rather than in on-farm storage. Citrus provides an equivalent example in horticulture, where citrus packing sheds are more likely to detect new fruit borne pests than growers as market requirements demand more thorough examination of the fruit at this stage.

An opportunity exists to bring about greater cooperation across the continuum to maximise the impact of biosecurity messages. The mass communication work of the Commonwealth, through programs like AQIS Top Watch and Quarantine Matters campaigns could be extended or augmented to pick up post-border biosecurity messages. To the extent that state/territory governments and industries benefited from these combined efforts, co-funding arrangements might be appropriate.
PHA is currently managing the development of a National Communications Strategy Framework to provide industry and interested stakeholders with tools to assist with communications activities aimed at improving on-farm biosecurity practices. This project is seen as the first step in developing the national communications plan to raise community awareness of the importance of biosecurity measures as part of a commitment to on-going risk mitigation, which is a requirement specified in the EPPRD. This plan would form part of a national communications strategy which is the subject of Recommendation 20.

5.2 Inter-organisational consultation and communication

As has been mentioned a number of times throughout this submission coordination between the Commonwealth and state/territory governments and industry and across the continuum needs to be improved to achieve national goals for the quarantine and biosecurity system.

The positioning of PHA at the interface of government and industry in the post-border environment has certainly made a difference in improving coordination and promoting partnerships in biosecurity communications, but potential advances are severely constrained by available resources. Disinterest from border agencies in collaborating on awareness activities is also holding back progress and allowing potential synergies to be missed.

A vehicle does exist to facilitate national coordination on emergency response communications through the National Communications Network (NCN). The NCN was established following the foot-and-mouth outbreak in the United Kingdom and brings together biosecurity communications managers from the Australian and state/territory governments. AQIS has attended these meetings in the past but not regularly.
5.3 Industry Engagement

One of PHA’s six business streams is dedicated to Member engagement activities. Plant health programs are run within a consultative framework that actively involves Members in setting priorities, strategies and budgets, contributing through task groups and receiving regular and transparent feedback on achievement against agreed performance measures. A survey of PHA Members and stakeholders in 2007 found that PHA effectively engages and its role as facilitator and broker is valued.

While there has been strong support for PHA’s programs and consultative processes within parts of DAFF, the border agencies (AQIS and BA) are comparatively disengaged. There have been particular difficulties in getting AQIS and BA to participate in the development and review of Industry Biosecurity Plans on a national level and the pest threat assessments they contain. This has resulted in industry scepticism that the outputs of these Plans, and other work performed in the post-border environment, are integrated into border operations.

From time to time industry has also struggled to fully engage with PHA primarily because of resource and time constraints. PHA does not fund industry participation in program and corporate processes, so must carefully schedule its consultation to not unfairly disadvantage any of its 45 government and industry Members. Turnover of industry personnel, particularly prevalent with elected officials, poses communications challenges for ongoing, incrementally-developed work. This is overcome with customised communications and consultation efforts.

Recommendation 30: That AQIS and BA have representation at PHA meetings, Industry Biosecurity Planning Groups and National Communications Network meetings.
6. Research

Maintenance of the high level science and technology capability of Australian research and development institutions and individuals is vital as a key driver of international competitiveness. Researchers have numerous roles to play; from contributing to risk assessment methodologies and outcomes, to the development of systems and technologies to support risk mitigation and response activities, and modelling the impact of climate change on pest/host dynamics. There is always the risk that scarce research funds will be misdirected so it is up to bodies such as PHA, AQIS, BA, CRC’s and RDC’s to apply their knowledge to ensure research investment is directed to the areas of greatest need across the national plant health system and does not lose touch with critical trade and market access issues.

There may need to be some rationalisation and consolidation of resources on a national scale if Australia is to maintain and build capacity. There is not the funding for each jurisdiction to be able to supply all of the scientific capacity required to maintain and improve Australia’s biosecurity system, while duplication of capacity and capability may ultimately lead to more gaps in the system. Discussions need to be held and decisions made at the right level of government to determine which jurisdictions will provide capacity and to secure agreement to making that capacity available to the nation.

Development of effective national diagnostic protocols to identify emergency plant pests is critical in detecting and managing the biosecurity threats to Australian agriculture and the environment. In recognition of this fact the Subcommittee for Plant Health Diagnostic Standards (SPHDS) was formed in 2006, to establish a framework for the development and approval of diagnostic protocols.

SPHDS has also identified several key recommendations to be addressed if their work is to continue to progress in a timely manner, including approaches to funding and resourcing diagnostic laboratories and a Protocol Validation Coordinator. Further work is required to address and overcome policy issues restricting the provision of permits for the importation and secure containment and distribution of positive controls crucial to the development and use of EPP diagnostic protocols.

The work involved is substantial – of the 230 high priority pests identified, only 64 are covered by a diagnostic protocol and even fewer have been validated or converted to the SPHDS format. Investing the time and resources necessary to fill this gap will not have immediately visible pay-offs and will require a commitment to ongoing maintenance. However, it is an essential part of Australia’s preparedness and response capabilities and provides essential recognition of the validity of Australia’s plant health system and plant health status internationally.

Broader challenges remain, such as:

- developing a network to connect public and private diagnostic providers into a national system
- developing linkages to other diagnostic providers e.g. human and animal health - these links could enhance uptake of new diagnostic techniques or provide capacity for high throughput testing
- determining national approaches to professional development and training
- developing international linkages to diagnostic providers and improving access to diagnostic protocols for potential use in Australian contexts, and
• exploring innovations in technology to supplement technical capacity and provide more accurate field diagnostics.

Diagnostic services also provide support to plant production through the identification of pests and diseases on a day to day basis, ensuring pest control measures are appropriate and helping define and support Australia’s plant health status. An ability to document Australia’s plant health status is critical as it is the basis on which the import and export of plants and plant products are regulated in relation to the entry of pests and diseases of economic importance.

PHA supports research of the CRCNPB and Australian Centre for Excellence in Risk Analysis into more robust methodologies for cross-continuum risk analysis, and efforts at cross-sector work by the CRCNPB and CRC for Emerging Infectious Diseases.

Cross-sectoral cooperation in policy settings such as has been seen with AusBIOSEC is just as important in the research sector. Along with the CRCNPB collaborations mentioned, PHA has been selected as the lead hosting agency for a new national collaborative project funded out of the National Collaborative Research Infrastructure Strategy (NCRIS) program by the Department of Industry, Innovation, Science and Research. The Australian Biosecurity Intelligence Network (ABIN) project will provide a workspace (both physical and virtual) where data and information can be shared across organisations, jurisdictions and sectors to support the delivery of improved biosecurity outcomes in Australia. The Australian Government has made a $16.1 million commitment to ABIN over the next three years.

Data and expertise held by AQIS and BA would be invaluable to this project and contribute directly to many of the proof-of-concept projects.

Recommendation 31: AQIS and BA support the Australian Biosecurity Intelligence Network project by making available information and data held by both agencies and contributing as appropriate to ABIN linked projects.
7. Review

A goal with Australia’s quarantine and biosecurity system should be to continually learn from experiences and share those experiences both within and across other parts of the continuum.

It is PHA’s experience that post-incursion reviews while reasonably successful at identifying areas for improvement in quarantine, border biosecurity and preparedness and response arrangements, typically do not receive the support needed to act on findings.

PHA believes governments and industries should commit funding for post-review implementation activities after each emergency plant pest response. This will ensure lessons learnt lead to improved operational outcomes. As an independent party, representing the interests both of government and industry Members, and as custodian of the EPPRD, PHA is well placed to conduct post-incursion reviews and promote findings to stakeholders across the continuum.

Recommendation 32: That governments consider appointing PHA to conduct future post-incursion reviews.

PHA looks forward to meeting the Quarantine and Biosecurity Review Panel and the opportunity it will provide to clarify and expand upon the points made in this submission.

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<tr>
<th>Abbreviation</th>
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<tr>
<td>AGM</td>
<td>Annual General Meeting</td>
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<td>AHA</td>
<td>Animal Health Australia</td>
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<td>APPD</td>
<td>Australian Plant Pest Database</td>
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<td>AOP</td>
<td>Annual Operational Plan</td>
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<td>AQIS</td>
<td>Australian Quarantine Inspection Service</td>
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<td>AUSVETPLAN</td>
<td>Technical response plan, agreed by government and industry, for emergency animal disease incursions affecting the Australian livestock industries</td>
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<td>Australian Weeds Committee</td>
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<td>CCEPP</td>
<td>Consultative Committee on Emergency Plant Pests</td>
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<td>CRCNPB</td>
<td>Cooperative Research Centre for National Plant Biosecurity</td>
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<td>DQMAWG</td>
<td>Domestic Quarantine and Market Access Working Group</td>
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<td>Emergency Plant Pest</td>
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<td>EPPRD</td>
<td>Emergency Plant Pest Response Deed</td>
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<td>GCA</td>
<td>Grains Council of Australia</td>
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<td>Grains Research &amp; Development Corporation</td>
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<td>Horticulture Australia Limited</td>
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<td>Industry Biosecurity Plan</td>
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<td>NAQS</td>
<td>Northern Australian Quarantine Strategy</td>
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<td>NMG</td>
<td>National Management Group</td>
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<td>National Plant Health Strategy</td>
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<td>National Plant Surveillance Reporting Tool</td>
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<td>National Vine Health Steering Committee</td>
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<td>Office of the Chief Plant Protection Officer</td>
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