

ONE BIOSECURITY

A WORKING PARTNERSHIP

THE INDEPENDENT REVIEW OF AUSTRALIA'S
QUARANTINE AND BIOSECURITY ARRANGEMENTS
REPORT TO THE AUSTRALIAN GOVERNMENT

BEALE | FAIRBROTHER | INGLIS | TREBECK

30 SEPTEMBER 2008

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The Hon Tony Burke MP
Minister for Agriculture, Fisheries and Forestry
Parliament House
CANBERRA ACT 2600

30 September 2008

Dear Minister

We are pleased to provide you with the Report of the Quarantine and Biosecurity Review Panel, entitled **One Biosecurity: a working partnership**.

Biosecurity management is a difficult and complex task. Biosecurity risks are inevitably rising with increased global interdependence. Australia's biosecurity regime should, through careful management, minimise the risk of the entry, establishment and spread of exotic pests and diseases that could harm our people, agriculture or environment.

Effective biosecurity is a sound investment and has protected the Australian people, economy and environment from significant damage—a foot and mouth disease outbreak alone could cost Australia between \$8 billion and \$13 billion.

Australia's biosecurity system has worked well in the past, and is often the envy of other countries. However, the system is far from perfect and recent events have exposed a number of systemic deficiencies. The Report recommends far-reaching changes to rectify these problems while enhancing the good aspects of the system.

The central theme is the development of a seamless biosecurity system that fully involves all the appropriate players—business, other nations, the states and territories and the Australian community—across pre-border, border and post-border risk management measures. The Panel has called this approach **One Biosecurity: a working partnership**.

Zero biosecurity risk is unattainable and unaffordable. Australia's agriculture was built on, and still depends on imported genetic material. Our consumers benefit from products from other countries. Our exporters depend on fair access to other markets. Tourism and travel are important for our economy and people. The primary objective of our biosecurity system must be the safe movement of animals, plants, people and cargo to and from Australia. This brings with it the need for an effective capacity to respond to incursions of pests and diseases.

Managing biosecurity risk is therefore not just about controls at the border. 'Quarantine' has a largely defensive connotation associated with isolation. It is time to move to the broader concept of 'biosecurity' with an emphasis on managed risk, not zero risk, and from a border preoccupation to encompass fully pre-border and post-border measures.

The Commonwealth has Constitutional powers to assume a much broader biosecurity reach. To manage the increasing biosecurity risks, the Commonwealth needs to take an assertive national leadership role underpinned by a strong partnership with the states and territories, businesses and the community. Modern and more comprehensive legislation is necessary.

Integration of the Commonwealth's biosecurity activities in a dedicated statutory agency—the National Biosecurity Authority—will provide the necessary coordination and focus on managing biosecurity risks. An independent expert-based panel—the National Biosecurity Commission—should make science-based Biosecurity Import Policy Determinations independent from political intervention.

It is important that the National Biosecurity Commission and the National Biosecurity Authority are guided by clear directions from the Government about the overall Appropriate Level of Protection reflecting Australia's national interest. The responsible Minister should also have the power to provide Guidelines on the principles that underpin Biosecurity Import Risk Analyses, Biosecurity Import Policy Determinations and import permit decisions. A statutory office of Inspector General of Biosecurity with comprehensive audit powers reporting to the responsible Minister will enhance community confidence in the system.

Australia's biosecurity system will be most effective if resources go to those areas of greatest return from a risk management perspective. The mandatory Increased Quarantine Intervention targets should be replaced by a system closely aligned to risk-return and backed by a comprehensive approach to quality management, verification and audit. There is a need to increase national resources for pre-border risk management and post-border monitoring, surveillance and management of national priority exotic pests and diseases.

Australia's biosecurity agencies are significantly under-resourced. To achieve **One Biosecurity: a working partnership**, a funding increase in the order of \$260 million per annum—shared between business and taxpayers—is required. An investment of the order of \$225 million is also required to upgrade information technology and business systems for biosecurity.

Implementing the Panel's recommendations should commence immediately and a new Biosecurity Act should be developed in parallel with the negotiation of a National Agreement on Biosecurity with the states and territories. The aim should be to complete both of these within two years of acceptance of the Panel's recommendations. While agreement with the states and territories is highly desirable, the Commonwealth should reserve the right to proceed unilaterally or with a limited number of participating states and territories, if agreement is not forthcoming within that timeframe.

Pending the passage of the legislation, administrative steps should be taken to implement the proposed structures. The increases in resources should be progressively applied, with the proposed increase in Commonwealth funding for monitoring, surveillance and management being subject to appropriate matching contributions from the states and territories. This will ensure a net increase in the national effort, rather than cost-shifting.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Roger Beale', with a long horizontal line extending to the right.

Roger Beale AO
Chair of the Panel

A handwritten signature in black ink, appearing to read 'Jeff Fairbrother', with a long horizontal line extending to the right.

Dr Jeff Fairbrother AM
Panel member

A handwritten signature in black ink, appearing to read 'Andrew Inglis', with a long horizontal line extending to the right.

Andrew Inglis AM
Panel member

A handwritten signature in black ink, appearing to read 'David Trebeck', with a long horizontal line extending to the right.

David Trebeck
Panel member

EXECUTIVE SUMMARY

Biosecurity management is a difficult and complex task

Australia's biosecurity regime seeks, through careful management, to minimise the risk of the entry, establishment or spread of exotic pests and diseases that have the potential to cause significant harm to people, animals, plants and other aspects of Australia's unique environment.

Australia's privileged pest and disease status confers significant economic, environmental and community benefits. It assists the competitiveness of Australia's agricultural exports in global markets. Benefits to the environment also accrue through reduction in the use of chemicals to control pests and diseases and the enhancement of all Australians' quality of life. The community values freedom from pests and diseases that cut short or affect the quality of human life in many other countries.

The task of managing Australia's complex biosecurity regime has never been easy. In recent years, it has become even more challenging, principally for the following reasons:

- globalisation, which is integrating the world economy and increasing the volume and range of products traded internationally;
- population spread into new habitats and increasingly intensive agriculture, which increases the risk of zoonoses (that is, animal diseases capable of transmission to human populations) and complicates the ability to contain, and increases the impact of, a pest or disease incursion;
- growth in tourism, passenger and cargo movements, which increases the risks of exotic pest and disease incursions despite the best efforts of border security;
- the potential risk of agri-terrorism involving animal rights extremists or political terrorist organisations;
- increasing global movements of genetic material as farmers endeavour to increase productivity, which places particular demands on pre- and post-border biosecurity services;
- climate change, which adds to the spread of pests and diseases (expanding range or habitats, changing migratory bird patterns, and weather events supporting the spread of disease vectors);

- an emerging shortage of highly qualified plant and animal pest and disease professionals—partly associated with ‘baby boomer’ retirements and partly the result of competing career alternatives;
- physical constraints for border interception activities, especially at major passenger airports; and
- financial constraints, as governments allocate scarce revenue among many competing demands.

In recent years, biosecurity events have received prominence in the media as never before, often for the wrong reasons:

- the 2001 outbreak of foot and mouth disease in the United Kingdom, accompanied by graphic television footage of burning pyres of livestock carcasses;
- the outbreak of bovine spongiform encephalopathy (BSE) in Europe and North America, a major animal disease, which has resulted in a number of human deaths and disrupted trade;
- the emergence of a highly pathogenic zoonotic disease in poultry flocks—the H5N1 strain of avian influenza—which gave rise to concerns of pandemic risks for humans;
- the outbreak in Australia of equine influenza, which led to widespread disruptions to horse movements, thoroughbred racing and recreational equestrian events—a necessary part of what proved to be a successful, if costly, eradication campaign;
- incursions, some of which have been eradicated, of several exotic pests and diseases into Australia, such as European house borer, tramp ants, sugar cane smut, grapevine leaf rust, citrus canker, Khapra beetle, and currant-lettuce aphid; and
- controversial and at times heated exchanges, before Parliamentary Committees, in the media, in the courts, and before the World Trade Organization, involving the potential import of products such as pigmeat, apples, prawns and prawn products, bananas, salmon and chicken meat.

Against this background, the decision to commission a comprehensive review of Australia’s quarantine and biosecurity systems has been timely, the previous such review (undertaken by the Nairn Committee) having reported in 1996.

Effective biosecurity is a sound investment ...

There are numerous examples and extensive material available to illustrate the tangible financial benefits that result from effective investment in biosecurity

functions and facilities across the continuum. The introduction of serious exotic pests and diseases, such as foot and mouth disease and BSE, would have serious implications in terms of loss of agricultural production as well as the cost of control and eradication. The Productivity Commission estimated in 2002 the Gross Domestic Product impact of a foot and mouth disease outbreak in Australia at \$2 billion to \$3 billion for a short outbreak, rising to between \$8 billion and \$13 billion for a 12 month outbreak.

The direct cost of eradicating equine influenza within New South Wales and Queensland was \$110 million, however, this figure significantly understates the costs to the community of the outbreak. It does not include government assistance payments, indirect costs associated with loss of markets or losses for associated businesses or the loss of amenity and convenience for the community. In his report into the outbreak, Commissioner Callinan noted that adequate investment in the staff and facilities associated with the importation of horses would have reduced the likelihood that a horse infected with equine influenza would enter Australia or, if it did, that the virus would have escaped into the general horse population.

... and Australia has a good biosecurity system ...

The Panel has concluded that Australia operates a good biosecurity system, indeed, one that is often the envy of other countries given its comprehensiveness, transparency, and scientific rigour. Most of its positive achievements do not attract media commentary or Parliamentary commendation, whereas shortcomings are extensively debated—an imbalance that can result in inaccurate overall perceptions. Australia's biosecurity agencies are staffed by many competent and dedicated officers.

... which nevertheless needs far-reaching change

However, the system is far from perfect. It has been subject to strenuous criticism, at home and abroad, for carelessness, opaqueness, excessive time delays, perceptions of political interference, poor communication with stakeholders, for being too restrictive and for being too liberal. The fact that some criticisms and their opposites have been made indicates that pleasing everyone is difficult. Despite rigorous scientific analysis, some issues remain inherently matters for professional judgement.

The Panel's recommendations are designed to enhance the good aspects of Australia's system and rectify its shortcomings. The essential elements should be retained, but many changes, often far-reaching, are needed to deal with operational deficiencies and the increasing challenges of trends noted earlier.

Three core principles: biosecurity continuum, science-based assessments, and shared responsibility

At the heart of the Panel's recommendations is the reiteration and strengthening of the three core principles enunciated in the Nairn Report:

- the importance of having an integrated biosecurity continuum involving risk assessment and monitoring, surveillance and response pre-border, at the border and post-border;
- risk assessment reflecting scientific evidence and rigorous analysis; and
- shared responsibility, between the Commonwealth and state governments (note, in this report, 'states' is taken to mean 'states and territories'), and between businesses and the general community.

The aim should be the development of a seamless biosecurity system that fully involves all the appropriate players pre-, border and post-border. The Panel has called this approach **One Biosecurity: a working partnership**.

Zero risk is unattainable and undesirable

As noted, Australia's plant and animal industries and its natural environment enjoy a privileged position, being free from many of the world's most injurious pests and diseases. While it is crucial that effort is made to maintain this position, there is a degree of unreality in some of the assertions and recommendations made to the Panel, as there is in the wider public debate, that Australia should adopt a 'zero risk' policy.

First, it is often forgotten that almost all the crops and animals (and much of the pastures) forming the basis of Australian agriculture were initially imported into the country. Without them, there would be no agriculture to speak of. Moreover, researchers and producers alike are constantly scouring the world for improved genetic material as part of the relentless challenge of enhancing international competitiveness, such as drought tolerant wheat varieties, new varietal budwood for apples, and the world's best thoroughbred stallions.

Second, Australian agriculture remains heavily export oriented. Australia rightly remains at the forefront of efforts to secure world trade liberalisation. It is not the case, as some have asserted, that the interests of Australia's domestic agricultural industries that compete with imports are 'traded-off' in favour of the interests of agricultural exports, but rather there is a need for consistency in the way all countries handle biosecurity issues pursuant to the World Trade Organization's Agreement on the Application of Sanitary and Phytosanitary Measures (the SPS Agreement). Or, to put it another way, we should, as far as scientific evidence dictates, 'do unto others as we would have them do unto us.'

Third, Australian consumers have a legitimate interest in being able to purchase competitively priced, quality foods produced safely in overseas countries. Biosecurity arrangements should not lightly employ measures that interfere with these preferences. The Australian Competition and Consumer Commission recently observed that where local food supplies cannot be readily boosted by imports because of biosecurity restrictions, prices are higher and/or more volatile (such as, bananas following Cyclone Larry).

Fourth, even if Australia wanted to, it could never operate a zero risk biosecurity regime: it could not afford to intercept and thoroughly search every passenger or every container of cargo arriving in the country; nor could it prevent bird migration or disease vectors being carried by air currents. Some pest and disease incursions are inevitable, and must be managed.

Primary objective: the safe movement of animals, plants, people and cargo

The Panel has concluded that the primary objective of the national biosecurity system should be to allow the safe movement of animals and plants, genetic material, animal and plant products, people and cargo to and from Australia, and to support an effective response to any pest or disease incursions that occur. This involves a change of emphasis from a principal focus on the prevention of harmful pests and diseases entering Australia, through limitations on trade and interception at the border, towards more effective pre-border risk assessment, a still vigilant border inspection system, targeted measures to reduce risk from imports, and more integrated post-border monitoring, surveillance and response.

A shift from ‘quarantine’ to ‘biosecurity’

As part of this change in emphasis, the Panel recommends focusing on ‘biosecurity’ rather than the narrower concept of ‘quarantine’. Quarantine has a largely negative, defensive connotation associated with isolation, segregation and disinfection at the border. Biosecurity is a more pro-active concept, aligned with the pre-, border and post-border continuum, a multi-layered approach, a shift from zero risk to managed risk, from barrier prevention to border management, from ‘no, unless ...’ to ‘yes, provided ...’

Biosecurity is also conducive to shared responsibility, and is consistent with contemporary business approaches to supply chain management, such as quality assurance and a focus on brands.

Shared responsibility between the Commonwealth and states and territories

The Commonwealth unquestionably has Constitutional powers that allow for a much broader biosecurity reach than it currently assumes. It could, if it wished, manage almost the entire biosecurity continuum itself. The Panel's approach is that the Commonwealth's role should extend beyond the border via a clearer partnership with the states. This would involve:

- enforcing import permit decisions so that states cannot impose additional biosecurity measures;
- developing a traceability scheme on a risk basis so that animal and plant matter of greater biosecurity interest can be tracked across the border;
- managing emergency responses through national powers where sensible;
- harmonising biosecurity requirements for interstate trade in specified circumstances; and
- information sharing between jurisdictions based on a national biosecurity risk information sharing protocol and data sharing infrastructure.

The Commonwealth should commit additional expenditure for its component of these tasks. It should also involve the states in central policy matters, such as setting the Appropriate Level of Protection, finalising Biosecurity Import Risk Analysis Guidelines, prioritising market access requests, and appointing Commissioners to the National Biosecurity Commission (all discussed shortly). These and other arrangements would be codified in a National Agreement on Biosecurity, overseen by the Natural Resource Management Ministerial Council.

Organisational structures

Good organisational structures facilitate communication between functions where there is a need for effective feedback loops, and ensure appropriate separation of functions that should be conducted at arms length. They are also essential in clarifying relationships between officials and politicians.

The Panel has concluded that the current grouping of functions and governance arrangements are sub-optimal. They do not support a clear role for the Australian Government or the Parliament. They encourage the perception of political influence in what should be science-based analysis and decision making. They detract from the sharing of information and a common mission across the Commonwealth's biosecurity agencies. They have also produced variable relationships with the states and the private sector.

The Panel has concluded that all these matters would be more effectively handled if the Australian Quarantine and Inspection Service (AQIS), Biosecurity Australia and elements of the Product Integrity, Animal and Plant Health Division (PIAPH) of the Department of Agriculture, Fisheries and Forestry (such as the Chief Veterinary Officer and the Chief Plant Protection Officer) were combined in an agency whose sole function was protecting Australia's biosecurity status and certifying its exports.

Of a number of models available, the Panel prefers a clearly independent statutory authority established under the *Financial Management and Accountability Act 1997*—the National Biosecurity Authority. The National Biosecurity Authority's functions would include protecting Australia's biosecurity status in accordance with Australia's treaty obligations and Appropriate Level of Protection. The Authority would administer the proposed Biosecurity Act including import permit decisions, pre-border and border functions and export certification. It would also manage and oversee quarantine facilities and support a national program of monitoring and surveillance of national priority exotic pests and diseases. It would be the Commonwealth's emergency response agency for incursions of pests and diseases.

The head of the Authority would be referred to as the Director of Biosecurity and would have the personnel and management powers and obligations of a Secretary under the *Financial Management and Accountability Act 1997*. The Director of Biosecurity would also undertake some of the statutory functions of the Director of Animal and Plant Quarantine set out in the *Quarantine Act 1908*, including making individual import permit decisions, either directly or by delegation.

The Panel has also recommended the establishment of an expert decision making panel, to be called the National Biosecurity Commission, to undertake Biosecurity Import Risk Analyses with the support of staff from the National Biosecurity Authority, and to make independent Biosecurity Import Policy Determinations. These decisions are currently the responsibility of the Director of Animal and Plant Quarantine. The Commission would comprise between seven and nine members and would be led by a part-time, independent chair. The Director of Biosecurity in an *ex officio* capacity would be one of the members of the Commission. In addition to making Biosecurity Import Policy Determinations, the Commission would have a role in providing expert advice to the Authority on biosecurity policy generally. It would make determinations on state biosecurity controls, determine priorities for Biosecurity Import Risk Analyses and determine the internal audit and verification program related to them.

The Minister responsible for the National Biosecurity Authority would not have a role in, or the power to influence the process or the outcome of an individual

Biosecurity Import Risk Analysis. However, the Minister would be empowered to set the Appropriate Level of Protection and give the National Biosecurity Commission and the Director of Biosecurity Guidelines for the application of the Appropriate Level of Protection. The legislation would also enable the Minister to direct the National Biosecurity Commission to commence a particular Biosecurity Import Risk Analysis, and to issue directions to the National Biosecurity Authority on matters that have a bearing on Commonwealth-state relations, including monitoring, surveillance and response.

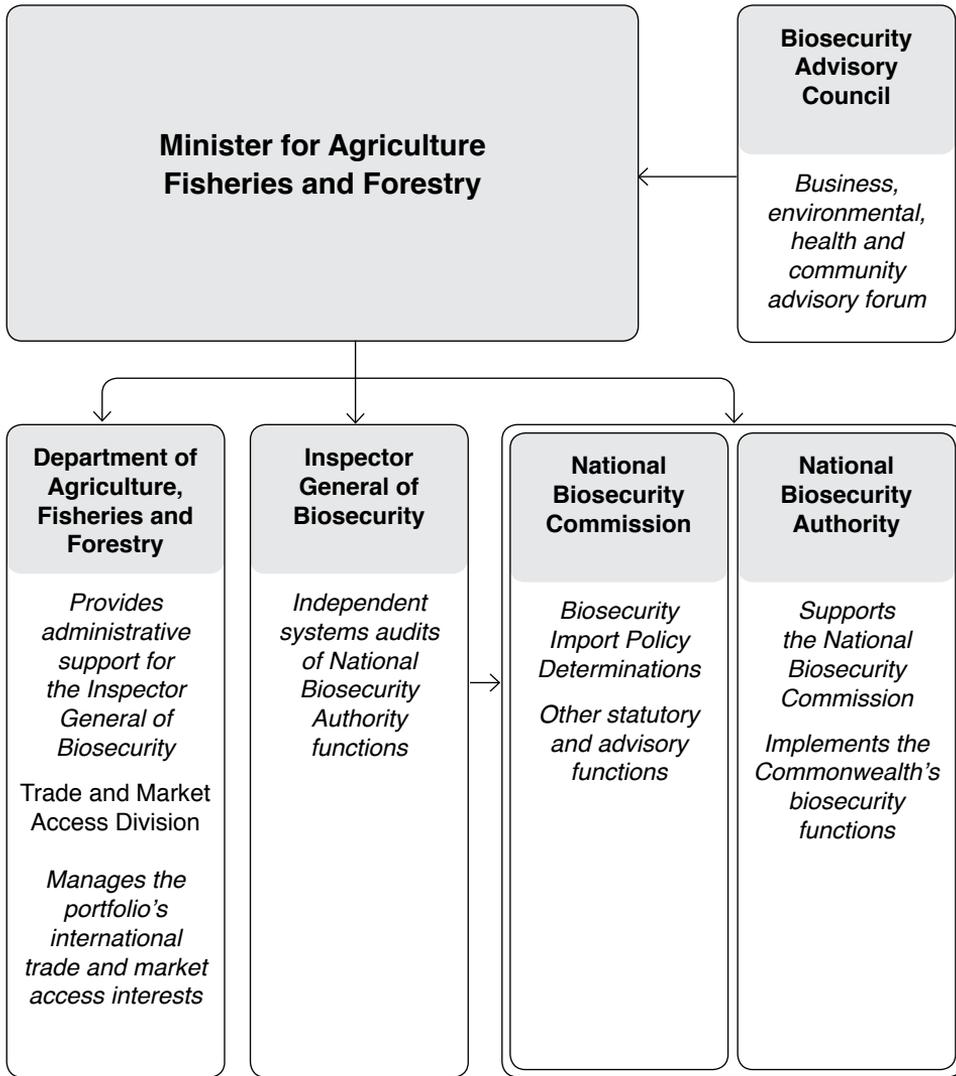
The Panel proposes a statutory office of Inspector General of Biosecurity, subsuming the Interim Inspector General of Horse Importation recently recommended by Commissioner Callinan in his report on the equine influenza outbreak. The Inspector General of Biosecurity's administrative support would be provided by the Department of Agriculture, Fisheries and Forestry. The Inspector General would report directly to the Minister, have broad powers of audit and investigation and would be responsible for conducting systems audits and reviews of the biosecurity programs carried out by the National Biosecurity Authority. The Minister would be empowered to refer matters to the Inspector General of Biosecurity for review and report.

These various functions are summarised in Table 1 below, while the organisational structure is shown in Figure 1.

TABLE 1 Proposed functional arrangements

National Biosecurity Commission (includes Director of Biosecurity)	National Biosecurity Authority	Inspector General of Biosecurity	Department of Agriculture, Fisheries and Forestry
Biosecurity Import Risk Analyses and Biosecurity Import Policy Determinations (Chapter 3)	Support for the Commission including in its conduct of Biosecurity Import Risk Analyses and development of Biosecurity Import Policy Determinations	Statutory appointment Independent systems audits of National Biosecurity Authority functions	Non-technical trade and market access negotiations (drawing on technical support from the Authority as needed) PIAPH functions not transferred to the Authority
Determinations on state biosecurity controls (Chapter 2)	Administer Biosecurity Act (including import permit decisions, pre-border and border functions)		Administrative support for Inspector General of Biosecurity
Determine priorities for Biosecurity Import Risk Analyses (Chapter 5)	Export certification		
Biosecurity policy advice generally	Monitoring and surveillance for national priority exotic pests and diseases		
Decisions and advice on the Authority's internal audit program (Chapter 8)	Emergency response coordination		
	Education and awareness raising		

Figure 1 Proposed organisational structure



Shared responsibility with businesses and the community

The establishment of Animal Health Australia and Plant Health Australia as partnership organisations, and the brokering of cost and responsibility sharing deeds for exotic pests and diseases, have been integral to Australia's biosecurity success. The deeds are formal, legally binding agreements. They represent a world first whereby businesses are closely involved in decision making and benefit from national approaches and funding mechanisms agreed in advance.

Some business organisations have not yet entered into cost sharing deeds despite holding membership with Animal Health Australia or Plant Health Australia. Others, particularly in the aquatic and environmental sectors, are not part of Animal Health Australia or Plant Health Australia or part of cost sharing deeds.

Whenever no formal cost sharing agreement exists, there is less incentive for good biosecurity practice. If governments nevertheless eradicate a disease and pay compensation to those affected, a classic moral hazard is created. The Panel strongly recommends that all industries should be involved in cost sharing agreements, and that governments must avoid socialising the costs associated with emergency responses, or unilaterally accepting risks and responsibilities that should be shared with businesses.

In the Panel's view, an important lesson to emerge from the equine influenza outbreak is the interdependence of actions by regulators and biosecurity management by the private sector. Without failures by both the AQIS staff and employees or agents of the thoroughbred owners, the equine influenza virus would not have arrived at or escaped from the Eastern Creek Quarantine Station. This demonstrates in a specific and tangible way, the impact of the failure to achieve shared responsibility.

The quality of the biosecurity system reflects the whole community's acceptance of the need for biosecurity measures and its willingness to accept responsibility for maintaining Australia's favourable pest and disease status.

In the past, the environment—terrestrial and aquatic—has received less priority than agriculture. The Panel has concluded that a more significant effort is needed in these two areas in the future, reflecting the nature of the incursion risks involved.

The Panel proposes the establishment of a Biosecurity Advisory Council, replacing the Quarantine and Exports Advisory Council, as the advisory body to the Minister, the National Biosecurity Commission and the Director of Biosecurity. Reflecting the move from quarantine to biosecurity, the Council would have a broader remit in relation to the biosecurity continuum. The Council would be non-representative and consist of expertise-based members

drawn from the Commonwealth, state governments, business and non-government organisations. Members would be appointed by the Minister and would have substantial experience across a range of disciplines, including agricultural, environmental and health sciences, risk assessment, business management and knowledge of operational aspects of biosecurity.

As part of enhancing shared responsibility and accountability, the Panel would like to see greater deterrents and improved education and awareness to reduce infringements of biosecurity law. The Panel has noted the controversy concerning the outbreak of citrus canker in Queensland in 2004. In the Panel's view, it is important that the National Biosecurity Authority have a competent investigative and prosecutorial arm.

Education and awareness campaigns are an essential component of the biosecurity system. While existing programs have been largely effective, they have often focused on specific parts of the continuum. The Panel sees the need for a broader approach to biosecurity awareness. This would include more emphasis on targeting areas of highest risk, such as individuals and businesses in peri-urban areas, and travellers prior to departing for Australia.

The Panel believes that improvements to co-regulatory arrangements for biosecurity services should encourage superior biosecurity behaviour, by importers or in relation to ballast water and biofouling management by shipping lines. Current arrangements have not recognised exemplary practices for example, by reducing rates of inspection. As a result, cost savings to both the importer and the inspection agency have been foregone. Accreditation of systems which deliver superior performance will free up resources to concentrate on higher risk areas.

Making the Appropriate Level of Protection workable

The central tenet of biosecurity, especially involving Import Risk Analysis, is the notion of a country's 'Appropriate Level of Protection'. This concept emerged as part of the Uruguay Round of multilateral trade negotiations that concluded in 1994, and is integral to the SPS Agreement. Each Member country of the World Trade Organization is entitled to set its Appropriate Level of Protection as it sees fit, taking into account the full range of national interest considerations. Having done so, a country is required to act consistently across different commodity circumstances, and to adopt risk mitigation measures that are 'least trade restrictive'.

Australia's Appropriate Level of Protection is stated as 'providing a high level of sanitary and phytosanitary protection, aimed at reducing risk to a very low level, but not zero'. The trouble is that no one really knows what these words mean in practice—how low is very low? The Panel has spent a great deal of time probing this issue.

The confusion has contributed heavily to many of the controversies that have arisen in recent years. That said, the task of providing clarity is not easy: should it be defined qualitatively; can examples be provided; is quantification appropriate or achievable; is vagueness simply ‘practical’; how are important science or data gaps to be overcome; and are other countries any better?

The Panel’s terms of reference did not require it to recommend what the Appropriate Level of Protection should be. That is quintessentially an Australian Government responsibility. It is not primarily a technical or scientific matter. Rather, it is a matter of values, which involves considering and articulating the Australian community’s interests and thereby the national interest, balancing the advantages of trade and international travel with the risks to biosecurity which trade and travel may entail.

However, the Panel notes that the Appropriate Level of Protection is not defined anywhere in Australia’s biosecurity legislation. The Panel considers that the legislation should provide the Minister with a capacity to define it.

Similarly, the Minister should have the capacity to make Guidelines for the conduct of Biosecurity Import Risk Analyses. Without Ministerial guidance, officials have attempted to develop guidelines. Unfortunately, there are several versions, all in draft, and none publicly available.

In developing the Appropriate Level of Protection and the Guidelines, the Minister should consult with the states, and more widely, to build an agreed national understanding underpinning the fundamentals of the Commonwealth’s approach. The outcome would be clearer guidance for the non-political decision making processes, reducing the scope for inter-governmental, business, political and diplomatic disputes. This guidance would be expressed through non-disallowable legislative instruments. This will guarantee transparency to the Parliament, provide an opportunity for Parliamentary advice and protect the Minister’s capacity to consult authoritatively with the states and other stakeholders.

The Panel has made a number of related recommendations about the detail of the Biosecurity Import Risk Analysis process: enhancing the assessment of the consequences of incursions as opposed to their likelihood; including the use of economic analysis in such assessments; strengthening the role of the Eminent Scientists Group; and requiring explicit assessment of the scope to protect areas or regions from biosecurity risks to preserve their pest and disease status.

To help clear the backlog of market access requests, the Panel believes the National Biosecurity Commission should have available to it, in addition to existing essentially in-house processes, a capacity to place the onus on the proponent to prepare risk analysis material to an appropriate standard.

This would be analogous to the Therapeutic Goods Administration model or applications made under the *Environment Protection and Biodiversity Conservation Act 1999*. It would free up resources and fast-track the completion of outstanding import market access requests.

Providing review mechanisms is designed to improve the way decisions are made and to generate public confidence. Reviews of Biosecurity Import Risk Analyses would be possible at several levels (use of external experts in the peer review of Biosecurity Import Risk Analyses, formal consultation with stakeholders, and external review by the Eminent Scientists Group). The Panel believes that having Biosecurity Import Risk Analyses undertaken, and the ultimate Biosecurity Import Policy Determination made, by the independent National Biosecurity Commission will ensure greater integrity.

The Panel considers that an additional option for merits review should be provided where the Director of Biosecurity refuses to issue an import permit application as being inconsistent with a Biosecurity Import Policy Determination. Only those making the import permit application would have the right to seek such a merits review.

Managing biosecurity risks

Australia's biosecurity system will be most effective if resources are targeted to those areas of greatest return from a risk management perspective.

The application of risk-return principles in managing Australia's biosecurity risks has been inconsistent. Relatively low risk pathways have received an undue share of resources while more threatening risk pathways have been potentially exposed. Mandatory *Increased Quarantine Intervention* targets have not been reviewed or modified since their introduction in 2001, in spite of accumulating evidence that not all the targeted pathways are high risk.

The Government should move away from the current mandated target approach and instead adopt a comprehensive risk-return approach to deciding where to direct resources across the continuum. The Panel's expectation is that consistent analysis of this type would find that more resources should be directed toward pre- and post-border activities.

The approach used to manage biosecurity risks to human health, food safety and the environment (including aquatic environments) needs to be consistent with the approach used to address risks that primarily affect the agriculture sector. However, comprehensive analysis will be required to guide precisely the measures to be applied along the continuum against specific risk pathways. Investment in information technology systems to support this analysis is a priority.

Risk management needs to be backed by strategic intelligence that is reliable and constantly updated. To support this, the National Biosecurity Authority should include an intelligence gathering unit, with a particular focus on the region and Australia's trading partners. The Authority should improve information gathering on border interceptions and also establish a post-border monitoring and surveillance program for national priority exotic pests and diseases. The national monitoring and surveillance program should incorporate and extend the Northern Australia Quarantine Strategy and include surveillance at risk areas around international airports and seaports. It should also include monitoring and surveillance needs for national priority exotic marine pests and diseases.

A managed risk approach needs appropriately skilled and trained staff. All staff must understand their responsibilities. The Authority should work with the states, professional associations and higher education providers to develop a biosecurity course to be incorporated into the curricula of relevant degrees. This course should be adapted for and delivered to all National Biosecurity Authority staff.

Improvements should also be made to ensure research efforts are better coordinated, especially in developing technologies that would better manage biosecurity risks.

System integrity

There is evidence that the lack of a rigorous auditing system identified by Commissioner Callinan with regard to the imports of horses is systemic within AQIS. The National Biosecurity Authority therefore needs clear specifications and standards for auditing, backed by robust internal and external systems. A group should be established within the Authority to undertake these tasks.

Existing external or independent audits are not continuous, are too narrowly focused on the border, not risk based and sometimes lack transparency. These inadequacies would be rectified by the Inspector General of Biosecurity who would audit or review the general program activities of the National Biosecurity Authority.

The National Biosecurity Authority should also have an investigation and enforcement group. Its remit should extend along the continuum and include sanctions to enhance performance.

Resourcing

While some efficiencies will arise from amalgamating Biosecurity Australia, AQIS and elements of PIAPH, it is impossible to escape the conclusion that the agencies are significantly under-resourced. Without additional resources,

the National Biosecurity Authority will not be capable of delivering the **One Biosecurity: a working partnership** model envisaged by the Panel. In the absence of an overdue increase in biosecurity funding, Australia would continue to be forced to rely on border interventions rather than keeping risks offshore as far as possible through pre-border activities. The post-border monitoring and surveillance effort would also remain variable, putting at risk Australia's ability to respond quickly to possible pest and disease incursions. The backlog of market access requests from other countries would persist, increasing the risk of potentially affecting bilateral relations and export market access.

The Panel considers that in order to achieve the **One Biosecurity: a working partnership** model, a funding increase in the order of \$260 million per annum will be required—shared between businesses through cost recovery, and taxpayers through the Commonwealth budget, including the Passenger Movement Charge. This figure is equivalent to nearly 50 per cent of the current Commonwealth effort.

Recognising past underinvestment, the Panel also considers that an additional \$225 million, or thereabouts, should be invested over a number of years through the Commonwealth Budget to upgrade information technology and business systems for biosecurity.

Cost recovery has long played an important role in funding Australia's biosecurity effort. It has efficiency and equity advantages. The general principle should be that Australians who use or consume high risk, high regulatory cost imports, pay for those costs, rather than taxpayers at large. Equally, exporters who earn income from foreign markets as a consequence of the regulatory services provided by the Australian government should pay for them. Otherwise the cost of protecting the health and biosecurity of other countries would be imposed on Australian taxpayers.

There is not a compelling case for substituting Budget funding for the existing cost recovery scheme. There is, however, a need to change the way cost recovery arrangements are administered, particularly if the Panel's recommendations regarding a risk-return approach are to be implemented effectively. As a first step, rather than having a plethora of charges supporting separate programs, 'like' activities should be aggregated across programs and the number of charges significantly reduced. A highly disaggregated cost recovery structure is administratively inefficient for both the provider and customer. In addition, having undertaken appropriate consultation with business groups, the ultimate responsibility of the Authority is to present a cost recovery package to the Minister that ensures a properly funded regulatory function, including the capital servicing costs of strategic investment in infrastructure, principally information technology systems.

The policy objectives of the 40 per cent subsidy of the costs of export inspection and certification (introduced in 2001) are unclear, and are unlikely to qualify as a community service obligation. The Panel notes that this arrangement is due to terminate on 30 June 2009 and supports a return to 100 per cent cost recovery, with an early announcement being required to enable affected businesses to make appropriate preparations. As a corollary, this change should be accompanied by greater use of co-regulatory arrangements, such as compliance agreements, to reduce the cost of the regulatory service wherever possible. In addition, the Commonwealth should enhance efforts to defend Australia's export systems and gain additional market access, including through technical market access and multilateral, regional and bilateral negotiations.

Implementing the Panel's recommendations – legislation and a new Intergovernmental Agreement

Implementing the Panel's recommendations will require significant amendments to the *Quarantine Act 1908*. The core of the *Quarantine Act 1908* was drafted over a century ago. Since that time, biosecurity risks have changed significantly, as have Australia's international trade interests and treaty obligations.

Given the difficulties that exist in the current Act, the Panel recommends that rather than trying to rework the existing legislation yet again, the opportunity should be grasped to develop a new Act—the Biosecurity Act—which draws on the full range of the commonwealth's Constitutional powers.

If the Panel's recommendations are accepted, implementation should be commenced immediately, and the Act developed in parallel with the negotiation of the new National Agreement on Biosecurity with the states. The aim should be to complete the legislation and the Agreement within a reasonable period—say two years from the acceptance of the Panel's broad recommendations. While agreement with the states is highly desirable, the Commonwealth should reserve the right to proceed unilaterally, or with a limited number of participating states, if agreement is not forthcoming within that timeframe.

Pending the passage of the legislation, administrative steps should be taken to implement the proposed structures. Functions could be grouped into a new 'interim' authority within the department and appointments made to an interim National Biosecurity Commission. The increases in resources to be applied to the pre-border and border functions could be progressively applied in advance of the completion of the National Agreement. However, the introduction of the enhanced Commonwealth support for monitoring and surveillance for national priority exotic pests and diseases should be subject to agreement on appropriate matching contributions from the states. This will ensure that Commonwealth funding represents clearly a net addition to the national effort rather than cost shifting.

RECOMMENDATIONS

Extending the Commonwealth's reach

- 1 The Commonwealth's biosecurity legislation should provide that authority given by the Commonwealth to import goods into Australia also authorises the goods to be imported into a state or territory on the same conditions (if any). It should provide that this authority operates to the exclusion of any state or territory law that imposes biosecurity regulation on the direct, or indirect via another state or territory, import of the goods into the state or territory.
- 2 The biosecurity legislation should provide necessary legislative authority for a comprehensive system of tracing imported goods, including from their production or manufacture, through Australia's biosecurity border and into the community, to ensure that, among other things, the Commonwealth is able to enforce any biosecurity conditions imposed on the goods. The specifics, including priorities for application to products or classes of product, should be developed in consultation with relevant stakeholders. Authorised officers should be provided with comprehensive and consistent investigative, enforcement and prosecutorial powers.
- 3 As part of this extended reach, the Commonwealth should increase its resources to support the monitoring, surveillance, investigation and, where appropriate, prosecutions associated with post-border biosecurity detections (see also Recommendation 74).
- 4 The Commonwealth should extend its legislative reach to cover the field with respect to international and domestic ballast water regulation.
- 5 In relation to biofouling, the Commonwealth's legislative reach should be restricted to international vessels arriving in Australia, with the states and territories retaining responsibility for domestic biofouling requirements. The Commonwealth should promote the development of an international convention covering biofouling through the International Maritime Organization.
- 6 The biosecurity legislation should continue to provide for national powers to deal with biosecurity emergencies. However, the powers should not be limited to quarantinable pests and diseases and associated measures and emergencies. They should clearly extend to biosecurity measures generally and biosecurity emergencies supported by the Commonwealth's

constitutional reach. The opportunity should be taken to rationalise and simplify the existing powers, including by providing that they may be invoked or exercised by the Minister rather than the Governor-General.

- 7 The biosecurity legislation should provide the Commonwealth with the capacity to override a specified law of a state or territory that imposes biosecurity controls on the use, movement, treatment or disposal of domestic goods imported into the state or territory from another state or territory. This capacity should only be available where the National Biosecurity Commission has determined that the biosecurity controls:
 - a are not justified by an examination and evaluation of available scientific information; or
 - b are more trade restrictive than required and so constitute a disguised restriction on interstate trade and commerce in domestic product(s).
- 8 The National Biosecurity Commission may only assess and make such a determination in relation to a biosecurity control under a state or territory law if an application for such an assessment and determination has been made by the relevant Commonwealth or state or territory Minister.

A national biosecurity agreement

- 9 A National Agreement on Biosecurity, to underpin a partnership approach between the Commonwealth and the states and territories on biosecurity, should provide for:
 - a the Commonwealth to consult with the states and territories on the Appropriate Level of Protection and Biosecurity Import Risk Analysis Guidelines and priorities for considering market access requests;
 - b the Commonwealth to consult with the states and territories on the appointment of members of the National Biosecurity Commission (other than the Director of Biosecurity);
 - c emergency response policy and arrangements, including the circumstances in which the Commonwealth would utilise its national emergency management powers;
 - d the steps preceding the Commonwealth's use of its legislative authority to override inappropriate state and territory controls on interstate trade in domestic products;
 - e joint decisions on national priorities for investment by jurisdictions, including in monitoring and surveillance (including identifying national priority exotic pests and diseases for Commonwealth investment), research and development and biosecurity infrastructure; and

- f full and automatic information sharing between jurisdictions (in a manner consistent with obligations under the *Privacy Act 1988*), including information collected through pre-border intelligence activities, border controls (such as interception data) and information gathered through monitoring and surveillance programs (see Recommendation 54).
- 10 The National Agreement on Biosecurity should replace existing intergovernmental agreements such as the *Memorandum of Understanding on Animal and Plant Quarantine Measures* and the *Intergovernmental Agreement on AusBIOSEC*.
- 11 The aim should be to develop the Biosecurity Act (see Recommendation 43) and negotiate the National Agreement on Biosecurity within two years. While agreement with the states and territories is highly desirable, the Commonwealth should reserve the right to proceed with the Panel's recommendations unilaterally, or with a limited number of participating states and territories, if agreement is not forthcoming within that timeframe.

Independent science-based decision making

- 12 The biosecurity legislation should provide that Biosecurity Import Policy Determinations should be made by an expert and independent National Biosecurity Commission. The Commission's functions, basis of appointment and decision making rules should be specified under the biosecurity legislation. Its functions should include providing expert advice to the National Biosecurity Authority (see Recommendation 16) and the Government on biosecurity matters more generally.
- 13 The Commission should include members with expertise in natural sciences related to risks of pests and diseases in plants, animals and humans, risk assessment and management, ecology, agricultural and food production and economic assessments. The Commission should comprise no fewer than seven and no more than nine members, including the head of the National Biosecurity Authority.
- 14 More training should be provided to biosecurity officials on principles of proper decision making and the types of conduct that may amount to offences against them or breaches of the Australian Public Service Code of Conduct.
- 15 The biosecurity legislation should create a targeted offence of assaulting, resisting, molesting, obstructing, intimidating or interfering with officers in the performance of their duties, analogous to that in the *Customs Act 1901* and the *Civil Aviation Act 1988*.

National Biosecurity Authority

- 16 The primary biosecurity functions currently within AQIS, Biosecurity Australia and Product Integrity, Animal and Plant Health Division should be brought together in a statutory authority—the National Biosecurity Authority. The National Biosecurity Authority should be an independent authority under the *Financial Management and Accountability Act 1997* with the head of the Authority having the personnel and management powers and obligations of a Secretary under that Act. Its functions should include protecting Australia’s biosecurity status in accordance with Australia’s treaty obligations and Appropriate Level of Protection, as well as providing secretariat, research and administrative support to the National Biosecurity Commission in the conduct of its functions. The head of the Authority should be referred to as the Director of Biosecurity.
- 17 An eminent Australian should be appointed as the part-time Chair of the National Biosecurity Commission, with the Director of Biosecurity being an *ex-officio* member of the Commission.
- 18 The biosecurity legislation should expressly provide that the National Biosecurity Commission, and officers and other authorised personnel performing National Biosecurity Commission functions, are not subject to direction by the Government in performing their duties in relation to Biosecurity Import Policy Determinations. The legislation should also prevent the Government directing the Director of Biosecurity, or his/her delegate, in relation to an import permit decision.
- 19 The export inspection and certification functions of AQIS should be transferred to the National Biosecurity Authority, but trade facilitation should remain a role of the Department, with technical expertise provided by the Authority as needed.
- 20 The Commonwealth should establish within the Department of Agriculture, Fisheries and Forestry, a statutory office of the Inspector General of Biosecurity that will audit and report on the performance of the National Biosecurity Authority. The legislation should provide that the holder of this office have appropriate skills in relevant scientific and auditing or systems assessment disciplines. The appointment should be made by the Minister for a five year term and there should not be limitations on the appointment of persons on the grounds that they have been previously employed in the Australian Public Service or otherwise by the Australian Government.
- 21 The functions of the Inspector General of Biosecurity should subsume those recommended by Commissioner Callinan for the Inspector General of Horse Importation.

- 22 The biosecurity legislation should require that the Commonwealth obtain the support of any five of the states and territories before it can appoint the Chair and members of the National Biosecurity Commission, other than the Director of Biosecurity.

Sharing responsibility

- 23 A Biosecurity Advisory Council (replacing the Quarantine and Exports Advisory Council) should:
- a be established to provide strategic and policy advice on biosecurity issues to the Minister, to the National Biosecurity Commission and to the Director of Biosecurity; and
 - b consist of non-representative members with a broad range of skills in biosecurity and related disciplines drawn from the Commonwealth and state and territory governments, business, academia and non-government organisations.
- 24 Commodity and/or sector based Industry Consultative Committees should continue to discuss operational biosecurity issues including the delivery of services and cost recovery for those services.
- 25 All animal, plant and aquatic industries should commit to sharing the responsibility and costs of pest and disease response actions, with those who are not signatories to the relevant cost sharing agreement meeting their share of a response, possibly by way of levy to recover costs.
- 26 The membership of Animal Health Australia and Plant Health Australia should be broadened to encompass environmental pest and disease issues including those affecting the aquatic and terrestrial environments.
- 27 To enhance biosecurity planning:
- a where Industry Biosecurity Plans already exist, there should be strong encouragement for their implementation at an individual business level;
 - b industries or sectors that are vulnerable but not covered by Biosecurity Plans (for example, the aquatic wildcatch and aquaculture industries), should be encouraged to develop a Biosecurity Plan; and
 - c governments should work with managers of land for conservation purposes to ensure that they have appropriate biosecurity plans and practices.
- 28 There should be:
- a greater consistency in the administration, auditing, and response to non-compliance of co-regulators;

- b reduced regulatory burdens for businesses that maintain an excellent track record of compliance with co-regulatory agreements; and
 - c wider adoption of co-regulatory arrangements.
- 29 To enhance communications effectiveness:
- a messages promoting Australia’s biosecurity should cover the biosecurity continuum;
 - b new communication options, including those available on the Internet, should be employed by the National Biosecurity Authority; and
 - c particular efforts should be made in collaboration with the states and territories, local governments, community and business groups to inform peri-urban farmers, including from non-English speaking backgrounds, of Australia’s biosecurity policies and to engage them in monitoring, surveillance and response strategies.
- 30 The National Biosecurity Authority should develop education and awareness programs for:
- a all importers regarding their obligations to meet Australia’s import requirements; and
 - b the competent inspection and certifying agencies in the exporting countries to ensure that they meet Australia’s import requirements.

Australia’s Appropriate Level of Protection and its implementation

- 31 The biosecurity legislation should:
- a define the concept of ‘biosecurity risk’ in a manner analogous to, but broader than, section 5D of the *Quarantine Act 1908*;
 - b provide that the basis for a decision whether to authorise, under the legislation, an import of goods should be that the level of biosecurity risk associated with the import is acceptably low;
 - c provide that the Minister may determine what level of biosecurity risk is acceptably low (that is, Australia’s Appropriate Level of Protection), and may make Guidelines for Biosecurity Import Risk Analyses, Biosecurity Import Policy Determinations and import permit decisions. The determination and Guidelines should be legislative instruments for the purposes of the *Legislative Instruments Act 2003*, and should not be disallowable; and
 - d require that decision makers under the legislation (the National Biosecurity Commission in relation to Biosecurity Import Policy

Determinations and the Director of Biosecurity in making import permit decisions) should be required to apply the Determination, and act in accordance with the Guidelines.

- 32** The Guidelines should:
- a** include a clear statement of the approach to be taken to the economic assessment of potential biosecurity threats including the appropriate use of formal economic analysis; and
 - b** require estimation of net rather than gross costs, allowing for best practice management methods, substitution to alternative crops or husbandry techniques.
- 33** The National Biosecurity Commission should:
- a** include high level economic skills (see Recommendation 13); and
 - b** develop a close working relationship with the Productivity Commission, the Australian Bureau of Agricultural and Resource Economics or other suitable agencies.
- 34** The Eminent Scientists Group should be expanded to include an economist.
- 35** The:
- a** Guidelines should include a requirement for the assessment of any relevant regional differences in biosecurity status and risk;
 - b** states and territories should be consulted on the terms of this requirement before it is included in the Guidelines; and
 - c** Commonwealth and the states and territories should develop a protocol on the collection and timely provision of the scientific evidence necessary to demonstrate biosecurity threat status to support both the Biosecurity Import Risk Analysis process and improved access to export markets for Australian products.
- 36** The biosecurity legislation should provide:
- a** that when an import permit application is made for which a relevant Biosecurity Import Policy Determination exists, the Director of Biosecurity should have primary regard to that Determination in deciding whether to grant the permit, unless the Director has reason to believe that granting the permit would lead to a biosecurity risk that is not acceptably low. If the Director of Biosecurity denies an import permit on these grounds he/she must immediately inform the National Biosecurity Commission of the reasons; and

- b** that the Director of Biosecurity have two options for dealing with market access and import permit applications for which there is no specific Biosecurity Import Policy Determination already in place:
 - if the Director is satisfied that the biosecurity risk involved is acceptably low, he/she should authorise importation, with or without conditions; and
 - if the Director is not satisfied that the biosecurity risk would be, or could be through imposing conditions, acceptably low, he/she should not grant a permit and should not provide market access, until the National Biosecurity Commission has made a Biosecurity Import Policy Determination following a Biosecurity Import Risk Analysis.

37 The biosecurity legislation should provide:

- a** for three broad Biosecurity Import Risk Analysis processes—the existing standard and expanded Import Risk Analyses and a new process under which a greater obligation to prepare detailed information about relevant biosecurity risks would be placed on the proponent / applicant;
- b** that, in conducting a Biosecurity Import Risk Analysis, the National Biosecurity Commission should have the power to compel the production of any relevant documents, the power to require relevant evidence to be given to it under oath and to hold public hearings;
- c** that in deciding priorities for Biosecurity Import Risk Analyses, the National Biosecurity Commission should consult with relevant Australian Government agencies, including the departments having responsibility for agriculture, health, environment and foreign affairs and trade, with the states and territories and with other appropriate stakeholders relevant to import access proposals; and
- d** the Minister with the power to direct the National Biosecurity Commission to commence a Biosecurity Import Risk Analysis, with such a direction to be tabled in Parliament.

38 The:

- a** Import Risk Analysis Appeals Panel should cease to exist as the review mechanism for determining whether a Biosecurity Import Risk Analysis has followed due process;
- b** Biosecurity Import Policy Determination should be a non-reviewable instrument;
- c** Eminent Scientists Group should be empowered to co-opt one or more Associate Members; and

across programs. The level and allocation of resources should be comprehensively reviewed against risk-return profiles at least every five years.

- 45** The National Biosecurity Authority, in consultation with relevant stakeholders and the Biosecurity Advisory Council, should develop a list of national priority exotic pests and diseases, with their respective pathways, on the basis of the likelihood of incursion and the consequences for businesses, human health and the environment. This list should be used to prioritise the review and development of comprehensive biosecurity risk management plans across the biosecurity continuum.
- 46** A new memorandum of understanding should be developed between the Department of Health and Ageing and the National Biosecurity Authority on delivery of human biosecurity services at the border, including clear operational guidelines for the Authority and procedures for validating health biosecurity measures, training and competency of inspection staff, resources, data collection, reporting and communication.
- 47** The Authority should enter into compliance agreements to recognise formally the food safety management systems of importing businesses. These arrangements should provide for a power of audit, inspection, suspension or removal of approvals, and penalties where appropriate for breaches.
- 48** The National Biosecurity Authority should be empowered to require in specific circumstances, as a condition of entry to the Australian market, that importers provide certification by the exporting country's competent government authorities that Australian food safety standards are met.
- 49** The National Biosecurity Authority should work with other countries and the states and territories to share pest and disease intelligence and consider working together with trading partner countries on issues such as regionalisation and compartmentalisation assessments and systems assurance.
- 50** The National Biosecurity Authority should establish an intelligence gathering and assessments group to monitor animal and plant pest and disease status internationally, with a particular focus on the region and our trading partners.
- 51** To improve the management of biosecurity risks, a sample sufficient to identify risks and risk pathways should be collected and analysed from cases where imported goods have been rejected because of suspicion of an exotic pest or disease. This should be done at the public expense.

- 52** The National Biosecurity Authority should undertake a continuing program of analysis of risk pathways using data collected from pre-border intelligence and border inspections at control points along the continuum. The results of this analysis should be used to update risk management strategies and measures.
- 53** The National Biosecurity Authority should develop and maintain, in consultation with the states and territories and business organisations, a comprehensive post-border monitoring and surveillance program for national priority exotic pests and diseases, which should include:
- a** an enhanced Northern Australia Quarantine Strategy that extends beyond the current 20km zone to provide coverage for at-risk areas around international airports, seaports and vulnerable areas of Australia's coastline;
 - b** existing and additional port surveillance activities;
 - c** the Commonwealth's responsibility for investigating suspected post-border detections of pests and diseases in imports;
 - d** strategic surveillance to support Australia's pest and disease free export claims and the conduct of Biosecurity Import Risk Analyses;
 - e** national priority marine pests and diseases to support the Commonwealth's expanded role in relation to managing risks associated with ballast water; and
 - f** the current National Sentinel Hive Program and its eventual replacement with a more comprehensive approach based on an assessment of risks.
- 54** The information and analysis obtained from pre-border, border and post-border biosecurity activities should be made available for use by state and territory governments, industry and research organisations. This should be done in a manner consistent with obligations under the *Privacy Act 1988* and should be supported by a biosecurity risk information sharing protocol and data sharing infrastructure.
- 55** Redevelopment of biosecurity information technology systems for the National Biosecurity Authority should occur promptly. As part of this task:
- a** information technology systems should be developed to provide intuitive and user friendly interfaces and processes;
 - b** biosecurity risk research should be supported by providing reports and data in formats that are useful for government and other researchers, preferably via a free-to-access web interface;

- c** paper work generated between the Authority and businesses should be eliminated wherever feasible through electronic interfaces, on-line approval systems and electronic certification; and
- d** connectivity with other border agencies (particularly Customs) should be central and should also be enabled where possible with trading partner authorities, particularly with New Zealand.

- 56** The National Biosecurity Authority should work with state and territory agencies, professional associations and higher education providers to develop a general biosecurity course to be incorporated in health, environmental, marine biology, veterinary and agriculture science curricula. All staff employed in the National Biosecurity Authority should be taught an appropriate adaptation of the general biosecurity course upon commencement of their employment in the agency.
- 57** The National Biosecurity Authority should develop national research priorities, including for new technologies to better address biosecurity risk, and should work with research bodies to coordinate the research effort towards those priorities.
- 58** The National Biosecurity Authority should ensure Australia has the laboratory capability and capacity to manage exotic pest and disease incursions of national significance. The Panel recommends that the Authority, working with the states and territories, should improve the quality and use of state and territory laboratories to support national biosecurity priorities.
- 59** The import of positive control samples (including the foot and mouth disease virus) for use in laboratory diagnostic research and capacity building for exotic disease pathogens is vital and should be permitted under strict import permit conditions to laboratories such as the Australian Animal Health Laboratory.
- 60** The Commonwealth government should move toward a unified coordinated system for the approval of quarantine facilities (for animal and plant research laboratories). This would require agreement between the National Biosecurity Authority, Australian Pesticides and Veterinary Medicines Authority and the Office of the Gene Technology Regulator for one system of approval of laboratories.
- 61** The Commonwealth should own and operate specialised quarantine facilities where monopoly rents might be charged if such facilities were operated privately.

- 62 The Commonwealth should immediately clarify its intentions with respect to the future ownership, management and operation of the quarantine facilities currently located at Eastern Creek and Knoxfield.
- 63 All quarantine stations that manage equivalent risks should have their performance accredited and audited to equivalent standards, irrespective of whether the quarantine station is privately or publicly owned and operated.
- 64 The effectiveness of the anti-smuggling subsidy for plant material should be reviewed, with other avenues explored for improving compliance with biosecurity requirements, including a review of smuggling penalties.

Ensuring the integrity of the system

- 65 The National Biosecurity Authority should develop quality management systems that:
 - a incorporate consistent quality management approaches across its programs;
 - b include periodic audit of external assurances such as official certification provided by overseas authorities and accredited third-party systems; and
 - c include, where relevant, ISO 9000 and other quality standards in introducing these quality management strategies and systems.
- 66 The National Biosecurity Authority should establish an internal audit group to inquire and report on the adherence by the Authority to its policies and their adequacy to deal with risks across the biosecurity continuum.
 - a The responsibilities of this group should include both financial and performance audits of the Authority's programs.
 - b The internal audit program should cover the National Biosecurity Authority's activities over an audit cycle.
 - c The audit reports should be provided to the National Biosecurity Commission and the Director of Biosecurity.
- 67 In relation to the National Biosecurity Authority's internal audit program, the National Biosecurity Commission should have:
 - a a determinative role for audit activities that relate to Biosecurity Import Policy Determinations; and
 - b an advisory role in relation to the overall internal audit program.

- 68** The National Biosecurity Authority should maintain an enforcement branch with the resources and expertise to investigate breaches of the biosecurity legislation, with this function being afforded a high priority. Arrangements should be made with the Director of Public Prosecutions in relation to the conduct of prosecution of offences against the biosecurity legislation including to provide:
- a** protocols to facilitate the commencement of proceedings by the Authority in cases involving the non-payment of infringement notices which cover high-volume matters of minimal complexity; and
 - b** for the recovery of pecuniary penalties by the Authority.
- 69** The Minister for Agriculture, Fisheries and Forestry should be enabled under the legislation to require the Inspector General of Biosecurity to inquire into any matter which is the responsibility of the National Biosecurity Authority.
- 70** The Inspector General of Biosecurity should develop a program of audit on appropriate timescales (for example, five years, one year and to allow for *ad hoc* audits).
- 71** The Inspector General of Biosecurity should provide regular independent reports to the Minister with these reports copied to the Director of Biosecurity and the National Biosecurity Commission. These reports should be made public unless a strong contrary reason exists. The Director of Biosecurity and the National Biosecurity Commission, as relevant, should report to the Minister on actions taken on recommendations by the Inspector General. The reports and responses to them should be reflected in the National Biosecurity Authority's annual report to Parliament.
- 72** The Biosecurity Advisory Council should provide advice on inspection and audit activities to the Director of Biosecurity.

Resourcing the biosecurity system

- 73** The Commonwealth should increase its biosecurity investment by an amount in the order of \$260 million per annum, subject to a full costing by departments, to meet the recommendations of this report. A significant part of this increase in resources should be funded through cost recovery and an adjustment to the Passenger Movement Charge.
- 74** The Commonwealth's additional post-border investment should be tied to an agreement with the states and territories on appropriate matching commitments (see also Recommendation 3).

- 75** Recognising past underinvestment, an additional \$225 million should be appropriated through the Commonwealth Budget over a number of years for investment in information technology and business systems for biosecurity. Future cost recovery arrangements should be adjusted to cover depreciation and replacement of that infrastructure.
- 76** Programs that currently use cost recovery should continue in this mode but charges for like activities should be aggregated, leading to a significant reduction in the number of individual charges.
- 77** In developing cost recovery arrangements, the National Biosecurity Authority should consult with business groups, but have the ultimate responsibility of recommending to the responsible Minister a cost recovery package that will support the provision of an effective and efficient regulatory function including:
- a** adequate and long-term investment in infrastructure, including information technology and information services;
 - b** appropriate funding for staff and training;
 - c** the costs of auditing pre-border and border biosecurity certification; and
 - d** the cost of diagnosing a proportion of interceptions to inform a risk-return approach to activities.
- 78** Cost recovery by the National Biosecurity Authority should be subject to periodic external review to ensure that:
- a** cost recovery reflects efficient costs and provides appropriate efficiency signals to the Authority;
 - b** the cost recovery structure provides appropriate price signals for business performance;
 - c** there is no long-term over-recovery; and
 - d** costs are being aggregated wherever possible and that unnecessary constraints are not being placed on the use of revenue from a risk-return perspective.
- 79** Export certification functions should return to 100 per cent cost recovery as scheduled at the beginning of July 2009, noting that this would require an early decision and announcement by the Government to allow businesses to prepare for the additional costs as well as for the necessary consultation on revised fee structures.
- 80** The Government should enhance Budget funding for activities which support biosecurity-related technical market access for Australian exporters.

- 81** Funding for the Airports Program should be adjusted in future on the basis of a Workload Growth Agreement established between the National Biosecurity Authority and the Department of Finance and Deregulation that links passenger numbers with Budget appropriations.
- 82** The Workload Growth Agreement should reflect a risk-return strategy for managing intervention rates and make appropriate allowances for productivity.
- 83** In developing the detailed budget for biosecurity functions, the Government should recognise the need for a significant enhancement in senior management capacity in the National Biosecurity Authority.
- 84** The National Biosecurity Authority should review staff training and rotation practices to ensure that they provide an optimum balance between development of broadly skilled officers, the deepening of expertise through experience in a role and the avoidance of regulatory failure through officers developing inappropriately close relationships with the clients they are servicing.

GLOSSARY OF TERMS

Term	Meaning
Abalone Viral Ganglioneuritis	Abalone viral ganglioneuritis is a disease of abalone caused by a herpes-like virus.
Appropriate Level of Protection	The level of protection deemed appropriate by a country establishing a sanitary or phytosanitary measure to protect human, animal or plant life or health within its territory.
Appropriation	An authorisation from Parliament to withdraw funds from the Consolidated Revenue Fund.
AQUAVETPLAN	Australian Aquatic Veterinary Emergency Plan – the national contingency planning framework for the management of aquatic pest and disease emergencies in Australia.
Asian Green Mussel	Asian green mussel (<i>Perna viridis</i>) is a marine pest that causes damage to submerged structures. Spreads to other areas as invasive species via boat hulls and ballast water.
Asian Gypsy Moth	Asian gypsy moth (<i>Lymantria spp.</i>) is a pest that causes significant damage to forest, horticultural and urban trees. May be found on shipping containers, cargo and ships' structures.
Audit	Systematic, independent and documented process for obtaining evidence and evaluating it objectively to determine the extent to which the criteria are fulfilled.
AusBIOSEC	Australian Biosecurity System for Primary Production and the Environment – joint government initiative to enhance the biosecurity system for primary production and the environment.
Avian Influenza	Highly pathogenic avian influenza is a lethal generalised viral disease in poultry. Subtypes have the potential to be a serious zoonotic disease.
Aquatic Environment	Includes freshwater, estuarine and marine environments.
AUSVETPLAN	Australian Veterinary Emergency Plan – the national contingency planning framework for the management of animal pest and disease emergencies in Australia.
Ballast Water	Water taken up by ships to assist with vessel stability and balance.

Term	Meaning
Biodiversity	The variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems.
Biofouling	Marine organisms that attach to objects immersed in seawater, including the hulls and ancillary gear of yachts and small-craft.
Biosecurity	The protection of the economy, environment and human health from the negative impacts associated with entry, establishment or spread of exotic pests (including weeds) and diseases.
Black-Striped Mussel	Black-striped mussel (<i>Mytilopsis sallei</i>) is a marine pest that causes damage to submerged structures and may spread to other areas via boat hulls and ballast water.
Bluetongue	Bluetongue is an arthropod-borne viral disease of ruminants (including cattle, sheep and goats).
Bovine Brucellosis	Bovine brucellosis is a highly contagious bacterial disease of cattle. Also a serious zoonotic disease.
Bovine Tuberculosis	Bovine tuberculosis is a highly contagious bacterial disease of cattle. Also a serious zoonotic disease.
BSE	Bovine spongiform encephalopathy (BSE) is a non-inflammatory nervous disease of adult cattle.
Caulerpa taxiflora	<i>Caulerpa taxiflora</i> is a green alga that is an invasive marine pest commonly used as decoration in tropical fish tanks.
Citrus Canker	Citrus canker (<i>Xanthomonas axonopodis</i> pathovar <i>citri</i>) is a serious bacterial disease of citrus trees including grapefruit, lemons, limes and oranges.
<i>Commonwealth Authorities and Companies Act 1997</i>	An Act regulating the financial, ethical and reporting requirements of corporate public authorities with a separate legal existence outside the Commonwealth Public Service.
Compartmentalisation	Means one or more establishments under a common biosecurity management system containing an animal or plant subpopulation with a distinct health status with respect to specific pests or diseases for which required surveillance, control and biosecurity measures have been applied.
Competent Authority	Official service or authority, established by the government of an exporting state, having the responsibility and competence for ensuring or supervising the implementation of animal, plant or public health standards.

Term	Meaning
Compliance	Status whereby all aspects of product, facilities, people, programmes, and systems meet regulatory requirements and, where applicable, importing country official requirements.
Cost Recovery	A system of fees and specific purpose taxes used by government agencies to recoup some or all of the costs of particular government activities.
Crazy Ant	Yellow crazy ant (<i>Anoplolepis gracilipes</i>) is an invasive species that causes disruption to the environment including native birds, animals and insects.
Currant-Lettuce Aphid	Currant-lettuce aphid (<i>Nasonovia ribisnigri</i>) is a significant pest that feeds on a wide range of plants including lettuce, gooseberries, petunias, black and red currants, and a range of weeds such as sow thistle.
Disinsection	Measures to eliminate insects in baggage, cargo, containers, conveyances, goods and postal parcels.
Dutch Elm Disease	Dutch elm disease (<i>Ophiostoma spp</i>) is a fungal disease of elm trees which is spread by the elm bark beetle and causes tree decline and death.
Didymo	Didymo (<i>Didymosphenia geminata</i>), colloquially called ‘rock snot’, is a freshwater alga (diatom) that is a highly invasive exotic pest and considered impossible to eradicate once it infests waterways.
Electric Ant	The electric ant or little fire ant (<i>Wasmannia auropunctata</i>) is an invasive species that causes disruption to the environment including native birds, animals and insects.
Emergency Pests and Diseases (in Australia)	Pests and diseases that are (a) exotic to Australia and it is considered to be in the national interest to be free of the pest/disease or (b) a variant of an endemic pest or disease (that can be distinguished by investigative and diagnostic methods) which if established in Australia, would have a national impact or (c) a serious pest or disease of unknown or uncertain cause or (d) a severe outbreak of a known endemic pest or disease, and that is considered to be of national significance with serious social or trade implications.
Emergency Response Deeds	Pre-agreed cost sharing and response framework for dealing with an incursion of an emergency animal or plant pest or disease.
Endemic Pests and Diseases	Pests and diseases affecting plants or animals, including humans, that are known to occur in a particular country or region.
Equine Influenza	Equine influenza is an acute viral respiratory disease of horses.

Term	Meaning
European House Borer	European house borer (<i>Hylotrupes bajulus</i>) is a small beetle that is a destructive pest of seasoned softwood timber.
Exotic Fruit Fly	A group of significant horticultural pests that include oriental fruit fly, Philippine fruit fly, Mexican fruit fly and papaya fruit fly.
Exotic Pests and Diseases	Pests and diseases affecting plants or animals (and possibly including humans) that do not normally occur in a particular country or region.
<i>Financial Management and Accountability Act 1997</i>	An Act which provides a framework for the management of public money and property.
Fire Blight	Fire blight (<i>Erwinia amylovora</i>) is a systemic bacterial disease of apples and pears that may seriously impact on tree health and fruit production in infested orchards.
FLUBORDERPLAN	National coordination plan to enhance border screening for incoming travellers for the purpose of delaying entry of pandemic influenza.
Foot and Mouth Disease	Foot and mouth disease is a highly infectious viral disease of cloven-hoofed animals.
Grapevine Leaf Rust	Grapevine leaf rust is a disease of grapevines caused by the wind-borne fungus, <i>Phakopsora euvitis</i> . Infection results in leaf drop and subsequent weakening of the vine.
Hazard Analysis and Critical Control Points	Risk management system used to identify and monitor potential hazards and implement key actions or controls to reduce or eliminate the risk of these hazards.
Hendra Virus	Hendra virus is an acute respiratory and neurological disease of horses. Also a serious zoonotic disease.
Hypothecation	The assignment of revenue received from a specific tax or taxes to the financing of a particular governmental activity.
Import Market Access Advisory Group	A high level group within the Department of Agriculture, Fisheries and Forestry that is responsible for assigning priority to import proposals and monitoring progress of Import Risk Analyses undertaken by Biosecurity Australia.
Inspection	Examination of product or systems for the biosecurity of animal, plant, food and human health to verify that they conform to requirements.
Karnal Bunt	Karnal bunt is a disease affecting wheat caused by the fungus <i>Tilletia indica</i> , which infects plants at flowering and can reduce grain quality.
Khapra Beetle	Khapra beetle (<i>Trogoderma granarium</i>) is a significant pest that may infest imports of stored products, particularly grain.

Term	Meaning
Mango Leaf Gall Midge	A group of insect pests of mango that produce wart-like galls on leaves. Severe infestation may result in tree death.
Mediterranean Fruit Fly	Mediterranean fruit fly (<i>Ceratitidis capitata</i>) is a destructive pest of horticultural crops.
Monitoring and Surveillance	Activities to investigate the presence or prevalence of a pest or disease in a given plant or animal population and its environment.
Northern Pacific Seastar	Northern Pacific seastar (<i>Asterias amurensi</i>) is a large seastar, up to 50cm in diameter, that causes significant damage to coastal marine environments and commercial fisheries.
OIE	World Organisation for Animal Health (formerly known as the Office International des Epizooties).
Pest and Disease	Any species, strain or biotype of plant, animal or pathogenic agent that causes infection or is injurious to plants or animals.
PIAPH	Product Integrity, Animal and Plant Health – a division within the Department of Agriculture, Fisheries and Forestry.
PLANTPLAN	Australian Emergency Plant Pest Response Plan – the national contingency planning framework for the management of plant pest and disease emergencies in Australia.
Post-Arrival Quarantine	Isolation and observation of plants or animals on arrival in the importing country.
Pratique	Clearance given to a vessel (ship or aircraft) to enter port on assurance to authorities that the vessel and its passengers are free from contagious disease.
Pre-Export Quarantine	Isolation and observation of plants or animals prior to export.
Quarantine Approved Premise	Place approved by AQIS where post-entry quarantine requirements are met.
Quarantine	The system of measures which are used to manage risks of the entry and establishment of pests or diseases which threaten animal, plant or human health.
Queensland Fruit Fly	Queensland Fruit Fly (<i>Bactrocera tryoni</i>) is a destructive pest of horticultural crops.
Red Imported Fire Ant	Red imported fire ant (<i>Solenopsis invicta</i>) is the most notorious of the world's invasive tramp ants. It delivers painful stings and can cause significant impacts to humans, agriculture and the environment.

Term	Meaning
Regionalisation	A clearly defined part of a country (region or zone) containing an animal or plant sub-population with a distinct health status with respect to specific pests or diseases for which required surveillance, control and biosecurity measures have been applied.
Risk Analysis	Assessment of the level of biosecurity risk associated with the importation, or proposed importation of animals, plants or goods and if necessary, identification of risk management options to limit the level of biosecurity risk. Includes risk assessment, risk management and risk communication.
Risk Assessment	The evaluation of the likelihood and the biological and economic consequences of entry, establishment, or spread of a pest or disease within the territory of an importing country.
Risk Management	The process of identifying, selecting and implementing measures that can be applied to reduce the level of risks.
Screw-Worm Fly	Screw-worm fly (<i>Chrysomya bezziana</i> and <i>Cochliomyia hominivorax</i>) are parasites of warm-blooded animals, including humans. Causes serious production losses in livestock.
Severe Acute Respiratory Syndrome	Severe acute respiratory syndrome is a highly infectious viral disease of humans that was thought to originate from palm civets.
Sugar Cane Smut	Sugar cane smut (<i>Ustilago scitaminea</i>) is a serious fungal disease of sugar cane that is readily spread long-distances by aerial spores.
Surra	Surra is a chronic wasting disease of animals caused by the parasitic protozoa, <i>Trypanosoma evansi</i> .
Tomato Leaf Curl Virus	Tomato Leaf Curl Virus is one of a group of closely related viruses vectored by white flies, which causes significant damage to tomatoes, potatoes and a range of other crops.
Tramp Ants	A diverse group of highly invasive ant species (including red imported fire ants, electric ants and crazy ants) readily moved across the world through a variety of transport pathways, causing significant environmental harm.
Variant Creutzfeldt-Jakob Disease	Variant Creutzfeldt-Jakob disease is an invariably fatal neurological disease in humans that is caused by the ingestion of certain tissues derived from BSE-infected cattle.
Varroa Mite	<i>Varroa mite</i> (<i>Varroa destructor</i>) is an external parasite that is one of the most significant pests of honeybees around the world.

Term	Meaning
Verification	Confirmation through the provision of objective evidence that specified requirements have been fulfilled. Includes inspection and audit activities.
West Nile Fever	West Nile fever is a viral disease, spread via mosquitoes, that mainly affect birds. Also a serious zoonotic disease.
Wheat Stem Rust	Wheat stem rust (<i>Puccinia graminis</i> f. sp. <i>tritici</i>) is a fungal disease of wheat, barley, oats and rye that produces new strains causing significant damage on previously resistant cultivars under favourable environmental conditions.
Yellow (Stripe) Rust	Yellow (stripe) rust (<i>Puccinia striiformis</i>) is a fungal disease of wheat that produces new strains causing significant damage on previously resistant cultivars under favourable environmental conditions.
Zoonosis (or Zoonotic Disease)	Any disease or infection which is naturally transmissible from animals to humans.

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