

Auditor-General of Queensland

Report to Parliament No. 5 for 2008

Protecting Queensland's primary industries and environment from
pests and disease

A Performance Management Systems Audit



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from pests and disease**

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Queensland

Prepared under Part 6

Division 3 of the

Financial Administration and Audit Act 1977

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Auditor-General of Queensland

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The Honourable M F Reynolds MP
Speaker of the Legislative Assembly
Parliament House
BRISBANE QLD 4000

Dear Mr Speaker

This report is prepared under Part 6 Division 3 of the *Financial Administration and Audit Act 1977*, and is on the results of protecting Queensland's primary industries and environment from pests and disease. It is the fifth in the series of Auditor-General's Reports to Parliament for 2008.

In accordance with s.105 of the Act, would you please arrange for the report to be tabled in the Legislative Assembly.

Yours sincerely



Glenn Poole
Auditor-General



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Glossary

Frequently used terms and abbreviations

AusBIOSEC	An agreement between the Commonwealth, state and territory governments which will build on strategies, plans and operational procedures already in place and draw on these to establish arrangements in the areas of social and environmental amenity.
Australian Veterinary Emergency Plan (AUSVETPLAN)	National contingency planning framework for the management of animal disease emergencies in Australia. It provides a series of technical and management response plans that describe the proposed Australian approach to an exotic disease incursion.
Biodiversity	Variety of life forms including the different plants, animals and micro-organisms, the genes they contain, and the ecosystems they form. Biodiversity is considered at three levels: genetic, species and ecosystem.
Biosecurity	The protection of the economy, environment, human health and social amenities, and ultimately our way of life from the negative impacts of pests, diseases and contaminants.
Clean and green status	The reputation of a country or an industry sector able to demonstrate that it is relatively free from serious animal or plant pests, diseases and contaminants.
Disease	The presence of a pathogenic agent in a host and/or the clinical manifestation of infection that has an impact, or poses a likely threat of having an impact. Disease includes micro-organisms, disease agents, infectious agents and parasites.
Emergency Plant Pest Response Deed (EPPRD) and Emergency Animal Disease Response Agreement (EADRA)	The agreement in place between the Commonwealth, all state and territory governments and industry stakeholders to facilitate rapid response to, control of, eradication and management of animal and plant invasive species and diseases. The deeds set out cost sharing arrangements between the Commonwealth, state and territory governments and industry for emergencies based on predetermined categories of pest or disease.
Eradication	The permanent elimination of the species from the ecosystem which, in practice, means it can no longer be detected by recommended methods of survey and diagnosis.
Invasive species	An exotic species that establishes a wild population and spreads beyond the place of introduction and becomes abundant.
Market access	Includes all the actions undertaken to maintain and improve the access for agricultural products to markets that represent Queensland's trading partners, both national and international.
Natural environment	All living and non-living things that occur naturally on earth.
Outbreak	A new occurrence of a pest or disease requiring an emergency response.
Peri-urban (environments)	Smaller properties based around the perimeter of urban areas.
Phytosanitary measure	Any legislation, regulation or official procedure with the purpose of preventing or minimising the introduction and/or spread of plant quarantine pests.
PLANTPLAN	A set of nationally consistent guidelines covering management and response procedures for emergency plant pest outbreak affecting Australian plant industries.
Quarantine	The legal restrictions limiting the movement of plants and animals.

Recovery	In relation to pests and diseases, means the reconstruction of the physical infrastructure and restoration of emotional, social, economic and physical well being following an emergency response to an outbreak of pest or disease.
Risk management	The culture, processes and structures that are directed towards realising potential opportunities whilst managing adverse effects.
Stakeholders	People and organisations who may affect or be affected by a decision, activity or risk.
Surveillance	A systematic examination and testing of plants or animals or an area to determine the presence or absence of an invasive species.
Weed	A plant that requires some form of action to reduce its harmful effects on the economy, the environment, human health and amenity.

Section 1

Executive summary

1.1 Audit overview

Australia currently holds a 'clean and green status' which means more productive and healthier primary industries and environment and a competitive advantage in accessing export markets. Australia as an island continent, was regarded as having a natural barrier to pests and disease prior to mass air travel and international trade.¹

Queensland's primary industries and environment are now more vulnerable to biosecurity threats, some of which could have devastating economic, social and environmental effects. Recent outbreaks of pests and disease in Queensland include equine influenza, red imported fire ants, citrus canker and Asian honey bees.

Queensland has a diverse and economically significant animal and agricultural production industry. In 2007-08 the total value of Queensland's primary industry commodities is forecast at approximately \$12.3b². More than 60,000 people are employed in the state's primary industries³ which remain the lifeblood of many rural and remote communities.

Because of the potential impact of disease outbreaks on the Queensland community and economy, a performance management systems audit (PMSA) has been undertaken to determine whether adequate systems are in place to prevent, detect and respond to plant and animal biosecurity threats to Queensland's primary industries and environment.

The Department of Primary Industries and Fisheries (DPI&F), through Biosecurity Queensland, is the agency responsible for protecting Queensland's primary industries and environment from pests and disease by detecting and managing biosecurity threats once they have entered the state. However the protection from biosecurity threats involves many parties at international, national, state and local levels including government, industry and community all operating in a complex system.

While prevention, detection and response strategies can be developed to mitigate the risk of biosecurity threats, the risk of the entry of pests and disease cannot be totally eliminated. Pests and disease could enter Australia through a number of pathways including wind, water, migratory birds, illegal smuggling or accidental cargo. As the global movement of goods and people is increasing, so is the risk of pests and disease not being detected prior to entering the country.

1.2 Audit opinion

Biosecurity Queensland was established on 1 March 2007, however the Queensland Government has been responsible for managing biosecurity threats for a considerable time. I therefore expected the systems protecting Queensland's primary industries from pests and disease to be largely in place. I found that Biosecurity Queensland is working towards establishing the appropriate systems to prevent, detect and respond to biosecurity threats and has achieved control and eradication of a number of recent outbreaks including citrus canker and equine influenza.

However, some of the systems to manage biosecurity threats remain incomplete, in part due to staff resources being diverted to emergency situations.

Work that remains incomplete includes:

- the review and update of the legislation relative to biosecurity matters to ensure clarity and consistency and to reflect current operational best practice
- a comprehensive strategy for Biosecurity Queensland clearly articulating its objectives and outcomes
- a risk management framework to identify and prioritise biosecurity threats to Queensland to better inform the decisions being made regarding setting priorities and the effective use of resources

¹ Department of Foreign Affairs and Trade, *Australia in Brief*, www.dfat.gov.au/aib.coming_to_australia.html.

² Department of Primary Industries and Fisheries, *Prospects Update*, June 2008.

³ Australian Bureau of Statistics, *Census*, 2006.

- a communication plan to recognise the diversity of stakeholders and the need to increase awareness on biosecurity matters
- a workforce plan to ensure the sufficient and appropriate resourcing for all Biosecurity Queensland's functions including the ability to maintain ongoing service delivery and systems at the same time as responding to emergencies.

Since its establishment in 2007, Biosecurity Queensland's capacity has been stretched in dealing with emergency responses to consecutive outbreaks. As a result deficiencies in corporate and governance systems have not been addressed in a timely manner.

The better prepared Biosecurity Queensland can be, the more likely it will be able to either prevent an outbreak or efficiently respond in a timely manner and eradicate the threat.

I consider it critical to the protection of Queensland's primary industries and environment that all systems are in place to prevent, detect and respond to biosecurity threats with the aim of eradicating a pest or disease. Having mature systems in place will ultimately reduce the pressure on staff during emergency responses.

1.3 Key findings

The key findings from the audit are summarised below. Detailed findings are in Section 3 of the report.

The review and update of legislation

As a result of consolidating the roles and responsibilities of DPI&F, the Department of Natural Resources and Water (DNRW) and the Environmental Protection Agency (EPA), Biosecurity Queensland is now responsible for 14 different pieces of legislation as well as being affected by other legislation administered by its parent entity DPI&F.

Audit noted that the provisions of the Acts for which Biosecurity Queensland is now responsible are not always consistent nor do they reflect current operational best practice. Having to administer multiple Acts addressing similar issues can lead to delays and inconsistent practices across biosecurity programs.

In its report tabled in March 2007 the Service Delivery and Performance Commission recommended that all legislation dealing with biosecurity be reviewed and updated with drafting instructions prepared for government consideration by 31 October 2007. However, this timeframe has not been met. Biosecurity Queensland reviewed the legislation in June 2008 and audit was advised that drafting instructions are expected to be submitted to government by 31 December 2008.

A Biosecurity Queensland strategy

DPI&F's 2007-08 Ministerial Portfolio Statement (MPS) acknowledged that a separate strategy needed to be developed for Biosecurity Queensland by December 2007.

At the time of the audit this strategy had not been completed. Biosecurity Queensland has prepared a discussion paper on the proposed strategy and the draft strategy is scheduled to be provided to government for approval in early 2009.

Elements already developed include national agreements, the biosecurity emergency operations manual and stakeholder network, however they have not been consolidated to form a single strategy.

Audit understands the delay in developing the strategy is partly due to responding to the equine influenza outbreak. However, the development of a strategy is necessary to enable Biosecurity Queensland to effectively achieve its objectives.

The identification and prioritisation of biosecurity risks

Biosecurity Queensland recognised the need to make decisions based on risk in DPI&F's 2007-08 MPS and set itself a target to develop a risk management framework in the same year. However this was delayed, partly because of resources being diverted to respond to the equine influenza outbreak. A concept paper on the framework is being developed and further work, including a pilot, is planned for 2008-09.

The significant work already done at industry and national level on the identification of major biosecurity threats to animals and plants is being used by Biosecurity Queensland in developing its own framework.

A risk management framework would identify which pest or disease warrants the development of a state specific contingency plan to enhance Biosecurity Queensland's preparedness for a potential outbreak.

A communication strategy

Biosecurity involves a range of stakeholders, including all levels of government, industry bodies, individual commercial primary producers and members of the wider community.

Audit found no evidence of a documented communication strategy which would facilitate communication with all stakeholders. Audit acknowledges that the Queensland Biosecurity Emergency Operational Manual includes a generic communication plan to be actioned in emergency response situations.

Biosecurity Queensland uses a network of industry peak bodies as a forum for consultation on key issues including contingency planning, strategic direction and review of emergency response. However not all primary producers are members of an industry body. This makes it more difficult for Biosecurity Queensland to ensure small or non commercially focused producers are aware of biosecurity issues. Therefore some stakeholders may not be included in consultation or receive timely information on an outbreak.

Workforce planning

Biosecurity Queensland's responsibilities span across a number of primary industry related areas including animal welfare, use of agricultural and veterinary chemicals and market access, as well as the protection of environmental and social amenities. In recent years Biosecurity Queensland has been responding to a number of consecutive, and at times concurrent, outbreaks of pests and diseases.

When an outbreak occurs, it is often an "all hands on deck" situation. Additional people are initially sourced from within Biosecurity Queensland and DPI&F, before external people are engaged.

Regular diversion of staff to emergency responses has a number of impacts including:

- reduced ability to meet the objectives of specific work programs
- rescheduling of functions such as surveillance, research and corporate activities
- deferral of training programs.

Biosecurity Queensland has arrangements in place to secure the assistance of technical staff who would be required in certain types of outbreaks. However there are no formalised arrangements to engage additional field staff, which can be a substantial requirement in an outbreak. The Biosecurity Group Business Plan for 2005-08 identified the need for a workforce plan, however currently no such plan is in place.

Management of Local Government Area Pest Management Plans

Biosecurity Queensland has effective systems in place to monitor and manage affected areas to ensure that further outbreaks are identified and managed as part of the initial emergency response plan. An example of outbreaks currently being managed and monitored are citrus canker, red imported fire ants and equine influenza.

From 1 July 2005, all local governments in Queensland have been required under legislation to implement a state approved Local Government Area Pest Management Plan (LGAPMP). Biosecurity Queensland is responsible for reviewing these plans and records the details of the LGAPMPs in a database. The audit identified that the database is not fully functional and at the time of the audit it was not possible to input new information or update old information.

According to other records, 31 councils in existence prior to the recent local government amalgamations did not have a current approved LGAPMP. Following the local government amalgamations effective from March 2008, Biosecurity Queensland's records show that 15 out of 73 councils do not have plans in place for their new regions as required under the Act. Transitional arrangements allow amalgamated councils to continue to utilise existing pest management plans for the areas within the newly defined local government areas.

1.4 Summary of recommendations

It is recommended that the Department of Primary Industries and Fisheries:

- 1. complete and submit the drafting instructions regarding biosecurity legislation to government without further delay**
- 2. finalise and implement a strategy for Biosecurity Queensland, which clearly states the objectives and how they will be achieved**

3. implement a formal risk management framework to prioritise threats and ensure resources are used effectively
4. based on the risk assessment, consider developing additional state specific contingency plans
5. develop and implement a comprehensive communication strategy for Biosecurity Queensland, which identifies all stakeholders and the most appropriate method of communicating with them
6. develop a workforce plan to ensure continuity of service delivery at all times, including the ability to simultaneously respond to multiple emergencies
7. rectify the issues with the database used to record the Local Government Area Pest Management Plans to ensure it is fully operational
8. ensure all councils provide a current Local Government Area Pest Management Plan for Biosecurity Queensland review and approval.

1.5 Response from the Department of Primary Industries and Fisheries

On 12 August 2008, the Acting Director-General provided the following response:

“Biosecurity Queensland, established on 1 March 2007 as a business group of the Department of Primary Industries and Fisheries (DPI&F), brings together the Queensland Government’s biosecurity resources and functions relating to primary industries and the environment.

Since then, Biosecurity Queensland has successfully eradicated equine influenza, helping Australia become one of the few countries to eradicate the disease. The agency is also concurrently dealing with a number of major new incursions (Hendra virus, Asian mussels and Asian honey bees), continuing the major eradication programs previously being run by DPI&F (Red Imported Fire Ants, citrus canker and electric ants) and undertaking a wide range of weed and pest animal programs.

There has been no detection of citrus canker since May 2005 and eradication is expected to be officially declared in early 2009. No other country has come as close to eradicating fire ants, with Queensland recognised internationally for its expertise in this area.

Biosecurity incidents are expected to become more frequent as the movements of products and people around the world increases, climates and environment change, trade agreements become more common and market requirements intensify.

As such, Biosecurity Queensland is developing a biosecurity strategy which will define the systems, strategies and capabilities needed to prepare for, investigate, respond to and recover from biosecurity risks. Starting from the proposition that ‘biosecurity is everyone’s business’, it will focus on how government, industry and the community can more effectively work together to minimise the biosecurity risk facing Queensland.

The Minister for Primary Industries and Fisheries released a Queensland Biosecurity Discussion Paper on 24 July 2008. Public consultation closes at the end of September 2008, with the final strategy expected to be presented for Government consideration by the end of the year.

Biosecurity Queensland is also reviewing the legislation for which it is responsible to ensure it supports the policy objectives that are expected to be contained in the new Biosecurity Strategy. With the aim of developing a single biosecurity act, the new legislation is expected to be more flexible and less complicated than the current suite of legislation. It will contain a stronger focus on risk management, shared responsibility and duty of care.

Work on the Biosecurity Strategy and legislative review was delayed as resources were diverted to the equine influenza emergency response. Timelines for the Biosecurity Strategy and legislative review have also been brought into alignment to ensure a consistent policy framework is applied to any new legislation.

Biosecurity Queensland is developing a risk management framework to provide greater consistency in prioritising biosecurity investment across a wide range of economic, environmental and social objectives. No models currently exist that captures the complex interrelationships and risk factors that exist in biosecurity and work is underway looking at models from other sectors or disciplines that may be applicable. It is expected that a pilot project will be in place by the end of 2008.

Biosecurity Queensland is also developing a community engagement capability within the agency, focussed on improving communication with industry and the public in all aspects of biosecurity – from helping prevent or identify a biosecurity threat through to emergency response. This function will build on the successful communication strategies and community engagement models employed during the equine influenza emergency response and currently used in the fire ant program.

Biosecurity Queensland and the DPI&F have considerable experience and expertise in mounting emergency pest and disease responses. Nevertheless, it is recognised that emergency response systems are always open to enhancement.

Biosecurity Queensland commissioned an independent review of its emergency response systems which found that while the current approach ‘demonstrates the capability of the highly dedicated staff and relatively small group of experienced incident management staff’, Biosecurity Queensland ‘would be severely taxed if it had to cope with either simultaneous major outbreaks or a serious incident such as foot and mouth disease’. The report contained a series of recommendations relating to organisational structure and capability, IT systems, policies and procedures, and physical resources.

Biosecurity Queensland is currently developing a work program for the reform of its emergency response system, starting with the establishment of an emergency response unit, training of a number of first response teams and development of a basic IT system. This work will be funded internally through diverting existing resources currently employed in lower priority activities. Additional resources will be required to fully implement the recommendations of the independent review.”

Section 2

Audit focus

2.1 Reasons for the audit

This audit has been undertaken in response to the significant economic, social and environmental impact biosecurity outbreaks could have on Queensland.

There has been significant government and community interest regarding plant and animal disease outbreaks in Queensland including equine influenza, red imported fire ants, sugar cane smut and citrus canker over the last few years. Much publicity has also been given to overseas outbreaks of diseases such as foot and mouth disease, avian influenza and mad cow disease. This reflects public, industry and government concerns regarding these diseases.

Examples of biosecurity outbreaks in Queensland since 1994 are outlined in Section 5.1.

2.2 Audit objective

The objective of this audit was to determine whether adequate systems are in place to ensure efficient and effective preparedness for, response to, and management of plant and animal biosecurity threats to Queensland's primary industries and environment.

2.3 Audit scope

Biosecurity refers to "the management of risks associated with pests and diseases"⁴ and encompasses the areas of plants, animals, pests and weeds. Threats can be endemic, recently introduced or not yet present in Queensland. Appropriate management of threats and outbreaks is thus essential to maintaining Queensland's natural environment and primary industries.

DPI&F is the Queensland Government agency responsible for protecting Queensland's primary industries and environment from pests and diseases. The majority of these responsibilities are met by Biosecurity Queensland, a business group within DPI&F. However the management of biosecurity threats involves many parties at national, state and local levels. The role of the Commonwealth Government and industry groups was considered in order to develop an understanding of the overall context in which Biosecurity Queensland operates. This broader context is discussed in Section 5.2 of this report.

This audit focused on Biosecurity Queensland as it is the key agency responsible for implementing the Queensland Government's biosecurity role. Audit field work was conducted from March to June 2008.

The audit concentrated on reviewing the systems in place at Biosecurity Queensland to prevent, respond to, and recover from pests and diseases that threaten the economy and environment. The systems in relation to the following broad areas were assessed during the audit:

- the roles and responsibilities of Biosecurity Queensland
- the communication protocols with stakeholders
- identification and prioritisation of threats
- the allocation of resources to plan and manage threats and allow a timely response according to the assessed risk
- management and monitoring of threats.

Background research, review and analysis were conducted on:

- Queensland Government documents including MPS, Annual Reports and relevant agency publications
- literature and studies, including publications and journal articles from international and Australian jurisdictions

⁴ Department of the Premier and Cabinet, 2007, *Sectorwide Newsletter*, May 2007.

- legislative framework
- deeds and agreements with other agencies and key stakeholders
- frameworks and systems at DPI&F
- public submissions to the independent review of Australia's quarantine and biosecurity systems⁵.

This report also presents two case studies in Section 4. The case study on citrus canker aims to illustrate what happens in an outbreak. The case study on foot and mouth disease (FMD) provides an example of planning and preparation processes for a specific threat.

The audit excluded:

- biosecurity science (diagnostics and research stations)
- animal welfare and keeping
- chemical use and food safety
- threats to human health such as pandemics
- local government management of biosecurity
- biosecurity as it relates to quarantine and customs including import risk analyses (IRA) as this is the responsibility of the Commonwealth
- industry bodies
- terrorism activities
- the fisheries, forestry and logging industries
- controlled release of exotic diseases or pests
- native animals and plants, biodiversity.

2.4 PMSA approach

The legislative basis for this audit is Section 80 of the *Financial Administration and Audit Act 1977* (FA&A Act). A PMSA is an independent examination of whether an entity or part of an entity's activities have performance management systems in place to enable management to assess whether its objectives are being achieved economically, efficiently and effectively. While a PMSA will not review or comment on government policy, it may extend to include a focus on the entity's performance measures and whether in the Auditor-General's opinion, the performance measures are relevant, purposeful and fairly represent the entity's performance.

The intent of a PMSA is to provide independent assurance to the Parliament, and to act as a catalyst for adding value to the quality of public administration by assisting entities in the discharge of their governance obligations. A PMSA has a focus on ascertaining whether the systems and controls used by management to monitor and measure performance, assist the entity in meeting its stewardship responsibilities.

The statutory office of the Auditor-General, as the external auditor for the Parliament, is established pursuant to the FA&A Act. The Auditor-General is independent and is not subject to direction by any person in the way audits are conducted. Although the Auditor-General takes note of the entity's perspective, the scope of a public sector audit is at the sole discretion of the Auditor-General as the FA&A Act prescribes that the Auditor-General may conduct an audit in the way the Auditor-General considers appropriate.

⁵ Independent review of Australia's quarantine and biosecurity system, undertaken by panel of experts chaired by Roger Beale, AO and members – Dr Jeff Fairbrother AM, Andrew Inglis AM and David Trebeck.

Section 3

Findings and recommendations

Of the five programs managed by Biosecurity Queensland, the audit covered the three programs of animals, plants and invasive weeds and pest animals. The audit identified the following improvement opportunities.

3.1 The review and update of legislation

Biosecurity Queensland was established on 1 March 2007 to consolidate the biosecurity roles and responsibilities of DPI&F, DNRW and EPA into one entity. It coordinates the government's efforts to prevent, respond to, and recover from pests and diseases that threaten the economy and environment. In carrying out its roles and responsibilities, Biosecurity Queensland interacts with the Commonwealth, state and territory governments, local governments, industries, the public and other stakeholders.

Legislation for which Biosecurity Queensland is responsible was framed when a number of departments undertook the agency's current roles. Only two of the fourteen different Acts for which Biosecurity Queensland is directly responsible have been enacted since 2000. While the remaining Acts have been amended from time to time, the initial drafting occurred many years ago.

Findings

Audit noted that the provisions of the 14 Acts for which Biosecurity Queensland is now responsible, are not always consistent nor do they reflect current operational best practice. Having to administer multiple Acts addressing similar issues can lead to delays and inconsistent practices across biosecurity programs.

Reviews of the responses to citrus canker in 2004, sugar cane smut in 2006 and equine influenza in 2007 identified the need for clear and consistent legislation as well as dedicated legislative support during an emergency situation to enable effective disease control. For example, when a biosecurity outbreak occurs in animals the requirements of the *Stock Act 1915* and *Exotic Diseases in Animals Act 1981* state different timeframes for the producer to report an outbreak.

Audit noted a lack of clarity between the various Acts and the agreements on entitlements for primary producers affected by an outbreak. For example industry peak bodies confirmed some confusion over the level of compensation growers and farmers are entitled to in the event of an outbreak. If farmers feel they may not receive adequate compensation this may lead to reluctance to report a detected notifiable disease or pest despite legal obligation to do so.

The review by the Service Delivery and Performance Commission (SDPC) undertaken in 2006, recommended that all legislation dealing with biosecurity be reviewed and updated with drafting instructions prepared for government consideration by 31 October 2007. However the drafting has been delayed well past the original date for consideration.

Biosecurity Queensland reviewed the legislation in June 2008 and audit was advised that drafting instructions are expected to be submitted to government by 31 December 2008.

Conclusion

The benefits of consolidating legislation under Biosecurity Queensland includes clearer responsibility and consistency of approach for the prevention, detection and response to biosecurity threats. Coordinated legislative provisions may also enhance the integration and efficiency of the various biosecurity functions.

This is consistent with current trends in Western Australia⁶ and New Zealand⁷ where legislation relating to biosecurity matters has been consolidated.

⁶ State Law Publisher, State of Western Australia, *Biosecurity and Agriculture Management Act 2007*.

⁷ Parliamentary Counsel Office, New Zealand Government, *Biosecurity Act 1993*.

RECOMMENDATION

It is recommended the Department of Primary Industries and Fisheries:

1. **complete and submit the drafting instructions regarding biosecurity legislation to government without further delay.**

3.2 A Biosecurity Queensland strategy

Biosecurity Queensland, as a business unit within DPI&F, is one of the outputs in the Department's planning and reporting framework.

Findings

In DPI&F's 2007-08 MPS, it was acknowledged that a separate strategy needed to be developed for Biosecurity Queensland by December 2007.

At the time of the audit this strategy had not been completed. Biosecurity Queensland has prepared a discussion paper on the proposed strategy and the draft strategy is scheduled to be provided to government for approval in early 2009.

Elements already developed include national agreements, the *Queensland Biosecurity Emergency Operations Manual* and stakeholder network, however they are not consolidated to form a single strategy.

Audit understands the delay in developing the strategy by the timeframe set in the MPS is partly due to the agency having to respond to the equine influenza outbreak. However the development of a strategy for Biosecurity Queensland is critical to enable it to effectively achieve its objectives.

Conclusion

A single comprehensive strategy is needed to clearly identify outcomes and the best method to achieve these.

It is critical that a comprehensive biosecurity strategy be implemented to clarify roles and responsibilities among stakeholders. A comprehensive documented strategy should clearly articulate:

- the objectives and outcomes being pursued, along with strategies to achieve them
- how it is aligned with legislative provisions
- how the Queensland Government, through Biosecurity Queensland, is meeting its obligations at the national level under the agreements in place between the Commonwealth and all state and territory governments
- the operational context, including the roles and responsibilities of key stakeholders such as agricultural industry bodies.

RECOMMENDATION

It is recommended the Department of Primary Industries and Fisheries:

2. **finalise and implement a strategy for Biosecurity Queensland, which clearly states the objectives and how they will be achieved.**

3.3 The identification and prioritisation of biosecurity risks

It is critical that Biosecurity Queensland is able to identify and assess the impact and likelihood of specific disease and pests to ensure resources are used effectively.

The prioritisation of biosecurity risks should consider economic, social and environmental consequences, as well as scientific data on potential entry, spread and establishment of a pest or disease.

A formal risk management framework would enable Biosecurity Queensland to best decide how to prioritise and resource its functions, particularly in the event of multiple outbreaks requiring simultaneous emergency responses when resources are scarce.

Findings

Biosecurity Queensland recognised the need to make decisions based on risk in DPI&F's 2007-08 MPS and set itself a target to develop the framework in the same year. The framework was to consider an actuarial approach to risk management and would enable consistent and transparent decision making across biosecurity programs including setting priorities and directing resources to support all of Biosecurity Queensland's functions.

However, at the time of the audit the development of a risk management framework had been delayed, partly because of resources being diverted to respond to the equine influenza outbreak. A concept paper on the framework was being developed and further work, including a pilot planned for 2008-09.

The significant work already done at industry and national level on the identification of major biosecurity threats to animals and plants, including AUSVETPLAN and PLANTPLAN, is being used by Biosecurity Queensland in developing its own framework.

A risk management framework would prioritise pests and diseases that warrant the development of a state specific contingency plan. This would translate the national strategy into more detailed local procedures. For example, Biosecurity Queensland has completed a state specific avian influenza contingency plan with a greater focus on regional and local operational procedures. This approach complements the national contingency plan and enhances Biosecurity Queensland's preparedness for a potential outbreak of avian influenza.

Conclusion

National and industry planning have identified high risk threats and have developed specific disease response plans for these threats. Federal and state legislation also identify risks that are required to be notified to authorities.

However the lack of a risk management framework at the state level prevents Biosecurity Queensland from making informed decisions regarding setting priorities and the effective use of resources to support all its functions. Biosecurity Queensland cannot be assured that it has identified all threats for which a state contingency plan needs to be developed.

RECOMMENDATIONS

It is recommended the Department of Primary Industries and Fisheries:

- 3. implement a formal risk management framework to prioritise threats and ensure resources are used effectively**
- 4. based on the risk assessment consider developing additional state specific contingency plans.**

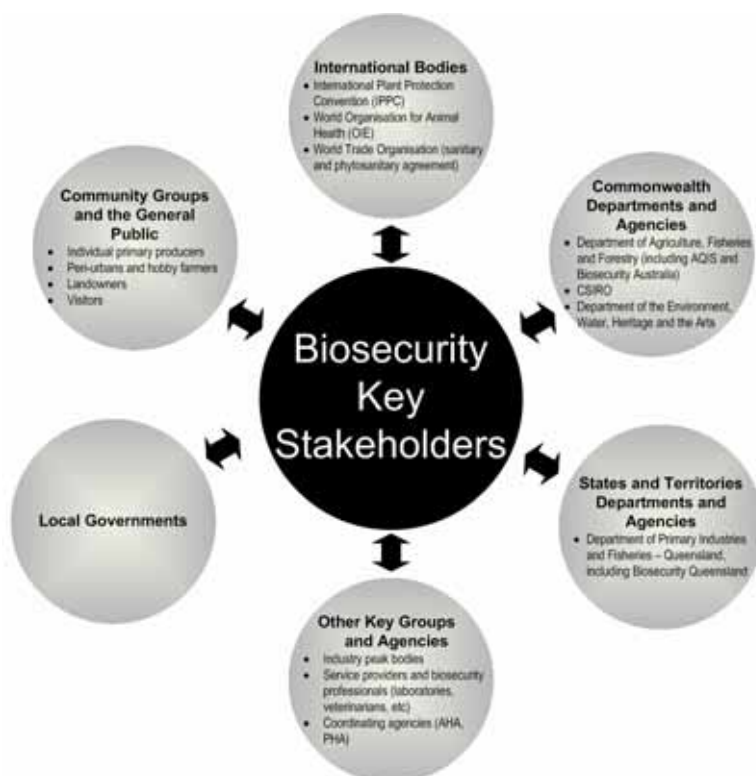
3.4 A communication strategy

A communication strategy is an essential component of biosecurity management and should support the overall biosecurity strategy.

A communication strategy should consider how to increase the general awareness of pests and diseases and ensure stakeholder input into planning and management. The strategy should also consider how critical information in an emergency is disseminated to the affected stakeholders.

Figure 1 shows the stakeholders involved with biosecurity issues, ranging from government agencies at all levels, industry bodies, individual commercial primary producers to members of the wider community.

Figure 1 — Biosecurity key stakeholders



Source: Adapted from *Ministry of Agriculture and Forestry: Management of Biosecurity Risks*, Controller and Auditor-General of New Zealand, November 2004.

All stakeholders need an overall awareness and understanding of biosecurity risks to effectively prevent, detect and respond to pests and disease. Early detection and timely notification will increase the chances of a pest or disease being better controlled, less widely spread and eventually eradicated.

Members of organised industry groups have access to industry information, educational material, training courses and professional advice through their industry organisation, while individuals or non members may not be as well informed with accurate or up-to-date information about pests and diseases.

In a study from the Bureau of Rural Sciences⁸, Department of Agriculture Fisheries and Forestry (DAFF) has recognised that the land uses and management practices of small landholders in peri-urban areas may pose a risk to Australia's biosecurity in terms of agriculture and international trade. The study also identified south-east Queensland as a "peri-urban hot spot".

Findings

Audit found no evidence of a documented or coordinated communication strategy to facilitate the interactions with stakeholders for the purpose of educating and building awareness of biosecurity issues. However, audit acknowledges that the *Queensland Biosecurity Emergency Operational Manual* includes a generic communication plan to be actioned in emergency response situations.

Biosecurity Queensland has a network with industry peak bodies in place, however not all primary producers are members of an industry body. Further, as illustrated in the case study on citrus canker in Section 4.1 of this report, in some industries there are a number of bodies representing growers and farmers. This presents an additional complication for Biosecurity Queensland in communicating efficiently.

Biosecurity Queensland consults with industry bodies on key issues including contingency planning, strategic direction and review of emergency response.

As some small or non commercially focused producers, including residents of peri-urban properties, are not members of an industry body, they may not be identified and therefore not included in consultation or receive timely information. For example at the onset of the equine influenza outbreak, members of the leisure horse industry had not been identified as stakeholders which delayed notification of restrictions.

⁸ Bureau of Rural Sciences, DAFF, *Biosecurity and Small Landholders in Peri Urban Australia*, 2007.

Audit found there was no documented plan to undertake concerted general awareness campaigns throughout the year with the aim of educating small landholders, hobby farmers and the wider community. While audit acknowledges a number of campaigns took place, these were on an ad hoc basis without a formal program coordinated across the agency. The case study on FMD provides an example of national arrangements for public awareness and media support, Section 4.2.

Conclusion

Biosecurity Queensland needs to actively engage with all stakeholders to effectively plan and manage biosecurity risks particularly in a emergency response situation.

Communication and co-ordination systems have been established between Biosecurity Queensland and major stakeholders such as the Commonwealth government, national biosecurity bodies, peak industry bodies and other Queensland government agencies. However it is not clear if all other stakeholders have been identified and additional communication systems to contact them established.

Effective management of biosecurity risks requires organised, consistent communication with many different stakeholders. A communication plan considering all stakeholders could mitigate a number of risks, including:

- people at outbreak sites not recognising significant diseases that should be reported
- biosecurity information from diverse sources being inconsistent
- key stakeholders views not being considered in biosecurity planning.

RECOMMENDATION

It is recommended the Department of Primary Industries and Fisheries:

- 5. develop and implement a comprehensive communication strategy for Biosecurity Queensland, which identifies all stakeholders and the most appropriate method of communicating with them.**

3.5 Workforce planning

Biosecurity Queensland's responsibilities span across a number of primary industry related areas including animal welfare, use of agricultural and veterinary chemicals, market access, as well as the protection of environmental and social amenities. In recent years, DPI&F has been responding to a number of consecutive, and at times concurrent, outbreaks of pests and disease (refer to Section 5.1).

To operate effectively, Biosecurity Queensland needs to have systems in place to ensure sufficient and appropriate resources are available to support all of its functions. This includes a diverse workforce such as specialists, policy officers, project managers and inspectors.

Findings

When an outbreak occurs, it is often an "all hands on deck" situation. Additional people are initially sourced from within Biosecurity Queensland and DPI&F, before external people are engaged.

Regular diversion of staff to emergency responses has a number of impacts on the department, including:

- reduced ability to meet the objectives of specific work programs
- rescheduling of functions such as surveillance, research and corporate activities
- deferral of training programs.

This approach also impacts the ability to address system deficiencies which support effective prevention, planning, detection, preparedness and corporate governance. Audit identified projects which were delayed as a result of dealing with emergencies, including the development of a comprehensive biosecurity strategy and a risk management framework to identify and prioritise biosecurity threats.

Reviews of three separate outbreaks by DPI&F all identified a number of similar operational issues faced in emergency situations, which may have been avoided if lessons learnt from previous outbreaks had been applied. These issues included a lack of qualified human resources, staff performing multiple roles resulting in fatigue and loss of morale, and lack of continuity of staff in key positions (refer to case study 1 on citrus canker, Section 4.1.6).

Biosecurity Queensland has now established an Emergency Response Unit (EMU) that will facilitate a common approach in responding to all types of outbreaks. The EMU will focus on preparedness for biosecurity incidents to enable a rapid, effective and efficient emergency response.

Biosecurity Queensland has arrangements in place to secure the assistance of technical staff that would be required in certain types of outbreaks. However there are no formalised arrangements to engage additional field staff, which can be a substantial requirement in an outbreak. For example, approximately 650 field staff in total have been involved in the red imported fire ant outbreak since 2001, most of whom were employed externally.

The Biosecurity Group Business Plan for 2005-08 identified the need for a workforce plan, though no such plan is currently in place.

Conclusion

A comprehensive workforce plan would assist in adequately planning for staff to ensure continuity of service delivery at all times and limit the impact of emergency responses on other services, projects and priorities. A comprehensive workforce plan would enable the identification of potential gaps in current and future workforce capacity, as well as the skills and knowledge to be developed. It should also consider the additional human resources needed in an outbreak situation.

RECOMMENDATION

It is recommended the Department of Primary Industries and Fisheries:

- 6. develop a workforce plan to ensure continuity of service delivery at all times, including the ability to simultaneously respond to multiple emergencies.**

3.6 Management of local government area pest management plans

Management and monitoring of biosecurity threats is a shared responsibility between all levels of government, industry and other stakeholders.

Biosecurity Queensland's role includes regular surveillance to ensure the early detection of pests and diseases as well as ongoing monitoring programs to detect the re-emergence of a pest and disease after an outbreak.

From 1 July 2005, all local governments in Queensland are required under legislation to implement a state approved LGAPMP. Biosecurity Queensland is responsible for reviewing these plans. LGAPMPs set strategies, activities and responsibilities for pest management at a local level and must be consistent with the principles of pest management and state pest management strategies.

Findings

Biosecurity Queensland officers undertake active surveillance by performing periodic property searches in high risk areas for diseases and pests that may not be detected by private landholders.

The audit found that Biosecurity Queensland has effective systems in place to monitor and manage affected areas to ensure that any further outbreaks are identified and managed as part of the initial emergency response plan. An example of outbreaks currently being managed and monitored are citrus canker, red imported fire ants and equine influenza outbreaks, all of which are expected to wind up in 2009.

In relation to the LGAPMPs, Biosecurity Queensland records the details in a database. However, the database is not fully functional and at the time of the audit it was not possible to input new information or update old information.

According to other records, 31 councils in existence prior to the recent amalgamations did not have a current approved LGAPMP. Following local government amalgamations effective from March 2008, Biosecurity Queensland's records show that 15 out of 73 councils do not have plans in place for their new regions as required under the Act. Transitional arrangements allow amalgamated councils to continue to utilise existing pest management plans for the areas within the newly defined local government areas.

Conclusion

Generally, the audit found effective monitoring and surveillance systems in place. Biosecurity Queensland executes its management and monitoring responsibility by active surveillance of high risk areas and properties to identify and contain outbreaks, as well as implementing emergency response plans which include surveillance activities.

However, the database used to record the LGAPMPs is not fully functional. In addition, not all councils have submitted their plans. These issues prevent Biosecurity Queensland from effectively monitoring and reviewing compliance with the Act.

RECOMMENDATIONS

It is recommended the Department of Primary Industries and Fisheries:

- 7. rectify the issues with the database used to record the Local Government Area Pest Management Plans to ensure it is fully operational**
- 8. ensure all councils provide a current Local Government Area Pest Management Plan for Biosecurity Queensland review and approval.**

Section 4

Case studies

4.1 Case Study 1 – National emergency response to citrus canker in Emerald, Queensland, June 2004

4.1.1 Purpose of case study

The development, findings and conclusions of the case study are based on a number of departmental and independent reports concerning the response to the outbreak in Emerald. DPI&F prepared a number of versions of the Emergency Plant Pest Response Plan for the eradication of citrus canker in Queensland commencing in 2004. The department also prepared a Local Pest Control Centre Citrus Canker Team Debrief for the Emerald area in 2004. The report from the panel appointed by the National Management Group (NMG) dated December 2005 and the Senate hearing into DAFF's administration of the citrus canker outbreak dated June 2006 have also been considered.

The National Citrus Canker Eradication Program (NCCEP), which was established to manage the eradication program subsequent to the completion of the emergency response phase, is still active. Audit was advised it is anticipated that the disease will be declared eradicated in early 2009.

4.1.2 Background

Citrus canker (*Xanthomonas axonopodis* pv *citri*.) is a serious bacterial disease which affects most citrus species and some citrus relatives. There are at least three strains of canker of which the Asiatic or Asian (A) strain is the most damaging⁹. Severe infection may cause defoliation, fruit blemish, premature fruit drop, twig die back and general tree decline.

Citrus canker of the A strain was detected at Emerald in June 2004. Three properties were found to be infested by the pest in this outbreak and as a result of the host-plant destruction program in the Emerald Pest Quarantine Area (PQA) approximately 490,000 commercial citrus trees, 4,870 residential trees and 135,000 native citrus were destroyed. The NCEPP indicative budget for eradication and monitoring amounted to \$18.593m over four years and eight months. However, as a result of cost savings, audit was advised that the expected actual costs will be \$17.8m. This does not include additional costs incurred for surveillance activities in other states and territories to confirm pest freedom following the outbreak, and subsequent compensation and other financial assistance provided to growers.

A number of relatively minor outbreaks of citrus canker have been detected in Australia between 1912 and 1995. Each case was subsequently successfully eradicated¹⁰. The Senate hearing into the citrus canker response found that one of the most likely ways the disease has been able to enter Australia is through the importation of plant material or fresh fruit from overseas¹¹.

4.1.3 Roles and responsibilities

The response to the citrus canker outbreak was managed by Queensland, being the state where the outbreak occurred, with strategy input provided by the Commonwealth and other state and territory governments.

Queensland is represented by the Minister of Primary Industries and Fisheries on the Primary Industries Ministerial Council (PIMC) with other members being ministers from the Commonwealth, states and territories. The Director-General DPI&F represents Queensland on the Primary Industries Standing Committee (PISC). These bodies provide oversight to the national biosecurity framework including emergency response planning. Cost sharing for nationally agreed plant disease responses is addressed in the EPPRD, which details agreed cost shares between the Commonwealth, the states and territories and industry. PLANTPLAN, Australia's response plan for the management of emergency plant diseases and pests, is a schedule to the EPPRD.

⁹ NCCEP v4, December 2006, p.4.

¹⁰ NCCEP v4, December 2006, p.6.

¹¹ Senate inquiry into Citrus Canker Outbreak, June 2006.

As the EPPRD was not ratified at the time of the outbreak, the PLANTPLAN was also not a formally adopted document. The draft PLANTPLAN existing at the time was used as a guide/model during the outbreak.

A *Draft Contingency Plan for Citrus Canker* had been prepared prior to the incursion by the Office of the Chief Plant Protection Officer DAFF, in consultation with Australian citrus industry organisations, in March 2004 and it was also used as a guide/model during the outbreak.

A national Consultative Committee on Emergency Plant Pests (CCEPP) was convened to develop the control and eradication program¹² and advise the NMG. Queensland's interests are represented on the CCEPP by the Chief Plant Health Manager for Queensland DPI&F. Plant Health Australia (PHA) and Australian Citrus Growers, representing industry, are non-voting members of the committee, and Queensland Citrus Growers and Growcom often attend CCEPP meetings as observers.

The NMG is a national decision making body chaired by the Secretary of DAFF and comprising the Director-Generals of all state and territory agricultural agencies. The Chair of PHA and the President of Australian Citrus Growers are also non-voting members of NMG for the citrus canker response¹³.

In April 2005, the NMG established a panel to review and assess the overall effectiveness and efficiency of the response framework¹⁴. The report to the NMG identified that roles and responsibilities were not clear between the Commonwealth and state and territory governments. The Australian Citrus Growers was the body identified to represent the citrus industry¹⁵. However, there was no defined role for the two Queensland industry bodies concerned (Queensland Citrus Growers and Growcom).

The response phase, the first six weeks of the outbreak, until August 2004, was managed by DPI&F using an interim response plan, Version 1 of the Emergency Plant Pest Response Plan for the eradication of citrus canker in Queensland, which was largely based on the *Draft Contingency Plan for Citrus Canker*. Further versions of the response plan were subsequently developed and implemented during the course of the eradication program. In September 2004, the NCCEP (program phase) was established as a discrete business unit within DPI&F and assumed responsibility for managing and implementing the eradication program in October 2004.

The NCCEP Program Manager reports to the General Manager, Plant Biosecurity, DPI&F. The Program Manager is responsible for the achievement of the program's milestones and targets. An Operations Coordinator based in Emerald is operationally responsible for surveillance, destruction and disposal, quarantine and movement control in the PQA. All field staff either directly or indirectly report to this position¹⁶. Field staff are expected to remain in place until 31 December 2008, with the operational management team to remain in place close to the anticipated end of the program.

The DPI&F Local Pest Control Centre (LPCC) Citrus Canker Team Debrief for the Emerald area in 2004, identified that during the emergency response phase within the PQA, senior DPI&F staff at that LPCC were performing multiple roles which led to staff morale issues. Furthermore, staff induction procedures at that LPCC were incomplete, which resulted in staff in the field not clearly understanding their roles and responsibilities.

4.1.4 Communication with stakeholders

Key stakeholders included the Commonwealth, state and territory governments, PHA, the citrus growing industry, the affected farmers and the community of Emerald. The report to the NMG identified limitations to the effective coordination of stakeholders during the response, including industry perceptions that confidentiality provisions of the deliberations of the NMG and CCEPP prevented the dissemination of accurate and up-to-date information to affected growers and relevant industry sectors.

As Queensland Citrus Growers and Growcom were not involved in the decision making at NMG level, there was some concern amongst farmers, especially during the period when their crops were destroyed, that decisions were being made about the future of the farms with minimal consultation with growers or consideration of the local area¹⁷. Further, industry bodies have voluntary membership and may not represent all affected farmers.

¹² Senate inquiry into Citrus Canker Outbreak, June 2006.

¹³ Senate inquiry into Citrus Canker Outbreak, June 2006.

¹⁴ Report to the NMG National Citrus canker review, December 2005.

¹⁵ Report to the NMG National Citrus canker review, December 2005.

¹⁶ NCCEP v4, December 2006, pp62-63.

¹⁷ Report to the NMG National Citrus canker review, December 2005.

Growers were concerned about the inability to access domestic markets, which was exacerbated by different messages from government agencies and industry. There was also confusion about compensation to affected farmers because no direct provision for compensation was provided under State legislation for the destruction of diseased plants at the time of the outbreak. Compensation was subsequently provided to growers for destroyed commercial citrus trees that were not found to be infected with citrus canker through the Queensland Rural Adjustment Authority.

4.1.5 Identification and prioritisation of risks

In March 2004, the PHA National Citrus Industry Biosecurity Plan – Pest Risk Review rated the entry, establishment and spread potential of citrus canker as high, whilst the economic impact was rated as medium to high.

The Senate hearing into the citrus canker response (2006) heard evidence that the Australian Quarantine and Inspection Service (AQIS) was made aware of possible illegal entry of plant material into the Emerald region on 12 June 2001¹⁸.

The *Draft Contingency Plan for Citrus Canker* developed by the Office of the Chief Plant Protection Officer formed the basis for the emergency response. Specific issues that evolved during the course of the response required that the response plan for the incursion had to be periodically modified. Each modification had to be approved by the NMG to ensure the program's cost-sharing partners, the Commonwealth government and other citrus growing states, had agreed to the proposed course of action and indicative budget detailed in the plan.

Prior to quarantine measures being put in place, typical orchard cultural practices as well as daily human activity increased the risk of further spread and establishment of the disease through contact with infected and diseased plants.

4.1.6 Resourcing including workforce planning

Resourcing an emergency response requires access to appropriately trained human resources, information technology, equipment and vehicles, communications, diagnostic facilities, detection, mapping and surveillance capacity, funding, legal and office and domestic accommodation. The demands placed on DPI&F to manage the response placed strains on existing resources.

Funds are available under the EPPRD if the emergency response is a national response and decision is made to eradicate the pest or disease. If the NMG decides that the pest or disease cannot be eradicated then the State Government may choose to continue to fund the management of the outbreak in the interest of the state.

The Commonwealth and Queensland government and industry, represented by Growcom, agreed to an owner reimbursement and re-establishment package for growers on 10 August 2005 for trees that were to be destroyed that were not known to be infested at the time. It was to be equally funded by the Australian Government and the Queensland Government (40 per cent each) with a co-contribution from the citrus industry (20 per cent)¹⁹.

There were significant operational issues in managing resources for the emergency response to citrus canker. The DPI&F review of the response to the citrus canker outbreak found that there was no established process to follow in relation to sourcing external staff at the operational level such as the LPCC and State Pest Control Headquarters (SPCHQ).

Audit was advised that in emergency situations some staff were obtained from the general labour market. These staff were not previously experienced in biosecurity control procedures, and without adequate training and monitoring, had the potential to cause cross contamination of disease free plants. Further, these staff may not have been fully aware of the Department's policies and procedures which could limit effective prevention and control of spread of the outbreak.

A review by DPI&F into the citrus canker response phase noted a number of issues relating to staff:

- shortage of appropriately trained human resources resulting in multiple roles for staff leading to fatigue
- lack of continuity of staffing leading to inconsistencies in operational policies
- incomplete induction procedures at the LPCC for new staff leading to poor operational practices

¹⁸ Senate inquiry into Citrus Canker Outbreak, June 2006.

¹⁹ Senate inquiry into Citrus Canker Outbreak, June 2006.

- employment of staff on differing employment contracts, pay rates and conditions resulting in staff morale issues.

The DPI&F review identified significant issues with IT availability and use of different systems and insufficient training for staff on GPS and data input systems at the LPCC leading to poor data quality.

4.1.7 Management and monitoring

The program is continuing to be implemented and managed through the NCCEP under the direction of the NMG and CCEPP. The surveillance phase will be complete on 31 December 2008, providing that no further disease is detected. The NCCEP is expected to report outcomes of the program to the NMG by 15 January 2009. It is anticipated that the NMG will declare Queensland 'disease free' by 31 January 2009. Disease free status is important to the unimpeded resumption of domestic and international trade in citrus fruit grown in the Emerald district. Amendments to the *Plant Protection Regulation 2002* made provision for an inspector to approve the movement of host plants into the Pest Quarantine Area for replanting at the end of the host-free period from 1 July 2007²⁰.

A review of the initial response by DPI&F identified that controls over public assets and funds could have been better managed. Audit found that during the initial response to an emergency, operational controls were not a priority.

4.1.8 Conclusion

The response to the citrus canker outbreak in Emerald was complex due to a wide range of factors.

Communication with stakeholders was particularly difficult because of the lack of clarity of the roles and responsibilities of all of stakeholders.

Resourcing the response placed stress and pressure on existing staff who were diverted from other activities, with additional staff required to be found from other sources. The initial response did not place a priority on corporate governance and controls over public assets and funds.

As well as a national review, Biosecurity Queensland will also conduct a review at the completion of the program contributing to the national review. Implementation of a quality systems approach through the NCCEP has resulted in a detailed operational manual being completed which provides detailed guidance to Biosecurity Queensland officers in the event of a canker outbreak recurrence. The manual has been written as far as possible in generic terms so that it could be easily modified to form the basis of a manual for any other significant plant biosecurity outbreak response.

4.2 Case Study 2 – National and Queensland preparedness for foot and mouth disease

4.2.1 Purpose of case study

This case study provides an example of the planning and preparation process for specific threats.

4.2.2 Background

Foot and mouth disease (FMD) is a viral disease which can affect cloven-hoofed animals, including cattle, sheep, pigs, goats, camels, alpacas and deer (horses are not susceptible)²¹. It is regarded by the World Organisation on Animal Health (OIE) as one of the most severe epidemic animal diseases. Although not lethal in adult animals, it causes serious production losses and may severely impact Queensland's meat exports.

FMD is one of the most contagious animal diseases and is widespread throughout the world. Currently Australia is one of only 64 countries that are FMD free. The primary method of transmission within herds and flocks is by direct contact or via respiratory particles and droplets from infected animals. The spread of infection between properties and areas is frequently due to movement of infected animals or contaminated vehicles, equipment, people and products.

²⁰ Department of Primary Industries and Fisheries, http://www.dpi.qld.gov.au/cps/rde/dpi/hs.xsl/4790_5370_ENA_HTML.htm.

²¹ AUSVETPLAN Edition 3.0 Version 1.0, August 2002, p48.

Queensland, because of its disease free status, is able to obtain premium prices for meat exports to Japan, the United States of America, Korea and the European Union. The impact of FMD would closely correlate with how quickly it is identified and contained. However a single case of FMD would immediately shut down cattle export markets, which is Queensland's leading primary industry in production value. The impact would not only be felt in rural areas, but major employment losses would occur in associated industries throughout Australia.

4.2.3 Roles and responsibilities

Border security for preventing FMD entering Australia rests with AQIS. In the event of an outbreak, a national FMD disease strategy has been agreed to by Commonwealth, states and territory governments and industry bodies. This strategy forms part of AUSVETPLAN and details the proposed Australian approach to an emergency outbreak. Based on sound analysis, the document details a range of methods to prevent the spread and eradicate the disease, including surveillance, treatment, decontamination, vaccination and public awareness.

Further to the FMD disease strategy, AUSVETPLAN also includes national operational procedures manuals and management manuals. Industry specific information is provided in relevant enterprise manuals.

The Emergency Animal Disease Response Agreement (EADRA) has also been established between the Commonwealth, state and territory governments and livestock industry groups. The deed centres around cost sharing arrangements in an emergency response, but also includes participation and cooperation, risk management, detection, response, training commitments.

In the event of a FMD outbreak, states and territories would provide the frontline response. However, because an outbreak would significantly impact the national economy, the response will require national coordination. A memorandum of understanding (MOU) agreeing to a nationally coordinated response to a FMD outbreak, exists between the Commonwealth and all states and territories. This MOU is intended as a high level document to guide cooperative measures for handling a FMD outbreak. It establishes a national coordination framework, defines roles and responsibilities and seeks to ensure close integration of action within and across jurisdictions and effective communication with affected individuals and organisations, the Australian public and Australia's trading partners. The agreement also recognises the EADRA and the use of AUSVETPLAN.

The *Queensland Biosecurity Emergency Operations Manual* details the actions that should be taken in the event of an emergency pest or disease outbreak. The Queensland Disaster Management System coordinated by the Department of Emergency Services, would also support a FMD response.

Further to AUSVETPLAN, DPI&F has documented a livestock Standstill Zone Management Plan, to stop the movement of stock and minimise the spread of an animal disease in Queensland during an emergency. This would be a critical procedure in the event of a FMD outbreak.

4.2.4 Communication with stakeholders

Currently coordination with stakeholders, including those involved in the livestock industry, livestock producers, peak industry bodies, the meat industry, the Commonwealth, state and territory governments occurs through various national and state committees and workshops and peak industry bodies communicating to members.

National arrangements are in place for public awareness and media support including a national call centre, web site, pre-approved advertisements and a national pool of accredited government public relations staff to undertake a communications role in a major pest or disease emergency.

Queensland response agencies are engaged through the State Disaster Management Group system involving regular briefings and also exercises through the District Disaster Management Group system.

A Standstill Zone Management Group has also been established, which includes representatives from all agencies that would be involved in the event of a standstill of moving stock at the time of an outbreak. Industry is also engaged in this group.

Two recent Queensland training exercises specifically for FMD have been held including Rawhide (Darling Downs) in 2005 and Droopy Mouth Fever (Gulf of Carpentaria) in 2007. These exercises tested the emergency procedures in place across Queensland Government. The shared training events contributed to ensuring a coordinated approach during an emergency.

State and national coordination processes in the event of an emergency are documented in the *Queensland Biosecurity Emergency Operations Manual*. A response would involve the NMG, Consultative Committee for Emergency Animal Diseases (CCEAD), State Disease Control Headquarters (SDCHQ) and Local Disease Control Centre, plus any other response/recovery groups set up to handle specific situations.

4.2.5 Identification and prioritisation of risks

DPI&F has also identified the risks of a FMD outbreak for Queensland and Australia, and has published an economic model of the predicted implications²². The model estimated that a long-term export market closure (six years) would cost Queensland's economy approximately \$9.5b and take 15 years before the economy recovered. A short term export market closure (two years) would result in economic losses of \$2.4b to the state, requiring three years for the economy to recover.

As a result of the possible impact of FMD on Australia, a national FMD simulation exercise, Minotaur, was conducted in 2002. The purpose of the exercise was to see how various levels of government would work together, evaluate further improvements to existing plans and to train people who may be involved in a response. A number of findings from the exercise have been addressed to enhance Queensland and national biosecurity arrangements, including the formation of the National Rapid Response Team for emergency animal diseases, involving nine senior operational staff from Queensland.

4.2.6 Resourcing including workforce planning

Financial cost sharing between the Commonwealth and states and territories is covered under the EADRA for costs over and above normal commitments. As it is difficult to predict the size of an emergency, financial estimates for an outbreak of FMD have not been developed.

In the event of a disease outbreak a CCEAD is formed under DAFF and will determine the response options and resourcing needs. In relation to specialised staff, the Australian Veterinary Reserve of approximately 100 veterinarians Australia-wide has been established. Government veterinarians can also be called upon as well as private industry. Further, the Quad Lateral Agreement between, Australia, USA, New Zealand and Canada, provides for sharing of veterinarians between countries.

If required, FMD vaccines may be sourced from an international vaccine bank under a national contract. However stock may be limited.

4.2.7 Management and monitoring

Border security for preventing FMD entering Australia rests with AQIS. Queensland Biosecurity also undertakes surveillance through a variety of standard methods including, investigation of field reports by a field team, inspection of stock slaughtered for human consumption and general observation of stock as part of normal duties of inspectors at saleyards and tick clearance centres.

There is a legal obligation for all persons to report a suspected emergency animal disease to the Emergency Animal Disease Hotline or an inspector within 24 hours so that it can be investigated and isolated if found to be contagious.

The control strategy if an outbreak is detected, is to eradicate the disease as quickly as possible in order to reinstate Australia's disease-free status for trade purposes. During a response situation, a targeted surveillance strategy would be formed in response to the outbreak and field surveillance teams would be set up to implement the surveillance strategy.

4.2.8 Conclusion

Biosecurity Queensland in consultation with industry and national bodies has comprehensively analysed the possibility of a FMD outbreak in Queensland and the impact it may have.

A range of detailed FMD response policies and procedures have been documented and agreed at the national level. Biosecurity Queensland has significant experience to draw on in the event of an emergency and has developed and tested a range of emergency response procedures to combat pest and disease outbreaks.

²² S Dent, Department of Primary Industries and Fisheries, *Foot-and-Mouth Disease Outbreak: modelling Economic Implications for Queensland Australia*, 2001.

Section 5

Appendices

5.1 Recent biosecurity outbreaks in Queensland

Table 1 — Examples of biosecurity outbreaks in Queensland ²³

Date	Nature of the Emergency	Consequences	Outcome	Source
1994	Hendra virus in 20 horses in stables in Brisbane area.	1 man (horse trainer) died, 13 horses died and 7 destroyed.	1st time reported in world.	'Spill-over' from endemic infection in flying foxes.
1995	Papaya fruit fly in Far North Queensland.	Trade bans, interstate fruit movement restrictions.	Eradication program 1995 to 1999.	Likely to have been blown by winds from nearby Torres strait islands.
1995	Hendra virus in 2 horses near Mackay.	1 man died. 2 horses died.	Diagnosis only. Development of vaccines and treatments.	'Spill-over' from endemic infection in flying foxes.
1999	Hendra virus in a single horse near Cairns.	1 horse died.	Diagnosis only. Development of vaccines and treatments.	'Spill-over' from endemic infection in flying foxes.
2002	Anthrax near Wandoan, Southern Queensland.	A few cattle died and some trade and export implications.	Quarantine and vaccination of two affected properties and surrounding properties.	Presumed re-emergence of spores on index property.
2002	Small hive beetle Beerwah.	Significant to affected areas in so far as honey production. Impact on exports of live bees.	Endemic in areas listed. Management plan implemented.	Introduced from overseas, route unknown.
2001 (ongoing)	Red imported fire ant in Brisbane area. Possibly present up to five years in Australia prior to detection.	Potential problem to several sectors, including agriculture, infrastructure, human health and the environment.	Eradication program implemented.	Potential entry may have been associated with imported infested cargo or containers

²³ Cases prior to 1995 and post 2004 sourced from Department of Primary Industries and Fisheries' website. Other cases adapted from Australian National Audit Office, *Pest and Disease Emergency Follow-up Audit — Dept of Agriculture, Fisheries and Forestry Audit Report No 34 2002-03*.

Date	Nature of the Emergency	Consequences	Outcome	Source
2001–2002	<p>Black sigatoka, Tully, North Queensland.</p> <p>First case where the disease was detected in commercial growing areas.</p> <p>Disease was detected on 15 properties.</p>	Affects banana leaves, reducing crop productivity.	<p>Eradication program implemented with follow up program conducted by banana industry.</p> <p>No further detection has been made since the initial detections.</p>	The disease is regularly detected in Far North Queensland.
2001 (ongoing)	<p>Red banded mango caterpillar, Torres Strait Island and Cape York Peninsula.</p> <p>Detected by North Australian Quarantine Strategy surveillance program.</p>	Yield losses. Potential imposition of national and international quarantine restrictions.	Little scope for major response until more information on biology of pest is available.	Potential natural spread from Torres Strait Islands.
2002 (ongoing)	<p>South African citrus thrips in Brisbane area.</p> <p>Detection was made on ornamental pot plants and thought to have escaped from research station.</p>	Causes damage through scarring leaf and fruit tissue on a variety of crops, including citrus, mangoes, bananas among others, and several amenity and Australian native species.	<p>Infested planting material has been destroyed.</p> <p>Delimiting surveys implemented.</p>	Potential entry through imported research material.
2004	Hendra virus in a single horse in Townsville.	1 horse died.	Diagnosis only. Development of vaccines and treatments.	'Spill-over' from endemic infection in flying foxes.
2004	Citrus canker in Emerald.	Caused by bacteria and marks unsightly lesions on fruit. Citrus canker is a serious disease impacting on citrus production.	<p>Eradication program implemented.</p> <p>No further detection of this has been made since the initial detections.</p>	Possible introduction of new citrus variety from overseas.
2006	Electric ants in Cairns area.	The electric ant is an environmental pest and is listed as one of the world's worst 100 invasive species.	No new outbreaks since 2007.	Introduced from overseas, route unknown. Possibly from Central and South America.

Date	Nature of the Emergency	Consequences	Outcome	Source
2006	Sugarcane smut in Mackay and Childers.	The disease is caused by the fungus and is highly infectious and can be spread by wind. Sugarcane smut is a serious disease of sugarcane, which can reduce yields by 30-100%.	Eradication measures unsuccessful. In Queensland, only approved sugar cane varieties can now be planted. This helps manage pests and diseases within the industry provisions.	Possibly South East Asia.
2007	Equine influenza in Warwick.	Equine influenza is rapidly spread through close direct contact between horses. Infected horses excrete the virus in their expired air for up to 14 days after initial infection. Coughing contributes to the spread.	Eradication program implemented. No further detection has been made since the initial detections.	Disease was first detected in Sydney region New South Wales and attributed to import of thoroughbreds from Japan.
2008	Hendra virus in Brisbane area.	Total impact yet to be determined.	Quarantine of veterinary clinic. Testing of veterinary staff and 37 horses.	Unknown.

5.2 Responsibilities and activities

The Commonwealth is largely responsible for managing biosecurity threats before they reach Australia (pre-border and border). The management of, and response to, biosecurity threats requires a coordinated approach. While the states and territories are responsible for controlling and eradicating pests and disease within their own jurisdiction, the Commonwealth has negotiated national agreements on actions and funding for biosecurity threats that breach border security (post-border). Weak pre-border and border controls may put more pressure on post-border detection, eradication and management of pests and disease.

The following table lists the various biosecurity activities and who is responsible for implementing them.

The relationships between the various agreements, plans and strategies are outlined in Figure 2 – Brief overview of national biosecurity commitments – agreements, strategies and guidelines.

Table 2 – Biosecurity responsibilities and activities

Activity	Responsibility
Pre-border	
Participating in international standard setting and representing Australia's interest at the international level. For example through membership in international committees such as: <ul style="list-style-type: none"> – World Organisation for Animal Health – International Plant Protection Convention – Committee on Sanitary and Phytosanitary Measures to promote harmonisation of international standards for animal and plant health and food safety. 	Commonwealth Department of Agriculture, Fisheries and Forestry, through: <ul style="list-style-type: none"> – Biosecurity Australia – Product Integrity Animal and Plant Health Division (PIAPH) – also supported by the International Division.
Ensuring international obligations are met, including notification and reporting requirements.	
Undertaking risk analysis in relation to animals, plants and other goods proposed for import.	
Gathering and maintaining global pest and disease intelligence (including through bilateral and multi-lateral cooperation).	
Developing offshore quarantine and biosecurity arrangements where appropriate.	
Assisting to build capacity in overseas countries to counter the spread of disease.	
Border	
Enforcing border restrictions against products, animals and people that may be carriers of biosecurity threats.	Commonwealth Department of Agriculture, Fisheries and Forestry, through AQIS.
Managing quarantine controls and procedures to minimise the risk of exotic pests and diseases entering the country.	
Post-border	
National coordination and response to pest and disease incursions, including cost sharing deeds. National agreements and guidelines include: <ul style="list-style-type: none"> – AusBIOSEC (intergovernmental agreement on enhancing the Australia Biosecurity System for Primary Production and the Environment) – Emergency Plant Pest Response Deed (EPPRD) and Emergency Animal Disease 	Commonwealth, state and territory governments and industry. Authority for the development and maintenance of PLANTPLAN rests with Plant Health Australia (PHA) and authority for the development and maintenance of AUSVETPLAN rests with Animal Health Australia (AHA) . Both these organisations are not-for-profit public companies owned by

Activity	Responsibility
<p>Response Agreement (EADRA) between the Commonwealth, state and territory governments and industry stakeholders</p> <ul style="list-style-type: none"> – PLANTPLAN (nationally consistent guidelines covering management and response procedures for emergency plant pest outbreaks) – AUSVETPLAN (national contingency planning framework for the management of animal disease emergencies in Australia). 	<p>industry, Commonwealth, state and territory governments and industry service organisations. PIAPH also assists in the development of sector specific response plans such as AUSVETPLAN and PLANTPLAN.</p>
<p>Emergency preparedness (including planning, resourcing, practice simulations and education and awareness).</p>	<p>Commonwealth, state and territory governments, local governments and industry bodies.</p>
<p>Monitoring and surveillance.</p>	<p>State and territory governments, industry and the community.</p>

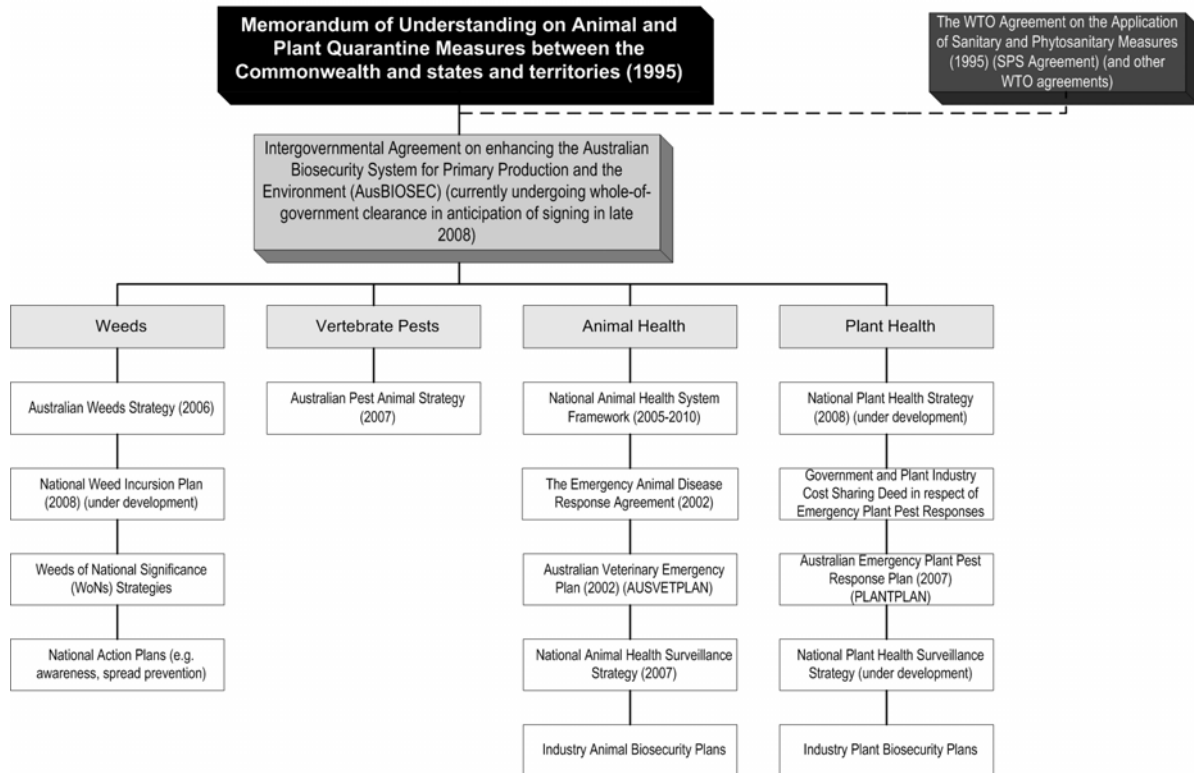
5.3 Stakeholders

Stakeholders coordinate their approach to biosecurity risk through a number of committees and sub-committees, some of which are only activated when an emergency response is required. These committees focus on a range of issues, from scientific, operational, policy to program coordination. According to information available from DAFF's website, they include but are not limited to:

- the **Primary Industries Ministerial Council (PIMC)** — membership consists of State and Territory primary industries ministers and is chaired by the Federal Minister for Agriculture, Fisheries and Forestry
- the **Primary Industries Standing Committee (PISC)** — membership consists of the Chief Executive Officers of State and Territory and Commonwealth Government departments of agriculture (or equivalents), as well as a representative from New Zealand
- the **National Biosecurity Committee (NBC)** — it is expected that from 1 July 2008, the new NBC will become the new advisory committee to the PISC and the PIMC - replacing the Primary Industries Health Committee (PIHC). All primary industries health issues, including environmental and animal and plant biosecurity issues, will be scrutinised by the new NBC prior to submission to PISC and PIMC
- **Animal Health Australia (AHA)** — a not-for-profit company established by the Commonwealth, state and territory governments and major livestock industry organisations. The company's mission is to ensure the national animal health system delivers a competitive advantage and preferred market access for Australia's livestock industries
- the **Animal Health Committee (AHC)** — provides scientific and technical advice on animal health issues to PISC. Membership comprises of Commonwealth, State and Territory and New Zealand Chief Veterinary Officers and representatives from the CSIRO Australian Animal Health Laboratory, Biosecurity Australia, AQIS, and Animal Health Australia
- the **Sub-Committee on Emergency Animal Diseases (SCEAD)** — provides advice to AHC on operational arrangements relating to emergency animal disease incidents including prevention, preparedness and response, including cross-border issues, relevant legislation and resourcing issues
- the **Consultative Committee on Emergency Animal Diseases (CCEAD)** — meets when required to coordinate the national response to emergency animal disease incidents
- the **National Emergency Animal Disease Management Group (NEADMG)** — reviews the advice given by CCEAD relating to emergency disease response policy and funding mechanisms. It comprises of the Chief Executive Officers of State and Territory and Commonwealth Government departments of agriculture (or equivalents), as well as industry representatives
- the **Plant Health Committee (PHC)** — a national committee that develops plant health policy, capacity and capability in Australia. The committee provides advice to the PISC on plant health issues
- the **National Emergency Plant Disease Management Group (NEPDMG)** — receives advice from the CCEPP and makes decisions about the response strategy and funding mechanisms. Its members are the Chief Executive Officers of Commonwealth and State and Territory departments of agriculture, as well as relevant national industry representatives
- **Plant Health Australia (PHA)** — the peak national body for plant health in Australia. PHA coordinates the development of national policy and capability to enhance the ability of Australian agriculture to respond effectively to plant pests, weeds and diseases
- the **Consultative Committee on Emergency Plant Pests (CCEPP)** — convened when required to coordinate the national response to an emergency plant pest or disease. It provides advice to the NMG
- the **Consultative Committee on Exotic Plant Incursions (CCEPI)** — the key body that coordinates responses of exotic weed incursions susceptible to affect Australia's agricultural industries and environment. The committee provides an information exchange forum on exotic weeds and facilitates cooperation between parties
- the **Surveillance Reference Group (SRG)** — a subcommittee of PHC and oversees the development of the National Plant Health Surveillance Framework for Australia. The group membership includes representation from State and Territory agencies with surveillance capabilities and expertise

- the **Australian Weeds Committee** — provides a mechanism across Commonwealth, state, territory and local governments for the identification and resolution of weed issues on behalf of Natural Resource Management Ministerial Council.

Figure 2 — Brief overview of national biosecurity commitments – agreements, strategies and guidelines



Source: Adapted from *Queensland Biosecurity - A discussion paper - information booklet*, Department of Primary Industries and Fisheries, 2008.

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www.animalhealthaustralia.com.au	Animal Health Australia
www.agis.gov.au	Australian Quarantine and Inspection Service
www.audit.vic.gov.au	Victorian Auditor-General's Office
www.csiro.au	Commonwealth Scientific and Industrial Research Organisation
www.daff.gov.au	Department of Agriculture, Fisheries and Forestry
www.dpi.qld.gov.au	Department of Primary Industries
www.environment.gov.au	Department of the Environment, Water, Heritage and the Arts
www.epa.qld.gov.au	Environmental Protection Agency
www.ippc.int	International Plant Protection Convention Secretariat
www.legislation.qld.gov.au	Office of the Queensland Parliamentary Counsel – Queensland Legislation
www.nao.gov.uk	National Audit Office, United Kingdom
www.oag.govt.nz	Office of the Auditor-General, Audit New Zealand
www.oag-bvg.gc.ca	Office of the Auditor-General, Canada
www.oie.int	World Organisation for Animal Health
www.outbreak.gov.au	National Pests and Disease Outbreaks
www.pc.gov.au	Australian Government, Productivity Commission
www.planthealthaustralia.com.au	Plant Health Australia
www.quarantinebiosecurityreview.gov.au	Australian Government, Quarantine Biosecurity Review
www.sdpc.qld.gov.au	The Premier of Queensland, Service Delivery and Performance Commission
www.weeds.gov.au	Australian Government, Weeds in Australia
www.weeds.org.au	Weeds Australia, An Australian Weeds Committee National Initiative
www.wto.org	World Trade Organisation

5.4.3 Acronyms

AHA	Animal Health Australia
AHC	Animal Health Committee
AQIS	Australian Quarantine and Inspection Service
CCEAD	Consultative Committee on Emergency Animal Diseases
CCEPI	Consultative Committee on Exotic Plant Incursions
CCEPP	Consultative Committee on Emergency Plant Pests
CSIRO	Commonwealth Scientific and Industrial Research Organisation
DAFF	Department of Agriculture, Fisheries and Forestry
DNRW	Department of Natural Resources and Water
DPI&F	Department of Primary Industries and Fisheries
EADRA	Emergency Animal Disease Response Agreement
EPA	Environmental Protection Agency
EPPRD	Emergency Plant Pest Response Deed
FMD	Foot and Mouth Disease
LGAPMP	Local Government Area Pest Management Plan
LPCC	Local Pest Control Centre
NBC	National Biosecurity Committee
NCCEP	National Citrus Canker Eradication Program
NMG	National Emergency Animal Disease Management Group
OIE	World Organisation of Animal Health
PHA	Plant Health Australia
PHC	Plant Health Committee
PIAPH	Product Integrity Animal & Plant Health Division
PIMC	Primary Industries Ministerial Council
PISC	Primary Industries Standing Committee
PQA	Pest Quarantine Area
SCEAD	Sub-Committee on Emergency Animal Diseases
SDPC	Service Delivery and Performance Commission
SPCHQ	State Pest Control Headquarters
SRG	Surveillance Reference Group

Section 6

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Auditor-General

Section 7

Publications

7.1 Publications

Publication	Date released
Annual Report 2007	October 2007
INFORM	
Issue 3 for 2008	June 2008
Issue 2 for 2008	April 2008
Issue 1 for 2008	February 2008
Guidelines	
Better Practice Guide — Risk Management	October 2007
Checklist for Organisational Change — Managing MOG Changes	September 2006
Checklist — Preparation of Financial Statements	August 2006
Better Practice Guide — Output Performance Measurement and Reporting	February 2006
Better Practice Guide — Strategies for earlier financial statement preparation	December 2005
Other	
Auditor-General of Queensland Auditing Standards	April 2007
Performance Management Systems Audits — An Overview	December 2006

7.2 Auditor-General's Reports to Parliament 2008

Report No.	Subject	Date tabled in the Legislative Assembly
1	Auditor-General's Report No. 1 for 2008 Enhancing Accountability through Annual Reporting A Performance Management Systems Audit	17 April 2008
2	Auditor-General's Report No. 2 for 2008 Results of 2006-07 Audits of Local Governments, including Aboriginal Shire and Torres Strait Island Councils	1 May 2008
3	Auditor-General's Report No. 3 for 2008 Management of Rural Fire Services in Queensland A Performance Management Systems Audit	15 May 2008
4	Auditor-General's Report No. 4 for 2008 Results of Audits as at 31 May 2008	8 July 2008
5	Auditor-General's Report No. 5 for 2008 Protecting Queensland's primary industries and environment from pests and disease A Performance Management Systems Audit	August 2008

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