Biosecurity Incidents: Planning and Risk Management for Livestock Diseases

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Victorian Auditor-General's Office

Auditing in the Public Interest

The Hon. Robert Smith MLC
President
Legislative Council
Parliament House
Melbourne

The Hon. Jenny Lindell MP
Speaker
Legislative Assembly
Parliament House
Melbourne

Dear Presiding Officers

Under the provisions of section 16AB of the *Audit Act 1994*, I transmit my report on *Biosecurity Incidents: Planning and Risk Management for Livestock Diseases.*

Yours faithfully

D D R PEARSON
Auditor-General

12 November 2008

Foreword

Victoria's exceptional global reputation for its safe, 'clean' food has played an important role in the profitable growth of jobs, investments and exports for the state's agricultural production. Victoria's biosecurity standards have been critical to creating and maintaining this reputation.

Expanding national and international trade and travel, and changing weather patterns, have increased the risk of exotic diseases being introduced into Australia. Failure to prepare for such risks and respond to a disease incursion can have a devastating impact on the economy and trade and severe social consequences. This was demonstrated, in 2001, by the outbreak of Foot and Mouth Disease in the United Kingdom, which cost the UK an estimated £8 billion, and more recently by Avian Influenza in Asia.

Generally, the Department of Primary Industries (DPI) is leading other jurisdictions in biosecurity risk management, and the findings of this audit are positive. The department has adequately planned, prepared for and effectively managed livestock disease events. It has well-developed and comprehensive performance monitoring and reporting systems and processes in place for biosecurity incident management.

Nevertheless, the audit identified a number of areas for attention: a longer term planning horizon to guide capacity, capability and investment decision-making; an increased emphasis on prevention; improved industry commitment to biosecurity principles and practice; and better integration and coordination within DPI. These actions will help Victoria maintain its strong position in biosecurity risk management and its response to the challenges presented by the predicted increased incidence and complexity of new and emerging livestock diseases.

D D R PEARSON
Auditor-General

12 November 2008

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1 Executive summary

1.1 Introduction

Victoria has an exceptional global reputation for its safe ‘clean’ food. This has played an important role in the profitable growth of jobs, investments and exports for the state’s agricultural production. Biosecurity standards have a crucial role in protecting agricultural industries and in retaining market access and market competitiveness. The social, economic and trade consequences of failed biosecurity have been demonstrated by the outbreak of foot and mouth disease in the UK and, more recently, avian influenza in Asia.

Expanding trade and travel over national and international boundaries and changing weather patterns increase the risk of exotic diseases being introduced to Australia. The rapid movement of goods and people and an increasingly demanding market environment present significant challenges for Victoria's primary industries.

In Victoria, the Department of Primary Industries (DPI) is the key agency involved in animal health and welfare. DPI is listed as the control agency for the prevention of, response to, and recovery from, plant and animal diseases. Biosecurity Victoria (BV) is the division within DPI responsible for delivering enhanced biosecurity. The Department of Human Services (DHS) is the lead agency for responding to, and recovering from, a human pandemic or epidemic, including zoonotic diseases affecting human health[1].

This audit assessed whether the Department of Primary Industries (DPI) effectively manages biosecurity pests and disease risks for Victoria’s livestock[2] and the associated risks to human health, the economy and trade.

[1] Zoonotic diseases, or zoonoses, are those that can be transmitted under natural conditions from vertebrate animals to humans.

[2] For the purposes of this audit, livestock refers to the horses, cattle, sheep and other useful animals kept or bred. It does not include fisheries, aquaculture or bees.

The audit considered how well DPI responds to livestock disease incidents, DPI's preparedness to respond to a disease outbreak and the effectiveness of DPI approaches to prevention and early detection. With a view to assessing the readiness to respond to zoonosis, the interface between DPI and DHS was also examined. In addition, we assessed DPI's performance monitoring and reporting systems and its approach to continuous improvement.

1.2 Key findings

DPI's performance against the National Animal Health Performance Standards and the views expressed by key national and state bodies support the finding that DPI is leading other jurisdictions in biosecurity risk management.

DPI's planning and risk management systems for managing biosecurity for livestock diseases are well developed. The planning framework is well articulated, based on clear and relevant objectives and links across the organisation from strategic to business plans. Formal risk management processes are comprehensively applied to biosecurity and comply with, or are similar to, the Australian Standard for risk management (AS 4630).

The recent handling of the equine influenza threat, intermittent outbreaks of anthrax and endemic zoonoses provide overall assurance that DPI has managed biosecurity incidents successfully. DPI's performance in national and state simulation exercises conducted over the past six years also indicate that DPI gives appropriate attention to ensuring preparedness to deal with biosecurity incidents.

DPI and DHS have a sound and collaborative working relationship. The agencies have participated in exercises to support preparedness to respond to zoonoses and regularly manage endemic zoonotic disease outbreaks effectively.

DPI's work in surveillance, tracing systems, information technology and training also demonstrate the priority that DPI has placed on biosecurity incident management and the investment made to support DPI's preparedness to respond to incursions.

DPI's performance monitoring and reporting is able to provide relevant information with respect to the achievement of objectives and the adequacy of biosecurity incident management. Regular review and evaluation of DPI's preparedness for and management of emergency animal disease incidents are evidence of a continuous improvement approach.

Notwithstanding these overall positive findings, DPI faces significant challenges in biosecurity risk management in the future. DPI will need to address a number of critical areas to ensure Victoria is well placed to deal with the predicted increase in incidence of biosecurity incursions and the complexities presented by new and emerging biosecurity threats.

To meet these challenges DPI should improve its forward planning capacity, increase the emphasis on prevention, surveillance and early detection, improve planning for capacity and capability, strategically harness the capacity of the farming community and industry in prevention, surveillance, early detection and response and ensure better internal coordination and communication within DPI.

A Memorandum of Understanding (MOU) between DPI and DHS to formalise the relationship is warranted given the seriousness of zoonotic risks, the predicted incident increase and the potential impact on human health, economy and trade.

1.3 Recommendations

DPI's planning and risk management framework for managing biosecurity incidents

DPI should broaden the focus of its planning for biosecurity to include a longer term horizon and demonstrate closer alignment with national planning frameworks. To support this DPI should:

- apply a wider range of planning models and methods including scenario-based planning for long-term planning exercises
- establish a departmental planning protocol to parallel that applying to risk management and specify that the output from risk management processes be included in environmental scanning undertaken as part of the planning within each business unit of DPI
- take an active role in the development of the national AUSBIOSEC framework as it will play a key contextual role in future DPI and Biosecurity Victoria (BV) planning. **(Recommendation 3.1)**

DPI should more closely align planning and risk management processes to support its decision-making and response to changing priorities, capacity, capability and investment. **(Recommendation 3.2)**

Prevention and early detection

DPI should develop a strategy to deliver an integrated and coordinated approach to prevention and early detection across the livestock value chain. As part of the strategy DPI should:

- target high risk groups
- introduce legislation to clarify industry roles and responsibilities with respect to biosecurity practice and performance standards
- build industry and on-farm capacity to prevent and detect diseases early through incorporating biosecurity principles into QA programs and introducing trigger reporting requirements
- review the purpose, roles and responsibilities of existing consultative structures to support close alignment with objectives for improved biosecurity

- promote a close working relationship between policy, program development and operational arms dealing with livestock diseases
- give DPI regional extension staff an expanded role to improve awareness and engagement in local communities. **(Recommendation 4.1)**

DPI should develop a surveillance strategy with agreed goals and a comprehensive, integrated approach to surveillance across the livestock value chain. The surveillance strategy should:

- define objectives, roles and responsibilities, performance targets, timelines, and resource investment
- allow surveillance program priorities to be altered to meet changing risk profiles
- include evaluation of effectiveness.**(Recommendation 4.2)**

Emergency response and preparedness

To improve response preparedness, DPI should clearly link the selection of simulation exercises to the risk management framework to target coverage of high risks. **(Recommendation 5.1)**

To support increased effectiveness in EAD (Emergency Animal Disease) response management DPI should:

- develop a strategy to improve capacity and capability
- refine and target the communication strategy to clearly outline the key steps, processes and timing to ensure early warning and smooth delivery of communications to all relevant stakeholders and the community
- ensure systematic review and update of Manual of Procedures and Standard Operating Procedures
- work with DHS to establish a more systematic approach to developing protocols for managing specific zoonoses. **(Recommendation 5.2)**

DPI should develop an MOU with DHS that capitalises on and strengthens the current good working relationship to support joint forward planning and risk management and mitigates against relationship failure in the event of leadership change. The MOU should clarify:

- objectives and purpose
- roles and responsibilities
- joint planning arrangements and risk management procedures
- document operational procedures
- internal and external joint communication strategies to ensure messages are in unison with health and primary industry objectives
- cost sharing arrangements for management of a zoonotic EAD
- joint training and capability development
- review and evaluation of performance. **(Recommendation 5.3)**

DPI should formalise the approach and framework for evaluating simulation exercises and response to EAD incidents with guidelines to define the nature of the review process. This should include:

- developing a standardised internal evaluation framework to provide guidelines on the review process
- introducing periodic external evaluations of simulation exercises to enable comparison over time and to demonstrate independence and rigour
- developing guidelines for commissioning external evaluations of response to EAD incidents
- recording the implementation of recommendations from simulation exercises and response to EAD incidents
- introducing a system-level review of lessons learned. **(Recommendation 5.4)**

Performance monitoring, reporting and continuous improvement

BV should enhance controls to provide assurance regarding data integrity. This process should include:

- working with local government to provide accurate and complete property data across the state
- enhancing processes for ensuring consistent notification of disease events across regions
- reviewing all processes related to the collation, input, processing, output and protection of data to improve the integrity of the system.
  (Recommendation 6.1)

RESPONSE by Acting Secretary, Department of Primary Industries

The Department of Primary Industries (DPI) welcomes the Victorian Auditor General's Office (VAGO) report on Biosecurity Incidents: planning and risk management for the livestock diseases.

Agriculture is a significant contributor to Victoria's economic wealth and social well-being. As acknowledged by the report, Victoria has an exceptional global reputation for its safe 'clean' food, which has played an important role in the profitable growth of jobs, investments and exports for the State's agricultural production. The ability to effectively monitor, detect and respond to animal and plant disease and pest threats has been central to securing this position, giving consumers assurance and confidence in the food they eat. Biosecurity standards play a crucial role in enhancing and protecting the success of our agricultural industries.

RESPONSE by Acting Secretary, Department of Primary Industries – continued

Our agriculture industries, however, are experiencing a period of unprecedented change. Today's fast changing and increasingly demanding market environment creates a number of emerging challenges for Victoria's primary industries that have the potential to impact on our social; economic and environmental assets, Expanding trade over national and international boundaries, Australia's mobile population, climate change and e-commerce are just some of the trends that increase the risk of exotic diseases being introduced to plants and animals.

DPI is acutely aware of the increased need to be vigilant in tackling the consequences of these activities. As recognised by the report, planning for and managing biosecurity incidents is complex and challenging, requiring a strong forward planning capability and an aptitude to harness the capacity of the fanning businesses and food industry in prevention, surveillance, early detection and response activities.

Your desire to review DPI's planning and risk management approaches to livestock diseases further crystallises the importance of 'prevention' as a key biosecurity management approach. Victoria's recent success in keeping the State free of Equine Influenza is a demonstration of the importance of this approach. If Equine Influenza had entered Victoria in 2007, before being subsequently eradicated, the aggregate costs would have been $223m-$273m; an increase of $131m-$181m over the estimated costs actually incurred in 2007.

While the VAGO report acknowledges that DPI is a national leader in biosecurity risk management for livestock diseases, DPI believes in a continuous improvement approach to planning and risk management for biosecurity. This is why DPI is currently developing a Biosecurity Strategy for Victoria in which it will undertake an assessment of critical gaps that government is currently exposed to and focus on developing the relationship between government, industry and community in defining their roles and responsibilities. A new risk based approach will drive the development of this strategy, which will take into account economic, environment and social values.

There will undoubtedly be resourcing implications in building an enhanced capacity and capability within DPI to meet the emerging challenges highlighted in the report. It is therefore intended that the development of strategy will be supported by a 2009/10 Expenditure Review Committee bid — A new approach to biosecurity in Victoria.

It is pleasing to see that the recommendations in the report further support the need for the development of the Strategy and the requirement for a long-term investment in biosecurity management in order to position Victoria to meet the challenges of managing new and emerging biological threats.

RESPONSE by Acting Secretary, Department of Primary Industries – continued

In addition to the development of the strategy, DPI has recently undertaken, under the auspices of the State Mitigation Committee, to assess the risks to Victoria of an Emergency Animal Disease (EAD). The workshop was a first, in that it drew on the expertise of state and national government bodies, along with key industry leaders. A residual risk curve for EAD was generated using Victorian State Emergency Risk assessment methodology. This assessment provides a useful tool to enable DPI to decide on the allocation of resources to mitigate key emergency risks.

In conclusion, this audit has provided valuable input into DPI's planning and risk management for livestock diseases. More broadly, many of the principles underpinning the recommendations will be useful in improving DPI's approach to biosecurity, in its broadest sense.

2 Biosecurity in Victoria

2.1 Background

Victoria has an exceptional global reputation for its safe, ‘clean’ food. This has played an important role in the profitable growth of jobs, investments and exports for the State’s agricultural production.

Biosecurity standards play a crucial role in protecting Victoria’s global reputation and in retaining market competitiveness. The ability to effectively minimise risks, monitor, detect, and respond to animal and plant pest and disease threats is critical to maintaining adequate biosecurity standards. The increasing movement of goods and people across national and international borders and the impact of changing weather patterns heighten the risks of exotic diseases being introduced.

In Victoria, the Department of Primary Industries (DPI) is the key agency involved in animal health and welfare. DPI is listed as the control agency for the prevention of, response to, and recovery from, plant and animal diseases.

The Department of Human Services (DHS) is the lead agency for responding to, and recovering from, a human pandemic or epidemic, including zoonotic diseases.

In 2004 VAGO completed the *Beating the bugs: Protecting Victoria’s economically significant crops from pests and diseases* audit that examined how well DPI protects Victoria’s economic crops from plant pests and diseases. This audit examines DPI's management of the risks to Victoria's livestock industry arising from disease.

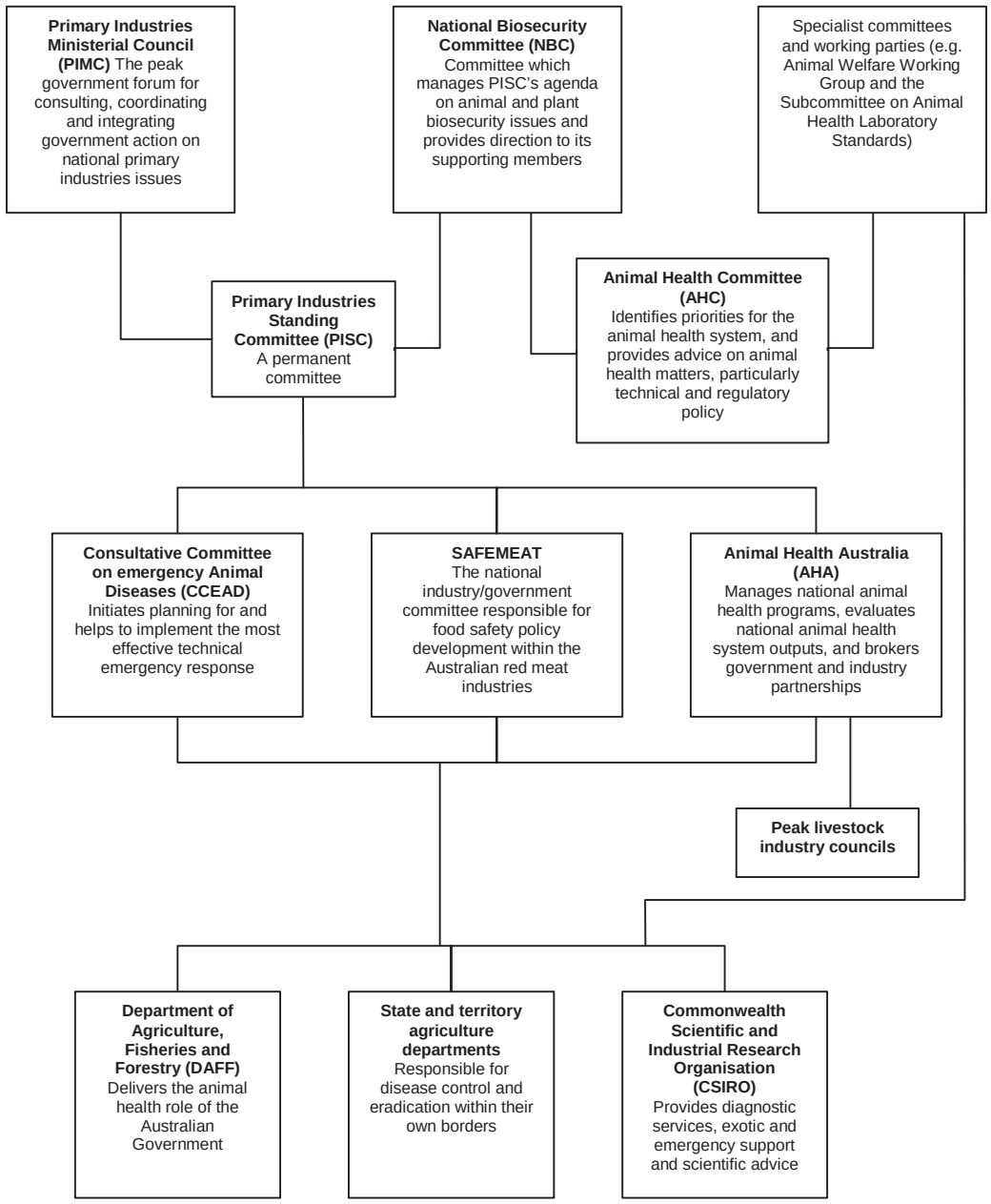
2.2 National/state arrangements for biosecurity

2.2.1 Organisation of the animal health system in Australia

Animal diseases do not respect jurisdictional boundaries. A whole of government approach involving the national, state and territory governments is essential to preventing, preparing for and responding to an emergency animal disease (EAD) incursion. The high standard of animal health in Australia has been achieved through a cooperative approach and partnerships between the Australian Government, state and territory governments, livestock industries, private veterinarians and research organisations.

The Australian Government is responsible for quarantine and international animal health matters, including disease reporting, export certification and trade negotiation. It advises on and coordinates national policy. State and territory governments are responsible for disease control and eradication within their own borders. Animal health units headed by the state or territory Chief Veterinary Officer (CVO) administer relevant legislation governing livestock identification and movement, disease surveillance, diagnosis, reporting and control of notifiable diseases, chemical residues and other programs. Figure 2A demonstrates the complexity and sophistication of the animal health system in Australia.

Figure 2A
Organisation of animal health systems in Australia



Source: Department of Primary Industries.

Two key elements underpin the cooperative arrangements between the Commonwealth, states and territories and livestock industries in planning for and responding to an EAD:

- the Emergency Animal Disease Response Agreement (EADRA)
- the Australian Veterinary Emergency Plan (AUSVETPLAN).

2.2.2 Responsibilities under the Emergency Animal Disease Response Agreement

The EADRA, ratified in March 2002, provides a framework for managing and funding responses to EAD incursions. Signatories to the EADRA are committed to:

- minimising the risk of EAD incursions by developing and implementing biosecurity plans for their jurisdictions or industries
- maintaining an appropriate capacity to respond to an EAD by having available adequate numbers of trained personnel to fill roles specified in the AUSVETPLAN
- participating in decision-making relating to responses to EAD incidents, through representation on the Consultative Committee on Emergency Animal Disease and the National Management Group.
- sharing the eligible response costs for EAD incursions.[1]

The National Animal Health Performance Standards (NAHPS) are the basis for determining the level of capability signatories to the Agreement should maintain. The NAHPS were developed to ensure:

- the contributors to the national animal health system perform to appropriate standards in all activities that impact national animal health status
- continuous improvement in the capability of Australia's animal health system.

The standards are linked to the six core functions of the national health system, namely:

- consumer protection
- trade and market access
- disease surveillance
- endemic disease management
- emergency preparedness and response
- livestock welfare.

[1] Animal Health Australia, *Animal Health in Australia 2007*, p.72.

2.2.3 Australian Veterinary Emergency Plan

AUSVETPLAN is a coordinated national response plan for the control and eradication of exotic diseases and certain emerging or endemic animal diseases. AUSVETPLAN has been developed and agreed on by the Australian Government, state and territory governments, and relevant livestock industries. The AUSVETPLAN provides a comprehensive framework that specifies the various roles, responsibilities and policies to be followed by all agencies in an EAD response. Animal Health Australia has responsibility for managing the continued development and maintenance of AUSVETPLAN on behalf of government and industry. Appendix C shows the key components of AUSVETPLAN.

2.3 Biosecurity in Victoria

2.3.1 DPI's role in biosecurity

DPI is the principal agency responsible for Victorian biosecurity arrangements. DPI works to:

- reduce the risks from plant and animal pests and diseases
- maintain and promote the quality and safety of Victoria's primary products
- maintain the key infrastructure for moving products to market.

Victoria adopts an 'all hazards, all agencies' approach to emergency management which is governed by the *Emergency Management Act 1986* (the EMA). An 'all hazards, all agencies' approach ensures that Victoria's emergency management arrangements are able to deal effectively with a broad range of emergency situations (e.g., natural disasters, EADs; terrorism).

DHS is the lead agency for responding to, and recovering from a pandemic or epidemic including zoonotic diseases. DPI collaborates with DHS to detect and manage a zoonotic incursion. The major areas of joint DPI/DHS interface include persistent food poisoning outbreaks through to planning for a possible pandemic disease outbreak such as Avian Influenza.

DPI and the Department of Sustainability and Environment have an agreement to guide their preparedness, response and recovery in joint emergency operations. In addition, DPI has a Memorandum of Understanding (MOU) with New South Wales and is currently developing an MOU with South Australia to adopt a coordinated approach across state borders to manage an EAD outbreak.

2.3.2 Victoria's organisational arrangements for biosecurity

Biosecurity Victoria (BV) is the division within DPI responsible for delivering enhanced biosecurity, including:

- upholding Victoria's 'disease free' status by preventing and responding to exotic pest and disease outbreaks affecting Victoria's agricultural and food industries

- regulating the way chemicals are used to control pest and diseases in food production systems
- ensuring appropriate use and treatment of animals.

Within BV, the Chief Veterinary Officer (CVO) Unit and the Animal Standards Branch (ASB) are responsible for developing policy and establishing plans to ensure that DPI commitments in animal health are achieved.

The CVO Unit:

- is responsible for policy development and for maintaining national arrangements with the Australian Government, other state and territory jurisdictions and AHA
- liaises with animal industry leaders in planning and monitoring animal health programs
- is responsible for developing plans to deliver national and state elements of the surveillance strategy and the DPI strategy for EAD incidents and training.

The ASB is responsible for:

- developing detailed plans for animal health programs (e.g. livestock product integrity, livestock disease surveillance and control)
- coordinating delivery of animal health programs across the State
- coordinating animal health training across the State
- developing and conducting simulation exercises for EAD preparedness
- managing statewide disease operations in response to an EAD outbreak.

The animal health program plans are set out in service agreements for delivery by the operational arms of DPI. The major service provider is the Animal Health Field Services Group in Farm Services Victoria which is responsible for implementing effective monitoring, surveillance, control, prevention and reporting activities for programs associated with ASB's three key projects:

- livestock disease surveillance and control
- livestock product integrity and chemical residues control, e.g., National Livestock Identification System
- Johne's Disease control.

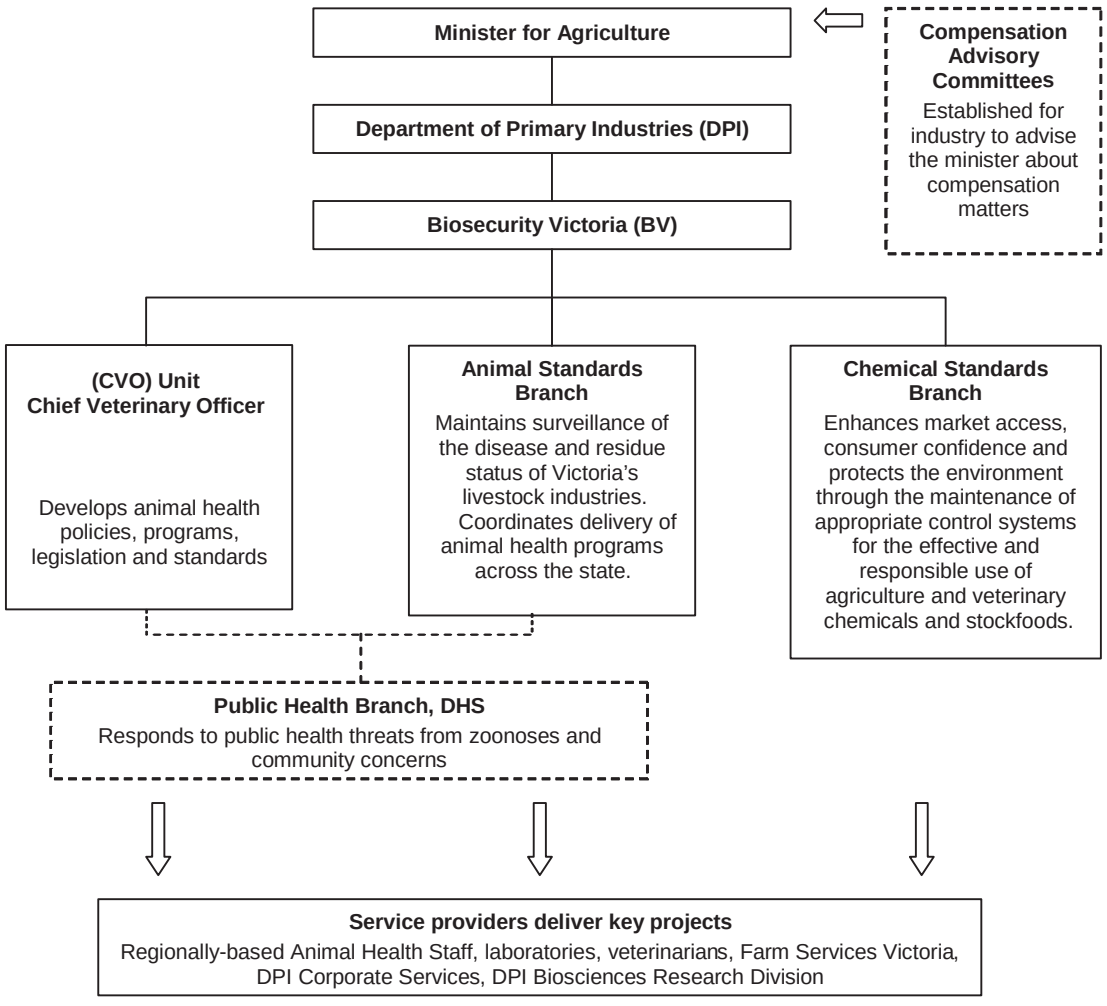
DPI also has a service agreement with the Biosciences Research Division of DPI (through the Attwood laboratory) as well as a contract with a private sector service provider to provide laboratory diagnostic services. The DPI Attwood laboratory:

- provides specialist diagnostic services
- is the primary Victorian laboratory for emergency disease investigations
- conducts research and development programs into improved disease diagnosis.

The private sector service provider complements the work of the Attwood laboratory and conducts many of the routine or standard tests, particularly where bulk testing is required.

DPI's organisational arrangements for biosecurity risk management for livestock disease are outlined in Figure 2B.

Figure 2B
Organisation of the animal health system in Victoria



Source: Department of Primary Industries.

2.3.3 Victorian legislation relating to EADs

The *Livestock Disease Control Act 1994* (the Act) is the key legislation used in the prevention of and response to EAD events. It:

- identifies the responsibilities of owners and other individuals
- contains provisions relating to EAD response, including quarantine, testing, destruction, and payment of compensation
- confers powers upon certain individuals (such as inspectors and the Governor-in-Council) to enforce the Act.

2.4 Audit purpose and approach

2.4.1 Audit objectives and sub-objectives

The audit examined how well DPI identifies and manages biosecurity risks for Victoria's livestock industry, and associated risks to human health, the economy and trade. In pursuit of this objective, the audit considered three sub-objectives:

- Is DPI well prepared for a livestock disease outbreak? Does DPI have adequate prevention strategies in place? Is DPI able to rapidly detect and effectively respond to an emergency animal disease incident?
- Does DPI adequately measure, monitor and report on performance on EAD biosecurity risk management?
- Does DPI adopt a continuous improvement approach to biosecurity planning and risk management?

The audit also considered how DPI works with DHS in relation to zoonotic diseases.

2.4.2 Audit scope

The scope of this audit covered:

- DPI’s planning and risk management framework for biosecurity incidents for livestock diseases
- the recent Equine Influenza and Anthrax outbreaks to test the effectiveness of DPI’s response to real life events
- DPI's biosecurity services, programs, capacity and capability related to EAD prevention, preparedness and response
- DPI’s management of animal diseases with implications for human health
- the interface and cooperation between DPI and DHS, including how and whether stakeholders are involved and what are the triggers for greater DHS involvement in planning and risk management.

2.4.3 Audit method

The audit criteria were drawn from a range of better practice principles and frameworks relevant to biosecurity planning and risk management. The audit method included:

- extensive background research and analysis of relevant literature
- consultation with DPI staff and industry
- a review of DPI internal documents
- detailed examination of DPI's approach to biosecurity risk management
- examination of two cases studies and analysis of simulation exercises.

2.5 Report structure

In this report:

- Part 3 reviews DPI's approach to planning and risk management for biosecurity
- Part 4 examines DPI's approach to preventing disease outbreaks and early detection
- Part 5 assesses DPI's preparedness to respond to an outbreak and DPI's response to actual events
- Part 6 examines DPI's performance monitoring and reporting system and approach to continuous improvement.

The DPI/DHS interface to manage zoonosis is examined in parts 4 and 5.

The audit was performed in accordance with Australian standards applicable to performance audits, and included tests and procedures sufficient to enable audit conclusions to be reached.

The total cost of the audit was $422 000. This cost includes staff time, expert advice, overheads and printing.

2.6 Acknowledgements

The audit team wishes to thank DPI central office and regional staff for their cooperation with the audit process and prompt assistance in providing access to the information required to conduct the audit.

3 DPI's planning and risk management framework for biosecurity incidents

At a glance

Background

Planning for and managing biosecurity incidents is complex and challenging. A structured approach to planning and risk management is essential to minimising the risk of an incursion and for effective preparation and rapid response. The risk management approach and methodology is well established and widely applied by animal health authorities in Australia and internationally.

In order for the planning and risk management for managing biosecurity incidents to be effective it needs to:

- be guided by clear objectives
- be effectively linked with the national policy framework
- have capacity to alter priorities to respond to a changing risk profile and incorporate new and emerging threats
- have strong linkages between processes for planning, risk management and investment decision-making.

Key findings

- The Department of Primary Industries (DPI) has a clear and relevant set of objectives for managing biosecurity in Victoria and a coherent planning framework.
- Formal risk management processes are well established and comply with, or are similar to, the Australian Standard for risk management (AS 4630).
- DPI should expand its planning horizon to include a longer term planning focus to assist DPI’s response to new and emerging livestock diseases or threats.
- A closer alignment to the national planning and risk management framework that underpins biosecurity for livestock diseases in Australia should be demonstrated in DPI plans and risk management processes.

At a glance – *continued*

Key findings – *continued*

- DPI's planning, risk management and investment decision-making processes should be better aligned and more transparent to enable alterations of priorities and investment to respond to a changed risk profile.
- DPI conducts regular reviews of risks and continuous monitoring of agreed actions to address agreed priority risks.

Key recommendations

- DPI should broaden the focus of its planning for biosecurity to include a longer term horizon and demonstrate closer alignment with national planning frameworks. To support this DPI should:
  - apply a wider range of planning models and methods including scenario-based planning for long-term planning exercises
  - establish a departmental planning protocol to parallel that applying to risk management and specify that the output from risk management processes be included in environmental scanning undertaken as part of the planning within each business unit of DPI
  - take an active role in the development of the national AUSBIOSEC framework as it will play a key contextual role in future DPI and BV planning **(Recommendation 3.1)**.
- DPI should more closely align planning and risk management processes to support its decision-making and response to changing priorities, capacity, capability and investment **(Recommendation 3.2)**.

3.1 Introduction

Sound planning and risk management at the national and state level provides the foundation for an effective biosecurity system able to respond to existing and emerging threats. The risk management approach and methodology is well established and widely applied by animal health authorities in Australia and internationally.

Strategic planning aims to focus an organisation's vision and priorities in response to a changing environment and to ensure that members of the organisation are working toward the same goals. Strategic plans include a vision statement, a mission statement, goals and objectives. These elements ensure the strategic plan has:

- a strong structure to determine priorities over several years
- guidance for staff to help maintain the organisation's direction
- monitoring and reporting arrangements.

Good strategic plans are supported by a comprehensive risk management framework. Effective risk management is an iterative process that includes common principles, such as, establishing the context, identifying, analysing, evaluating and treating the risk. In the first instance, risk management begins with three basic questions:

- What can go wrong?
- What can be done to prevent it?
- What can we do if it happens?

3.2 DPI planning and risk management framework for livestock biosecurity

3.2.1 DPI has a clear and relevant set of objectives and a coherent planning framework for managing livestock biosecurity in Victoria

The Department of Primary Industries (DPI) key objectives for biosecurity are to develop and manage the delivery of the Victorian Government's biosecurity and market access programs for the livestock, plant, fisheries and forestry industries. To achieve these objectives, DPI develops and delivers biosecurity initiatives for livestock diseases including:

- building on Victoria's strong capacity within DPI to monitor, detect and respond to animal disease threats
- increasing Victoria's capacity to monitor, detect and respond to threats by developing a surveillance role for primary producers to detect major diseases in their respective agricultural industries
- developing prevention strategies and identifying combat responsibilities for DPI in the event of a bioterrorism incident in the livestock sector

- preparing advance response mechanisms to efficiently deal with biosecurity emergency situations
- taking an active role in effective collaboration with shared border states on biosecurity issues
- enforcing clean, safe, healthy and ethical agricultural practices through effective legislation, animal welfare and cruelty regulations, chemical standards and compliance.

The complexity of the responsibilities and challenges in the biosecurity system mean that DPI must have a structured, coordinated and consistent approach to planning across the organisation and in relation to the external cross-jurisdictional parameters within which Biosecurity Victoria (BV) operates.

DPI has a coherent planning approach linking DPI Strategic Plans to the lower level units including BV. The planning framework filters through BV to Animal Standards Branch (ASB) and its programs and ultimately, via the Service Level Agreement with ASB, to Animal Health Field Services. Actions associated with the objectives are generally well defined across the relevant organisational levels.

Plans at departmental, divisional and branch level are subject to regular review to ensure that the actions and programs proposed are progressed.

A national biosecurity strategy, AUSBIOSEC, is currently being developed. It is advisable that DPI play an active role its development as it will provide a key contextual element for DPI planning for biosecurity for livestock diseases.

3.2.2 DPI applies a comprehensive risk management approach to EADs

Risks for livestock disease are identified and prioritised utilising the DPI Risk Management Strategic Framework and Process as part of the annual business planning cycle. Risk management processes undertaken by the Chief Veterinary Officer (CVO) and ASB are consistent with the AS4360 adopted by DPI. Risk exposure identified are then incorporated in the Corporate Risk Register.

Risk management processes to determine the scope and nature of internal BV programs include an:

- identification and assessment of specific disease risks facing Victoria based on recent disease outbreaks in other parts of the world, and the intensity of human and trade links between Victoria and those areas
- evaluation of broader epidemiological risks facing Victoria including climate change, trade, people and commodity movements
- evaluation of animal health related risks to trade and market access for livestock products
- evaluation of the major current and future risks, e.g., climate change, and the gaps in current capability to detect and respond to biosecurity threats.

At the national level DPI applies risk management processes through its contribution to and participation in the National Animal Health Performance Standards (NAHPS) self assessment, the Australian Veterinary Emergency Plan (AUSVETPLAN), national surveillance programs and disease freedom assurance programs. The CVO Unit and the ASB are active participants in a number of national and internal animal risk management initiatives. Examples of Victoria's active participation in risk management initiatives include the National Livestock Identification System, the Newcastle Disease Vaccination Program and Emergency Animal Disease (EAD) training exercises.

3.2.3 Planning and risk management should link more clearly to the national frameworks

As national planning frameworks underpin state arrangements for planning and managing livestock biosecurity we assessed how well DPI plans reflected national directions and commitments. We found that whilst DPI plans broadly reflected national intent there is scope to provide greater detail about how Victoria will implement national priorities.

We compared DPI's risk management with the National Common Risks Framework that forms a key component of NAHPS. We found that DPI risk management reflects national risk management in most areas except for those associated with economic terrorism, breakdown of national animal health coalition and a communication strategy to ensure a coordinated approach to media management. DPI should include these in its risk assessments to demonstrate the state priority rating and associated actions.

3.2.4 A longer-term planning focus would assist DPI to deal with new and emerging diseases

As discussed previously, changing weather patterns and the rapid movement of international and national trade and travel are predicted to have a profound impact on the nature and incidence of livestock disease. These factors are widely regarded as a threat by DPI staff and stakeholders and are factors considered in risk assessment. However, current planning does not appear to pay particular attention to it. The current shorter term planning horizon limits DPI's capacity to take account of long-term changes and their possible impact.

Notwithstanding the unpredictability and difficulty associated with a longer-term planning focus, it is most important that this dimension be included in future DPI planning to enable DPI to set priorities, design programs and allocate resources accordingly to respond to long term threats and risks.

Scenario-based planning could provide an appropriate medium for the development of such long-term plans. Two possible further improvements might be to:

- develop a departmental planning protocol to parallel that applying to risk management
- specify that the output from risk management processes should be included in environmental scanning undertaken as part of the planning within that organisational unit.

DPI is currently engaged in a significant undertaking to develop a longer-term Biosecurity Strategy for Victoria to provide the overarching strategic framework for biosecurity. This will provide the broad strategic context in which longer term planning focused on livestock disease biosecurity can occur.

3.2.5 The linkage between planning, risk management, and investment decision-making should be more closely aligned and transparent

The immediate connection between planning, risk management and investment in biosecurity in DPI is not readily apparent. There is some evidence, by way of the timing of events, of a relationship between demonstrated risk and investment. (For example, the risk analysis undertaken in 2002 led to a subsequent increase in investment in surveillance, EAD training and response resources). However, the process and relationships between plans, priorities and investment decision-making could be formally aligned and transparent.

A closer link between planning and risk assessment will assist DPI to be better placed to manage changed priorities, respond to new and emerging diseases and guide decision-making with respect to:

- setting overall priorities
- revising and redefining EAD programs focus
- reallocating resources to new or emerging priorities
- investment.

The recently introduced Science Investment Framework provides an appropriate structure and process for investments within DPI to more closely reflect priorities.

3.3 Conclusion

DPI has a clear and relevant set of objectives for the management of biosecurity for livestock diseases within Victoria. The current DPI planning framework for biosecurity incident management is well articulated and cascades from strategic to business plans.

Formal risk management processes comply with, or are similar to, the Australian Standard for risk management (AS 4630) and are well established in DPI. Regular reviews of risks, and continuous monitoring of agreed actions to address agreed priority risks, are conducted.

As the biosecurity system is a national system underpinned by agreed national frameworks and priorities it is important that DPI's planning and risk management should address relevant areas of the national frameworks to demonstrate intended actions within the state with respect to national priorities and risk assessments.

A longer-term planning focus is required to provide assurance that DPI is well placed to meet future challenges such as the predicted increase in incursions and new and emerging diseases. Better linkage between forward planning and risk management processes will provide a transparent basis to guide decision-making with respect to priorities, capacity, capability, resources and investment.

Recommendations

3.1 DPI should broaden the focus of its planning for biosecurity to include a longer-term horizon and demonstrate closer alignment with national planning frameworks. To support this DPI should:

- apply a wider range of planning models and methods including scenario-based planning for long-term planning exercises
- establish a departmental planning protocol to parallel that applying to risk management and specify that the output from risk management processes be included in environmental scanning undertaken as part of the planning within each business unit of DPI
- take an active role in the development of the national AUSBIOSEC framework as it will play a key contextual role in future DPI and BV planning.

3.2 DPI should more closely align planning and risk management processes to support its decision-making and response to changing priorities, capacity, capability and investment.

4 DPI's approach to prevention and early detection

At a glance

Background

Ensuring an adequate system is in place to prevent, mitigate risk and detect an Emergency Animal Disease (EAD) incident early is critical to avoiding the serious social, public health and economic effects that can result from an EAD outbreak.

Key findings

- The Department of Primary Industries (DPI) actively supports national and inter-jurisdictional approaches to prevention and risk mitigation and, within the state, acts to improve biosecurity awareness, promotes good practice and takes actions to regulate livestock industry practice.
- Improved biosecurity awareness and risk mitigation is incorporated in DPI plans.
- DPI promotes awareness of biosecurity matters, however, the variable performance of parts of the livestock value chain (breeders, carriers, saleyards, processors and producers) needs to be reviewed. Legislation should clarify government expectations of industry, build biosecurity principles into quality assurance programs and introduce trigger reporting.
- DPI works cooperatively with key stakeholder groups, however, these groups should be reviewed to support close alignment with government biosecurity objectives.
- DPI's approach to surveillance and early detection is well developed.
- DPI should develop a surveillance strategy to support a coordinated approach to surveillance across the livestock value chain and align surveillance activities to changing risk profiles.
- DPI's policy, planning, program development and operations arms should work closely together to support improved biosecurity awareness and practice.
- Regional staff could be utilised to promote improved awareness and engagement in local communities.

At a glance – *continued*

Key recommendations

DPI should develop a strategy to deliver an integrated and coordinated approach to prevention and early detection across the livestock value chain. As part of the strategy, DPI should:

- target high risk groups
- introduce legislation to clarify industry roles and responsibilities with respect to biosecurity practice and performance standards
- build industry and on-farm capacity to prevent and detect diseases early through incorporating biosecurity principles into quality assurance programs and introduce trigger reporting requirements
- review the purpose, roles and responsibilities of existing consultative structures to support close alignment with objectives for improved biosecurity
- promote a close working relationship between DPI's policy, program development and operational arms dealing with livestock diseases
- give DPI regional extension staff an expanded role to improve awareness and engagement in local communities **(Recommendation 4.1)**.

DPI should develop a surveillance strategy with agreed goals and a comprehensive, integrated approach to surveillance across the livestock value chain **(Recommendation 4.2)**.

4.1 Introduction

A prevention and early detection system is critical to avoiding the serious social, public health and economic effects that can result from an emergency animal disease (EAD) outbreak. Experience has shown that if a disease incursion can be detected early while it is still localised and prompt action taken to contain and progressively eliminate it, the chances of eradication of the disease are markedly increased. The social and economic costs of failure to detect an outbreak early and to respond quickly were demonstrated in the recent Foot and Mouth Disease outbreak in the UK. The cost of the outbreak was estimated to be more than £8 billion[1].

Prevention is primarily addressed by improving biosecurity awareness, engagement and commitment across the livestock value chain (breeders, carriers, saleyards, processors and producers). A well developed early detection system is essential to enabling a rapid response to an outbreak.

Effective prevention and early detection should be supported by:

- state coordination with national approaches
- clear objectives and performance standards for prevention and early detection
- awareness and adoption of good biosecurity practice across the livestock value chain
- an integrated and coordinated disease surveillance system
- capacity for the surveillance system to respond to changing risk profiles as new and emerging diseases are identified
- an effective and comprehensive livestock tracing system.

The emergency disease information system is discussed in part six of the report.

4.2 DPI's approach to prevention

4.2.1 DPI actively supports national and inter-jurisdictional approaches to prevention

Australia's first line of defence against exotic diseases is based on keeping diseases out. At a practical level, the extent to which a single jurisdiction, such as Victoria, can prevent the incursion of an animal disease is limited, due to the following factors:

- prevention by exclusion at the national border is identified in the Australian constitution as a Commonwealth power discharged by the Australian Quarantine Inspection Service

[1] National Audit Office, *The 2001 Outbreak of Foot and Mouth Disease*, Report by the Comptroller and Auditor-General, 21 June 2002, http://www.nao.org.uk/publications/nao_reports/01-02/0102939es.pdf. Accessed: 18/02/08.

- prevention by exclusion at the state border is constrained by:
  - the Australian constitution which guarantees free trade between states
  - the nature of the biological processes by which animal diseases are spread.

Within this context DPI has:

- actively supported the Commonwealth Government in its efforts to exclude diseases at the national border
- contributed to national programs and efforts to contain or eradicate incursions within the borders of other jurisdictions, as well as within Victoria
- worked with other jurisdictions to encourage sound biosecurity risk management practices, including the development of Memoranda of Understanding with neighbouring states
- undertaken actions within the state to improve biosecurity awareness and promote good practice.

4.2.2 Improved biosecurity awareness and prevention is incorporated in DPI plans

Prevention is a stated objective in higher level DPI plans and statements. Prevention by exclusion is not specifically addressed in planning, however, improved biosecurity features strongly. Commitments to national disease mitigation and management programs as well as broad-based programs to improve biosecurity awareness and management within Victoria are outlined in DPI plans.

The DPI strategy to improve biosecurity across the livestock value chain within Victoria aims to:

- improve awareness and support good biosecurity practice
- mitigate the risks of an incursion occurring
- ensure early detection and control if and when it does occur.

4.2.3 DPI should develop a strategy to promote improved biosecurity awareness and practice across the livestock value chain

Industry groups and producers have a critical role to play in prevention, risk mitigation and early detection. DPI engages with a wide range of livestock industry stakeholders at both the state and national level to:

- develop policies and strategies for enhancing animal health, improving industry practice and preventing disease outbreaks
- canvass support for the prevention and management of animal disease in specific livestock
- develop programs for the control and eradication of animal diseases.

DPI also promotes increased awareness and improved industry and farming practice through:

- the publication and free delivery of the DPI newsletter Primary Voice
- the publication and free delivery of Horse Notes, the new DPI newsletter for the horse industry
- Animal Health Information Notes for beef, goat, horse, pig and poultry which are easily accessible on the DPI website
- extension programs to make livestock industry personnel aware of disease signs and to encourage early reporting.

However, whilst DPI has strong and cooperative relationships with many industries there are different levels of involvement, awareness and commitment to biosecurity practice across the livestock value chain. We found there are sectors of the livestock industry in Victoria where engagement with producers and/or biosecurity awareness is inadequate, for example, intensive pig and poultry operations and feedlots

DPI should develop a strategy to promote a consistent approach to biosecurity awareness and practice across the livestock value chain. The strategy should outline objectives, clarify responsibilities, promote the benefits of biosecurity, target high risk groups and set performance targets.

4.2.4 The roles and responsibilities of industry with respect to biosecurity practice should be clarified

Currently government expectations of industry with respect to biosecurity standards and practice is not well defined. To enforce the desired practice standard and address inconsistencies of approach across industries a clear legislative basis for biosecurity practice in industry is required. Legislation should define the government expectations of the role and responsibilities of industry with respect to biosecurity practice. DPI has commenced work on this and aims to improve industry management of biosecurity risk by defining minimum biosecurity standards and industry compliance requirements.

4.2.5 DPI should build biosecurity principles into quality assurance programs and introduce trigger reporting

Industry is responsible for developing quality assurance (QA) programs. QA systems have considerable potential to track disease and reduce the risk of a disease outbreak. The development of QA programs, however, has been slow due to the lack of economic and legislative drivers.

DPI should negotiate with animal industries to gain a broader coverage of on-farm QA programs. In addition, trigger reporting should be introduced as a further aid to early detection and rapid response.

4.2.6 DPI should review consultative structures to support alignment with objectives for improved biosecurity

DPI consults with a wide array of industry and interest groups about animal health matters. The groups have various roles and purposes. Harnessing the active engagement and support of these consultative structures is critical to the implementation of improved biosecurity across the livestock value chain. The roles and purposes of the various consultative groups should be reviewed and revised, to demonstrate linkage to achievement of government objectives for improved livestock biosecurity.

4.2.7 DPI should promote stronger internal coordination to support improved biosecurity objectives and priorities

The management of animal health services occurs through a complex matrix arrangement within DPI and to be fully effective requires a high level of integration, high quality leadership and a sense of common purpose and culture.

There is agreement that in times of emergency the line management responsibilities are clear and the system operates as a well coordinated whole. However, at other times coordination may be less effective. Concern has been expressed that the various parts of DPI (planning, program development and operations), do not see themselves as an integrated whole with a common purpose. Consultation has also indicated barriers exist between different professional groups and across the different parts of the organisation.

This represents a challenge and a risk to DPI as Animal Health field staff are the front line staff in surveillance, early detection and management of EADs. Their professionalism, commitment and motivation are a critical part of DPI’s ability to achieve goals to improve biosecurity awareness and practice and implement a change agenda.

Management strictly through service level agreements may limit field staff identification and understanding of the broader biosecurity system and their understanding of drivers for change. This in turn will affect frontline support and commitment to changed priorities.

To support overall commitment to changing priorities in biosecurity and a stronger focus on prevention and risk mitigation DPI should build a closer working relationship between the policy, planning, program development and operations arms of animal health. Also regional staff could be utilised to promote improved awareness and engagement with biosecurity good practice in local communities.

4.3 Disease surveillance, monitoring and reporting

4.3.1 Planning for surveillance is incorporated in DPI planning

Planning for surveillance is addressed in the BV Business Plan and sub-plans. Disease diagnosis, the complement to surveillance, is also recognised in planning at all levels within DPI. The current approach to surveillance responsibilities has two key elements:

- to contribute to national disease freedom and market access surveillance programs
- to conduct surveillance within Victoria in support of BV objectives.

The principal aim of surveillance is the compilation of necessary and useful information about diseases or disease agents that can be used to assist decision-making to support animal health policies and programs. There are five objectives of surveillance:

- early detection of emerging/exotic disease incursions
- demonstration of freedom from disease(s) or disease agent(s)
- determination of and detection of changes in the distribution, prevalence and incidence of disease(s) or disease agent(s)
- detection of changes in factors or events that influence the risk of disease
- biosecurity planning/decision-making.

4.3.2 DPI actively participates in national surveillance programs

Australia has a number of nationally coordinated surveillance programs supported by the Commonwealth and all states and territories. National reports and DPI's self assessment against the National Animal Health Performance Standards demonstrate that Victoria meets its obligations to national surveillance programs.

DPI participates in these national surveillance programs to provide credible surveillance information to support market access and disease management activities. These programs include the:

- **National Animal Health Information System**—collates data from a wide range of government and non-government programs to provide an overview of animal health, disease surveillance and disease control.
- **National Arbovirus Monitoring Program**—an integrated national program to monitor the distribution of economically important insect-borne viruses (arboviruses) of livestock and their vectors.
- **National Transmissible Spongiform Encephalopathy (TSE) Surveillance Program—**aims to increase market confidence that Australian animals and animal products are free from TSEs.

- **National Johne's Disease Control Program—**surveillance component conducts surveillance to assist with the control of Johne's disease in cattle, sheep, goats, deer and alpacas.
- **Imported Animal Quarantine and Surveillance Program—**involves tracing and permanent quarantine of cattle imported from countries that subsequently have reported Bovine Spongiform Encephalopathy (BSE) cases to maintain Australia's freedom from TSE.
- **Regulation of livestock feeding practices**—DPI also ensures enforcement of the swill feeding and ruminant feed bans as part of nationally agreed actions to prevent outbreaks of EADs that can be spread through swill feeding, for example, foot and mouth disease, and to protect Victoria's BSE free status.

4.3.3 DPI has implemented state-level programs to expand biosecurity surveillance capacity

Within Victoria, the Disease Surveillance Program has a number of activities that provide early detection of emergency and exotic diseases and freedom from emergency and exotic diseases. State-based surveillance activities fall into three broad categories:

1. formalised programs
   - Significant Disease Investigations
   - Enzootic Bovine Leucosis
2. specific surveillance during a disease incursion response
   - determine disease spread
   - detect new cases quickly
   - monitor control procedures
   - demonstrate disease freedom
3. scanning (general monitoring) activities
   - National Livestock Identification System (NLIS) auditing at saleyards
   - the Victorian Ovine Brucellosis (OB) accreditation program
   - the Mallee OB control program.

DPI also supports the involvement of a large network of veterinary practitioners to undertake general and targeted surveillance programs through providing:

- financial incentives such as the subsidisation of laboratory costs, training and other measures to increase surveillance investigations by practitioners
- specific training.

Under the *Livestock Disease Control Act 1994* (the Act), public responsibility for surveillance is also defined. The owner or person in charge of a veterinary laboratory must immediately report an exotic disease, whether suspect or confirmed, to a livestock inspector of DPI. Other 'notifiable diseases' must also be reported to an animal health inspector of the department within a prescribed timeframe. According to the Act, failure to notify is a criminal offence.

4.3.4 DPI has addressed important gaps in the surveillance system

We found that in recent years there have been a number of gaps in the surveillance system identified through risk assessment that needed to be addressed, such as:

- the surveillance information on, the intensive poultry and pork industries and the life-style farming sector (peri-urban and hobby farms)
- capability of the information systems used to record, collate and analyse surveillance information
- better skills (epidemiology) to interpret results and direct future surveillance
- more comprehensive coverage of selected surveillance and market assurance programs.

DPI has recently introduced a range of targeted initiatives to respond to these risks for example:

- the appointment of Principal Veterinary Officers specialising in surveillance and intensive industries to engage more closely with the pig and poultry industries
- the establishment of new surveillance programs including the provision of financial incentives to private veterinarians for submitting samples for diagnosis
- a refocussing of surveillance approach, from targeting for a low probability event (an EAD) to excluding the low probability event by looking for and confirming the higher probability event (an endemic disease).
- the development of a program to provide information, advice and training for new lifestyle landholders in three focus regions of Victoria.
- a review and enhancement of the IT capability to better handle the quantum and nature of surveillance data being generated by these initiatives.

Additional strategies to address these risks are discussed throughout this part of the report.

4.3.5 DPI is supported by high quality laboratory services

Surveillance, early detection and response activities require laboratory diagnostic capabilities to rapidly and accurately diagnose diseases.

BV's diagnostic services are delivered through both government and private laboratories. All veterinary laboratories in Victoria are required to be registered by the CVO to be legally able to test for prescribed diseases, and notify the results of tests for notifiable diseases. The prerequisites for registration are rigorous and appropriate to high quality laboratory services provision. To be registered, veterinary laboratories must: participate in approved proficiency testing programs, conduct tests in strict accordance with the Australian Standard Diagnostic Protocols, and operate under an approved quality system. We consider DPI's diagnostic services to be up-to-date and adaptable to support effective prevention, surveillance and response activities.

4.3.6 The livestock tracing system is critical to surveillance and early detection and should be expanded

Livestock tracing systems are critical to surveillance, early detection and response as they allow the prompt tracing of livestock throughout their lifetime. For the purposes of EAD management, this enables efficient and reliable tracing of animals exposed to a disease risk and provides better evidence of freedom from disease through surveillance programs, which is an increasing international demand. Property identification supports livestock tracing systems and disease control by providing information that facilitates prompt locating of properties and notification of owners of EAD outbreaks. This enables rapid disease isolation and tracing of animal movement between properties.

National simulation exercises conducted to test cattle and sheep tracing capabilities have demonstrated that Victoria is well-placed to trace cattle movement, but the sheep tracing system needs further development. Progress in the sheep tracing system is being impeded by national and industry constraints. Sheep are of particular concern as they can silently carry disease and can be moved rapidly over long distances as part of trade.

Systems are under development to trace swine and mainstream poultry production. It is much more difficult to trace livestock from peri-urban and small land owners. This group often has a poor understanding of the concepts of biosecurity risks and engage in animal transactions that have the potential to spread disease. The recent outbreak of EI has also highlighted the need to be able to identify horse properties. DPI has taken steps to encourage horse owners to obtain a Property Identification Code for this purpose.

BV should continue to place a high priority on engaging with other jurisdictions and industry to develop and implement livestock tracing systems.

4.3.7 DPI should introduce assessment and review of surveillance programs

DPI does not formally review or assess the performance of surveillance programs. Introducing regular assessment and review would assist with measurement and improvement of the overall approach to surveillance. Assessment could be qualitative, testing each program against criteria. Alternatively, more rigorous statistical methods could be used such as those under development through the Australian Biosecurity Cooperative Research Centre[2].

[2] See http://www.abcrc.org.au/pages/TechTransfer.aspx. Accessed: 01/09/08.

4.3.8 DPI should develop a surveillance strategy to coordinate its approach across the livestock value chain and align activities to changing risk profiles

We found that whilst there have been significant enhancements to animal health surveillance in Victoria (introduction of increased levels of activity and the engagement of additional epidemiological expertise) these have been the product of risk management processes rather than a coherent DPI surveillance strategy.

A consistent approach to biosecurity surveillance across all sectors to support effective early detection is required. A surveillance strategy should be developed which covers goals, objectives, roles and responsibilities, performance targets, timelines, resource investment and evaluation of effectiveness.

Most importantly the strategy should build in the capacity to change surveillance priorities and approaches according to changing risk profiles. This will enable the surveillance system to respond to new and emerging risks.

DPI has commenced initial work on the development of a surveillance strategy. This work should be a high priority and be appropriately resourced to ensure its timely development.

A DPI Surveillance Strategy would complement the recently approved National Animal Health Surveillance Strategy and assist in ensuring a consistency of understanding and purpose amongst those involved in implementing the programs.

4.4 Conclusion

Placing high priority on prevention and early detection is critical to maintaining adequate biosecurity, minimising the risk of an EAD event and preventing the significant consequent economic and social costs that can follow an EAD outbreak.

Whilst it is recognised that DPI works cooperatively with a wide range of livestock industries, DPI should increase its focus on gaining consistency of approach and commitment to improved biosecurity practice across the livestock value chain.

The introduction of biosecurity principles into quality assurance programs and trigger reporting requirements will significantly strengthen the focus on prevention, risk mitigation and early detection. Clarification of government expectations with respect to industry roles and responsibilities in biosecurity risk management and performance standards is needed to support increased levels of commitment and compliance with desired biosecurity practice.

DPI has a comprehensive approach to surveillance and early detection. DPI meets its obligations with respect to its contribution to national surveillance programs. In addition to national surveillance programs, DPI operates a number of state-based programs that provide increased biosecurity protection for livestock industries.

In recent years DPI has increased the quantum and changed the focus of surveillance activities undertaken and further enhanced its surveillance capability to address gaps. However, to support continuous improvement and improved effectiveness DPI should introduce an assessment and review process of surveillance programs.

A surveillance strategy is required to provide an agreed platform and coordinated approach across the livestock value chain. The strategy should allow the priorities and investment in surveillance programs to be altered to respond to changes in risk profiles as new diseases or threats emerge.

DPI's policy, planning, program development and operations arms should work closely together to support improved biosecurity awareness and practice. Regional staff could be utilised to promote improved awareness and engagement in local communities.

Recommendations

4.1 DPI should develop a strategy to deliver an integrated and coordinated approach to prevention and early detection across the livestock value chain. As part of the strategy DPI should:

- target high risk groups
- introduce legislation to clarify industry roles and responsibilities with respect to biosecurity practice and performance standards
- build industry and on-farm capacity to prevent and detect diseases early through incorporating biosecurity principles into QA programs and introducing trigger reporting requirements
- review the purpose, roles and responsibilities of existing consultative structures to support close alignment with objectives for improved biosecurity
- promote a close working relationship between policy, program development and operational arms dealing with livestock diseases
- give DPI regional extension staff an expanded role to improve awareness and engagement in local communities.

4.2 DPI should develop a surveillance strategy with agreed goals and a comprehensive, integrated approach to surveillance across the livestock value chain. The surveillance strategy should:

- define objectives, roles and responsibilities, performance targets, timelines, resource investment
- allow surveillance program priorities to be altered to meet changing risk profiles
- include evaluation of effectiveness.

5 DPI's preparation for and response to an EAD

At a glance

Background

When there is any suspicion of an Emergency Animal Disease outbreak, speed and certainty of action are critical to any response: 'speed' because every moment gives a pest or disease the opportunity to become widespread, as happened in the 2001 outbreak of Foot and Mouth Disease in the UK; and 'certainty' because a false positive diagnosis could be disruptive and costly, while a false negative could be devastating. Uncertainty also fosters delay and critical loss of time in responding to an outbreak.

Preparedness involves planning for and testing these arrangements through simulation exercises, ensuring adequate training and capability development and learning from experience. Clear arrangements detailing roles, responsibilities, policies and procedures for rapid response and management are critical to preventing disease spread.

Key findings

- The Department of Primary Industries (DPI) is well prepared for an EAD incursion through planning and participation in national, statewide and regional simulation exercises, and through its staff training program.
- Simulation exercises have targeted a range of relevant EADs and have assisted DPI to respond to EAD incursions.
- In future the selection of simulation exercises should be more clearly linked to the risk assessment processes to target coverage of high risk threats.
- The training program is comprehensive, responsive to identified and emerging issues, and demonstrates a strong commitment to continuous improvement.
- DPI managed the outbreaks of EI and Anthrax well. The response to both outbreaks was prompt, outbreaks were contained, policies and procedures followed and performance reviewed.

At a glance – *continued*

Key findings – *continued*

- DPI and the Department of Human Services (DHS) effectively manage endemic zoonoses regularly.
- In order to strengthen the ability to respond to a prolonged or large outbreak a strategy for capacity and capability should be developed.
- A standardised internal evaluation framework and periodic external evaluations should be introduced to enable comparison over time and to demonstrate independence and rigour of reviews of simulation exercises and response to EAD incidents. DPI should systematically record the implementation of recommendations from simulation exercises and response to EAD incidents. A system-level analysis of lessons learned should be implemented.

Key recommendations

To improve preparedness, DPI should clearly link the selection of simulation exercises to the risk management framework to target coverage of high risks **(Recommendation 5.1)**.

To support increased effectiveness in Emergency Animal Disease (EAD) response management DPI should:

- develop a strategy to improve capacity and capability
- refine and target the communication strategy to streamline the early warning
- undertake regular review and update of the policies and procedures
- work with DHS to establish a more systematic approach to developing protocols for managing specific zoonoses **(Recommendation 5.2)**.

DPI should develop an MOU with DHS that capitalises on and strengthens the current good working relationship to support joint forward planning and risk management and mitigate against relationship failure in the event of leadership change **(Recommendation 5.3)**.

DPI should formalise the approach and framework for evaluating simulation exercises and response to EAD incidents with guidelines to define the nature of the review process. This should include:

- developing a standardised internal evaluation framework to provide guidelines on the review process
- introducing periodic external evaluations of simulation exercises to enable comparison over time and to demonstrate independence and rigour
- developing guidelines for commissioning external evaluations of response to EAD incidents
- recording the implementation of recommendations from simulation exercises and response to EAD incidents
- introducing a system-level review of lessons learned **(Recommendation 5.4)**.

5.1 Introduction

When there is any suspicion of an emergency animal disease (EAD) outbreak, speed and certainty of action are critical to any response: 'speed' because every moment gives a pest or disease the opportunity to become widespread, as happened in the 2001 outbreak of Foot and Mouth disease (FMD) in the UK; and 'certainty' because a false positive diagnosis could be disruptive and costly, while a false negative could be devastating. Uncertainty also fosters delay and critical loss of time in responding to an outbreak.

This part examines two key aspects of the Department of Primary Industries' (DPI) management of EAD incursions:

- how DPI prepares for an outbreak
- how DPI responds to an outbreak/incursion.

The following factors are critical to an effective preparation and response to an EAD[1]:

- an adequate legislative base providing the necessary powers and authority to act
- thorough planning and documentation of agreed procedures and processes to ensure clarity of roles, responsibilities and actions
- ensuring that relevant frontline and specialist staff are available and trained to a high level of preparedness
- a communication strategy enabling a rapid communication response and targeted to different audiences
- a tracing system providing the ability to quickly identify potentially infected premises and reducing the spread of the disease (i.e., to check stock movements from and to the infected premises)
- an information technology (IT) system to manage data and provide information relevant to isolating disease locations
- a diagnostic system able to rapidly and accurately diagnose diseases
- systematic evaluation of experience and lessons learned incorporated into future management of EAD incursions.

5.2 DPI's preparation for a potential EAD event has been thorough

Readiness to respond effectively to an EAD incident is greatly assisted by testing the adequacy of incident management systems and processes, building staff capacity and capability and by incorporating lessons learned into future practice. DPI's overarching strategy for preparedness is set out in its Emergency Animal Disease Preparedness (EADP) Plan, which identifies planning and development activities, training and exercises to be undertaken for the year. This is reviewed and updated annually based on feedback and lessons learned from the previous year.

[1] VAGO, based on information supplied by DPI.

This section examines DPI's approach to preparing for an EAD by assessing the two major components of the EADP plan:

- simulation exercises
- capability training.

5.2.1 Simulation exercises

The overall purpose of simulation exercises is to maximise preparedness to respond to an EAD event. The objectives of EAD simulation exercises are:

- to train staff by providing an opportunity to rehearse their roles
- to test the robustness of operational guidelines including communication and IT support under different circumstances
- to test how well the interface between organisations work
- to test the adequacy of resources.

DPI places high priority on conducting regular simulation exercises to support preparedness

DPI regularly participates in national and state simulation exercises. Since 2002, DPI has:

- participated in four national exercises (two addressing the zoonosis Avian Influenza—AI—and two testing the effectiveness of tracing systems for cattle and sheep)
- conducted two state wide exercises (addressing AI and Equine Influenza—EI) and two regional exercises (testing regional responses to a FMD outbreak).

As part of a national exercise, DPI has also tested the effectiveness of livestock identification systems crucial to rapid response.

These exercises require considerable commitment, planning and resources on the part of DPI however they are essential to ensuring the state is prepared to respond to EAD outbreaks.

Figure 5A provides an overview of the various simulation exercises undertaken by DPI since 2002 and demonstrates that preparedness to respond to selected major EAD and zoonotic threats has been tested.

Figure 5A
Overview of simulation exercises from 2002–2007

Simulation exercise	Date
Exercise Minotaur—**simulated outbreak of FMD** • National exercise	September 2002
Exercise Gallus—**simulated outbreak of H5N1 AI** • Victorian statewide exercise • Real time desk top exercise	November 2004
Exercise Asclepius—**simulated outbreak of AI** • National exercise involving 2 group activities	February 2005
Exercise Bioterrorism—**simulated introduction of a biological contaminant into the dairy industry supply chain** • Victorian statewide exercise • Desk-top facilitated exercise, DPI in collaboration with Dairy Australia	April 2005
Exercise Pegasus—**simulated outbreak of EI** • Victorian statewide • Desk-top facilitated exercise, DPI in collaboration with the Victorian Racing Industries	June 2005
Exercise Eleusis—**simulated outbreak of H5N1 infection in chickens and humans** • National exercise	November–December 2005
Exercise Maffra—**simulated outbreak of FMD** • Victorian regional exercise • Practical, field-based exercise	October 2006
Exercise Bendigo—**simulated outbreak of FMD** • Victorian regional exercise • Practical, field-based exercise	November 2006
Exercise Cowcatcher2—**cattle tracing system** • National exercise • Tested government and industry's ability to trace cattle as if in a disease outbreak situation	May 2007
Exercise Sheepcatcher—**sheep tracing system** • National exercise • Tested government and industry's ability to trace sheep as if in a disease outbreak situation	July–August 2007

Source: Department of Primary Industries.

Simulation exercises have assisted DPI to prepare for EAD threats

The simulation exercise testing the handling of an EAD outbreak in the horse industry is widely regarded as critical to the successful handling of the recent EI threat in 2007. The statewide exercise held in Victoria (Pegasus) produced a number of recommendations that were implemented and shown to be effective in preparing DPI to manage the EI outbreak and prevent its entry into Victoria.

Selection of simulation exercises has been sound, however, a clearer link to the EAD risk profile should guide future choice

Selection of diseases for state-wide simulation exercises has been based on a high level of probability and a perceived low level of preparedness (e.g., AI and EI).These choices have proved to be valuable in identifying areas where further work is needed to achieve an appropriate level of readiness.

In future the choice of exercise should be clearly linked to the EAD risk assessment profile to enable the selection of exercises to be targeted to the highest risks through a rigorous and transparent assessment process.

5.2.2 Training

DPI places high priority on training to support preparedness and delivers a comprehensive training program

Training and capability development is a key component of DPI's preparation for responding effectively to an EAD incursion. Since 2003, DPI has substantially increased its commitment to training staff to perform effectively in an EAD.

DPI's animal health training program is comprehensive and prepares animal health staff for basic activities and roles in EAD emergencies. The training program is comprised of four elements:

- basic training for new staff to allow them to be gazetted to perform work activities defined in the *Livestock Diseases Control Act* (the Act)
- training for specific EAD management roles as defined in AUSVETPLAN and outlined in DPI's EADP plan
- simulation exercises
- personal development training plans based on annual self assessment by staff of their performance and training needs.

Training is responsive to identified needs and complements staff development

Initially, the primary focus of DPI's animal health training program was basic training aimed at sufficiently training all new staff to be gazetted as Inspectors of Stock and authorised to exercise powers as defined in the Act and to play designated roles in EADs.

The basic training program has expanded to respond to the identified gaps and emerging issues. For example, the training program has been expanded to address:

- veterinary capability through the Animal Disease Investigation training program for District Veterinary Officers aimed at enhancing skills in disease investigation and improving the submission of good quality farm animal specimens to laboratories. In addition, DPI has developed a Certificate of Gross Pathology to improve pathology skills and support more effective disease investigations.
- training for staff capability to undertake more than one role to increase flexibility in combating emergencies
- interpersonal skills and people management capabilities for staff with EAD management roles.

Training is regularly reviewed and staff feedback incorporated to improve programs

A five year rolling EADP training plan is in place and is reviewed annually. The annual review:

- assesses potential emergencies that may require a response—this is informed by national discussions and international intelligence
- undertakes a gap analysis of AUSVETPLAN requirements
- reviews existing staff capabilities.

In reviewing training there is a strong commitment to collecting feedback from managers, reviews and individuals.

5.3 Response to EAD incidents

5.3.1 Victorian legislation supports an effective EAD response

The *Livestock Disease Control Act* is the key legislative tool for responding to an EAD outbreak in Victoria and provides the necessary powers and authority to act. The Act

- confers upon the Governor-in-Council, minister, the departmental secretary and appointed inspectors wide-ranging powers to deal with EAD outbreaks effectively, e.g., to order the destruction of livestock, restrict movements
- places responsibility on owners/operators of livestock for specific disease response activities, e.g., notification and isolation of infected livestock.

Provisions to control EADs in the Act were implemented in the EI response and the Anthrax outbreak, and the livestock (equine) standstill was considered a critical measure in protecting Victoria and preventing spread of the disease.

DPI is currently reviewing the legislation to simplify a number of offences in the Act and facilitate enforcement and prosecution. These changes are expected to provide improved deterrence and biosecurity during an outbreak. We support DPI's efforts in reviewing the legislation to provide a stronger legislative basis to respond to an EAD.

5.3.2 DPI responded well to the EAD incidents

To test DPI's response to an EAD incursion, we examined:

- two recent case studies of EAD incursions (Anthrax and EI)
- the interface between DPI and the Department of Human Services (DHS) in managing zoonoses.

Examination of DPI's performance in managing the Anthrax outbreak and the EI incident revealed that, in both instances, while there were areas identified for improvement, the EAD response was handled well overall.

We found that in DPI's management of the incursions:

- response was prompt
- outbreaks were contained
- procedures were followed
- staff were trained to undertake technical requirements as per AUSTVETPLAN
- laboratory services (internal and external) were responsive and accurate
- communication was largely effective
- stakeholders were engaged
- IT support worked well
- performance was reviewed and outcomes from these incidents fed back into the planning and policy functions.

Figures 5B and 5C provide an overview of the case studies.

Figure 5B
Anthrax outbreak

Anthrax is an endemic disease that occurs unpredictably in different parts of Australia including Northern Victoria. The disease is most frequently encountered as sudden death in cattle and sheep and can be transmitted to humans where it usually presents as an infected wound and, if untreated, can be fatal.

In January 2007 an outbreak of the disease occurred in the Tatura, Stanhope, Wyuna areas of the Goulburn Valley. A knackery worker at Stanhope developed the disease and was successfully treated.

The outbreak started on a dairy farm near Stanhope where sudden unexplained cattle deaths prompted the property owner to seek assistance. Once the diagnosis was confirmed DPI immediately implemented its standard containment procedures including immediate vaccination of the infected and neighbouring farms. About two weeks later, cattle deaths started to occur on other properties in the area and DPI immediately quarantined the properties, destroyed carcases of dead animals and vaccinated cattle on properties with the disease and adjacent farms

As the scale of the incident became clear it was decided to set up a Local Disease Control Centre (LDCC), appoint key management personnel and commit other actions in line with the Manual of Procedures (MoP) and AUSVETPLAN. This was established on 3 February 2007 at the end of the second week of the outbreak.

DPI decided to control the disease by vaccination of large numbers of sheep and cattle in the region.

Up to 50 DPI staff operated from the LDCC during the first few weeks and a total of 98 DPI staff were involved at various times during the response. The requirement for additional DPI staff increased as the scale of the emergency increased. In addition, people from Dairy Food Safety Victoria, DHS, Dairy Australia, Primesafe, the Environment Protection Authority (EPA), Australian Quarantine and Inspection Service and the sheep and cattle industries were involved at different stages of the outbreak. Representatives of the regulatory agencies were involved early in the emergency to give them an opportunity to contribute to discussions about the safety of dairy and meat products from the region. Representatives of farmer organisations were also consulted early so that they could be briefed on the DPI plans and were in a position to re-assure their constituents. The EPA was involved to advise on environmental implications associated with destruction of carcases of dead animals.

A total of 35 183 cattle and 1 024 sheep were vaccinated on 218 properties in three districts. The last case of Anthrax occurred on 23 February 2007 and the LDCC operated until 16 March 2007.

In managing the outbreak DPI swiftly undertook the necessary steps to control the disease and prevent its spread including:

- quarantine of infected properties
- tracing of all livestock and product movements for the previous 20 days
- immediate vaccination of all animals on the infected farm and adjoining farms
- destruction of carcases of anthrax cases
- notification of the Australian CVO who notifies AQIS
- notification of DHS, Dairy Food Safety Victoria, Dairy Australia and Primesafe
- communication as required: communication was initially confined to people that had an immediate need to know; general communication had to be timed to ensure that it did not create a panic.

Source: Victorian Auditor-General's Office, based on information supplied by DPI.

Figure 5C
Equine Influenza (EI) incursion

An outbreak of EI occurred in New South Wales (NSW) and Queensland (Qld) in August 2007. The EI virus causes an acute respiratory disease in horses, donkeys and mules. In general, the practice of widespread vaccination reduces the amount of clinical disease. From time to time there are outbreaks of EI in other countries but, until August 2007, the disease was not present in Australia.

On 8 August 2007 a shipment of horses arrived in Australia. Of these, 52 were assigned to Eastern Creek Quarantine Station in NSW and 27 to the Spotswood Quarantine Station in Victoria. On 17 August one horse at Eastern Creek was diagnosed with clinical signs of EI and on 22 August two horses in Sydney showed clinical signs of the disease.

In September and October 2007 the disease spread quickly to other areas in NSW and to Qld. This outbreak was the biggest emergency response in the history of DPI even though the disease did not occur in Victoria.

DPI mounted a major response to prevent entry of horses into the state and to investigate all suspected occurrences of the disease. Within two weeks of the outbreak DPI had:

- controlled stock movements by declaring a standstill of all horse movements including the cancellation of race meetings and other equestrian events (25 August 2007)
- established a State Disease Control Headquarters at Attwood (26 August 2007)
- set up an EI helpline (26 August 2007)
- set up DPI border control arrangements (1 September 2007)
- engaged a security company to take over border control (8 September 2007)
- implemented a system of inspection and reporting of animals with respiratory disease
- advised regional staff of developments (25 and 26 August 2007)
- briefed the Central Government Response Committee
- established communication at the state and local level
- implemented a system of inspection and reporting of animals with respiratory disease.

DPI also provided assistance to NSW and Qld, where the response efforts of those jurisdictions successfully eradicated the disease. A total of 20 DPI staff were sent to Qld and NSW for short (about 2 weeks) assignments to provide specialist assistance and to observe the management of the outbreak.

Between August 2007 and March 2008, more than 350 DPI personnel were directly involved in the emergency response to EI. From the beginning of the emergency non-animal health staff were required to assist but, because of their lack of specific EAD training, they could not be used to their full potential. This finding has prompted DPI to initiate training of people elsewhere in the department. While the Central Government Response Committee was briefed early in the emergency there were limited communications with Victorian Government bodies other than those directly involved in the emergency such as Victorian Police, DHS and VicRoads.

The disease did not occur in Victoria.

Source: Victorian Auditor-General's Office, based on information supplied by DPI.

5.3.3 DPI should develop a strategy to address capacity and capability

The major issue identified in the EI outbreak was that resources were considerably stretched. This raises concern about DPI's capacity and capability to sustain their response in a prolonged or large outbreak. National simulation exercises have also highlighted that a major emergency will quickly exhaust the pool of trained staff.

In order to boost capacity in times of emergency DPI has agreements at the national and state level for resource sharing. At the national level, DPI has commitments to the Rapid Response Team (RRT). The RRT comprises animal disease and emergency management experts from the national, state and territory governments who can be deployed to fill key positions in an EAD control centre within 24 hours, anywhere in Australia. At the state level, DPI has an MOU to provide mutual support to NSW. DPI also has an agreement with DSE to provide mutual support in emergency management. DSE has called upon this agreement to obtain DPI's assistance in bushfire management.

The EI outbreak demonstrated the shortcomings of this arrangement in a large, inter-jurisdictional outbreak. DPI had limited capacity to provide additional staff to other states given the need to protect Victoria from disease, whilst other states combating the outbreak were not able to supply additional staff to Victoria. This indicates that alternative approaches are required in inter-jurisdictional outbreaks.

DPI has taken some steps to respond to the capacity problem by funding training in AUSVETPLAN roles for 40 DPI staff (non-animal health). In addition, DPI is recruiting internal staff for the Emergency Response and Recovery Team (ERRT), to provide a pool of generic emergency management skills to fill non-animal health key roles during an emergency. The ERRT was established to increase DPI's capacity to respond to non-disease emergencies and to increase the effectiveness and efficiency of DPI emergency management through improved structures, coordination, capacity, processes and support systems.

A further weakness identified in the EI outbreak was DPI's reliance on a single industry liaison officer (ILO) for the duration of the outbreak. ILOs play a key role in liaising between industry and government to assist with smooth response during an outbreak. Reliance on a single person in a critical lynchpin position is a risk to smooth management of a response. DPI should engage with livestock industries to expand the number of ILOs appointed in an emergency to mitigate against the risk of a communication breakdown with industry.

The case studies and simulation exercises demonstrate that DPI should place high priority on developing a strategy to address the capacity and capability to deal with a large or extended emergency.

5.3.4 DPI should refine its communication strategy to target all stakeholders to assist with early warning and effective response

Effective communication is critical to the management of an EAD. Communication was a major challenge in the EI emergency because of the public interest in the cancelling of horse events and the disruption of horse movements in the early stages of the outbreak.

We found that on balance while some elements of the DPI communication were slow to start, in the end, the department developed a large and effective publicity campaign.

However, DPI should further develop its communication strategy to include planning for specific disease emergencies, clearly outlining the key steps, processes and timing to assist early warning and effective delivery of communications to relevant stakeholders and the community.

5.3.5 EAD policies, procedures and protocols should be updated

While policies and procedures were generally adhered to in both outbreaks a key issue identified in the Anthrax incident was the need for the policy and procedures manual to be revised and updated. MoPs and Standard Operating Procedures (SOPs) are important in providing uniformity, consistency and reliability in the activities performed in responding to an EAD outbreak. They also assist to reduce errors and provide valuable training tools and guidance for staff.

There is a wide range of undocumented policy and operational knowledge held by experienced DPI staff which should be captured in the policies and procedure manuals. This is particularly important given staff turnover and that a number of experienced staff are due to retire.

DPI has acted to address this shortfall and has commenced the update of the Anthrax MoP. It is important however that all manuals are systematically reviewed and updated to ensure they capture the knowledge of experienced staff.

While DPI and DHS have some protocols in place for zoonotic disease management, for example for Anthrax, generally there is not a suite of protocols between DPI and DHS for managing each exotic disease. DPI and DHS should establish a more systematic approach to developing protocols for managing specific zoonoses that are linked to the risk profile.

5.3.6 DPI and DHS have effectively managed endemic zoonotic diseases

We examined how DPI and DHS respond to zoonosis and found the departments have established clear responsibilities that are defined as follows.

- DPI is responsible for managing a zoonosis outbreak in animals and will notify DHS to manage the occurrence or threat to human health.
- DHS will notify DPI if a human disease is suspected to be of animal origin, DPI will lead investigations into the origin and options for management.

DPI and DHS regularly cooperate to manage food poisoning (for example, caused by salmonella outbreaks in eggs) through joint investigations of the source and development of a management plan to reduce the salmonella contamination. In addition, the two departments are jointly supporting a project to improve understanding of egg-borne salmonellosis aimed at reducing the public health impact of this recurrent problem.

DPI and DHS also have agreed arrangements to investigate and devise control strategies to prevent further spread of specific zoonoses, such as Psittacosis, Q Fever and Leptospirosis. Other zoonoses, such as Anthrax, generally occur on a larger scale and are managed as an EAD outbreak.

The Arbovirus Monitoring Program is funded by DHS and involves maintenance of sentinel poultry in regional areas in the Murray Valley to test for a number of arboviruses, including Murray Valley Encephalitis. DHS and DPI have signed a Memorandum of Understanding (MOU) to assist management of this annual program.

5.3.7 The DPI/DHS relationship should be formalised to manage risk

The DPI/DHS interface works well with the two agencies responding effectively to zoonoses outbreaks or threats. However, the DPI/DHS interface is built on strong personal relationships and high levels of mutual respect between the senior managers rather than formalised structures and processes. This represents a risk as future leadership change could affect the capacity to respond to an incident or failure to have systematically and adequately assessed risks. The predicted increase in zoonoses and their potential impact on human health and economy warrants a stronger governance framework and clearer structural relationship.

A more formalised approach could readily evolve from the current good relationship and expand its scope to:

- formalise objectives and purpose
- clarify roles and responsibilities
- include joint planning arrangements and risk management procedures
- document operational procedures

- include internal and external joint communication strategies to ensure messages are in unison with health and primary industry objectives
- determine cost sharing arrangements for managing zoonotic EAD incidents
- plan joint training and capability development
- undertake review and evaluation of performance.

DPI should seek to formalise the relationship with DHS through the development of an MOU to ensure adequate forward joint planning and risk management and to mitigate against relationship failure when leadership changes.

5.4 Review of simulation exercises and DPI response to EAD incidents

5.4.1 Simulation exercises and response to EAD incidents are routinely reviewed, however, the evaluation approach and framework should be formalised

Simulation exercises and response to EAD incidents are routinely reviewed and the detailed recommendations have largely been incorporated in future planning and training for EAD responses. This process is evidence of DPI's commitment to continuous improvement (the overall approach is discussed in part six).

Recommendations for changes to exercises, processes and training are assessed intuitively from a risk management perspective and are then prioritised and embedded into the following year's plan. In addition, an annual review plan is discussed with key stakeholders and incorporated into the review timetable.

While DPI demonstrated that they have implemented some of the recommendations from these reviews, the extent of the implementation is not systematically recorded.

A standardised internal evaluation framework and periodic external evaluations should be introduced to enable comparison over time and to demonstrate independence and rigour of reviews of simulation exercises and response to EAD incidents. DPI should systematically record the implementation of recommendations from simulation exercises and response to EAD incidents. A system-level analysis of lessons learned should be implemented.

5.5 Conclusion

DPI has prepared well for the event of an EAD outbreak. DPI's regular participation in national and state simulation exercises and the priority allocated to training are evidence of steps taken to maximise readiness to respond to an event.

In future, linking the selection of simulation exercises more clearly to the EAD risk profile will assist with targeting exercises to highest risks and strengthen the approach to preparedness.

We examined two recent EAD incidents and found that these were handled well. DPI's response was prompt and necessary actions taken to curb the spread of disease and avoid the potential negative economic, social and health impacts. In the case of the EI incident the prompt, decisive action taken by DPI significantly contributed to preventing the entry of EI into Victoria.

DPI and DHS have a close working relationship that has facilitated effective management of endemic zoonoses and minimised the risks to public and animal health. DPI and DHS have also undertaken simulation exercises to prepare for an AI outbreak. Formalisation of the DPI/DHS relationship through the development of an MOU would provide higher levels of assurance with respect to systematic joint planning and risk management for a major zoonotic event.

DPI routinely reviews simulation exercises and response to EAD incidents with lessons learned incorporated to improve practice and preparedness. The introduction of a formalised, rigorous framework for internal evaluation, periodic external evaluation, and a system-level analysis of lessons learned would also be beneficial to EAD planning.

The major issue identified by this audit is DPI's capacity and capability to manage a large or prolonged outbreak. The EI event in particular demonstrated that the reserve capacity of trained staff is quickly exhausted in the face of a major EAD experience. There is a need to develop a strategy to address capacity and capability and to address technical shortages.

Policy and procedures manuals should be revised and updated to fully capture field experience. The communication strategy should be refreshed to strengthen the early warning phase. The provision for ILOs in an emergency should be expanded.

Recommendations

5.1 To improve response preparedness, DPI should clearly link the selection of simulation exercises to the risk management framework to target coverage of high risks.

5.2 To support increased effectiveness in EAD response management DPI should:

- develop a strategy to improve capacity and capability
- refine and target the communication strategy to clearly outline the key steps, processes and timing to ensure early warning and smooth delivery of communications to all relevant stakeholders and the community
- ensure systematic review and update of the Manual Of Procedures and Standard Operating Procedures

- work with DHS to establish a more systematic approach to developing protocols for managing specific zoonoses.

5.3 DPI should develop an MOU with DHS that capitalises on and strengthens the current good working relationship to support joint forward planning and risk management and mitigates against relationship failure in the event of leadership change. The MOU should clarify:

- objectives and purpose
- roles and responsibilities
- joint planning arrangements and risk management procedures
- document operational procedures
- internal and external joint communication strategies to ensure messages are in unison with health and primary industry objectives
- cost sharing arrangements for management of a zoonotic EAD
- joint training and capability development
- review and evaluation of performance.

5.4 DPI should formalise the approach and framework for evaluating simulation exercises and EAD incidents with guidelines to define the nature of the review process. This should include:

- developing a standardised internal evaluation framework to provide guidelines on the review process
- introducing periodic external evaluations of simulation exercises to enable comparison over time and to demonstrate independence and rigour
- developing guidelines for commissioning external evaluations of EAD incidents
- recording the implementation of recommendations from simulation exercises and response to EAD incidents
- introducing a system-level review of lessons learned.

6 Performance monitoring, reporting and continuous improvement

At a glance

Background

A key element of the audit was to assess whether the Department of Primary Industries (DPI) adequately measures, monitors and reports on the performance of Emergency Animal Disease (EAD) planning and response. We reviewed DPI's performance management framework for biosecurity and the nature of reporting on biosecurity planning and management. This included a review of performance reports to determine the degree to which they provided adequate transparency and accountability concerning performance. DPI's EAD information systems, BioWeb and ADMIS were reviewed to determine their effectiveness in surveillance and response to an EAD. DPI's approach to continuous improvement was also examined.

Key findings

Performance measurement, monitoring and reporting is well developed and relevant with respect to achievement of objectives. In particular it was found that:

- the performance measurement framework is consistent with recognised good practice
- business plans provide clear linkages between their individual objectives and the DPI vision, purpose, outcome and strategies
- commitments are aligned to DPI key result areas (KRAs) and strategies. Key performance indicators (KPIs) and an associated reporting timeframe are developed for these commitments
- performance information is collected regularly and reports are produced accordingly
- performance reporting is extensive and accountable.

The EAD management systems, BioWeb and ADMIS continue to evolve and develop as the key biosecurity systems for DPI. These systems have been shown to be effective in EAD emergencies. Complete and reliable data is important for timely and efficient management of EADs. However, there is some compromising of data integrity within BioWeb and ADMIS, which needs to be addressed.

At a glance – *continued*

Key recommendation

- Biosecurity Victoria should enhance controls to provide assurance regarding data integrity. This process should include:
  - working with local government to provide accurate and complete property data across the state
  - enhancing processes for ensuring consistent notification of disease events across regions
  - reviewing all processes related to the collation, input, processing, output and protection of data to improve the integrity of the system **(Recommendation 6.1)**.

6.1 Introduction

The development and use of a comprehensive performance management framework is integral to the effective management of biosecurity incidents. An effective performance management framework for biosecurity incident management should enable the Department of Primary Industries (DPI) to:

- demonstrate its achievements in relation to relevant organisational objectives
- identify the contribution and effectiveness of planning and response to the achievement of broader organisational and government objectives
- continuously improve planning and response
- develop future strategies based on evaluation of experience.

An effective performance management framework contains the following elements:

- *Performance information*—quantitative or qualitative information collected through monitoring at regular intervals.
- *Performance measurement*—performance information is analysed against performance measures to assess the program/service against appropriateness, effectiveness and efficiency.
- *Performance reporting*—findings of performance measurement are reported on. This information is used for business planning and accountability.

Continuous improvement is both a mind-set and a range of techniques to review and evaluate work processes. As a mind-set, it is a way of approaching work so that a culture of innovation and creativity is encouraged. As a range of techniques, continuous improvement includes approaches such as benchmarking, re-engineering, quality management, organisational reviews and performance management.

This part examines DPI's performance management framework, incorporating performance monitoring, information management and reporting and the overall approach to continuous improvement.

6.2 DPI's performance management framework

6.2.1 DPI's performance management framework is well developed, includes appropriate measures and is consistent with better practice

The performance management framework includes measures to assess performance in terms of appropriateness, effectiveness and efficiency. For example:

- appropriateness measures include applying learning of simulation exercises and the implementation of the training plan

- effectiveness measures include National Livestock Information System (NLIS) performance regarding traceability (i.e., tailtags ordered), Transmissible Spongiform Encephalopathies (TSE) samples collected, herds participating in test and control programs and saleyard visits
- efficiency measures include staff numbers and response time to EAD incidents.

Appendix D provides a summary of BV's performance measures and reporting.

Biosecurity Victoria (BV) and Animal Standards Branch (ASB) Business Plans provide a clear linkage between BV and ASB objectives and focus on the DPI vision, purpose, outcomes and strategies. BV has tied commitments directly to DPI key result areas (KRAs) and as such the achievement of these commitments assist in the achievement of overall objectives. Appendix D demonstrates alignment of ASB commitments with DPI key strategies and KRAs.

Figure 6A highlights how the performance management framework is aligned with the FABRIC[1] performance management framework developed by the British Government as a better practice approach for designing performance management frameworks.

Figure 6A
Example of the way in which BV uses the FABRIC approach

Focus	The BV Business Plan presents BV's Key Project Alignment to DPI KRAs. The information is aligned with and refers specifically to the 6 DPI KRAs.
Appropriateness	Reporting appears to be well targeted and BV has developed procedures to maintain a high quality of reporting e.g., AHA quarterly reporting guidelines.
Balance	The measures and reporting appear comprehensive although there is some tendency towards 'good news' outcomes.
Robustness	The measures and reporting are comprehensive and include measurement of appropriateness, effectiveness and efficiency.
Integration	Performance information and reporting is incorporated in the business planning documentation as well as service level agreements with AHFS.
Cost efficiency	The development of ADMIS to capture and report on large volumes of BV data would appear to have greatly assisted in making the monitoring and reporting process cost-effective.

Source: Victorian Auditor-General's Office (2008).

[1] See UK HM Treasury et al., *Choosing the Right Fabric: A Framework for Performance Information*, March 2001, http://www.nao.org.uk/guidance/focus/fabric.pdf. Accessed: 15/04/08.

6.3 DPI's performance reporting

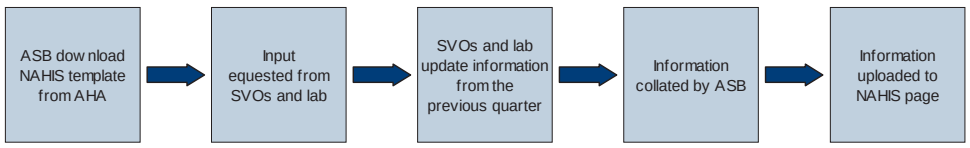
6.3.1 Performance reporting is comprehensive and aligns with state and national level reporting requirements

The BV Business Plan is used to report on the performance of BV's EAD planning and response. Variables such as quantity, quality and timeliness of BV's EAD planning and response are reported for the previous year and new measures are established for the coming year.

Performance reporting within BV can be traced from higher level corporate measures through to low level operational measures (e.g., numbers of TSE samples collected). These performance measures are identified in various corporate documents including the Animal Standards Branch (ASB) Business Plan and the ASB Disease Surveillance Program Plan.

In addition to internal reporting, BV actively participates in national reporting processes through AHA. An example of this is the quarterly report for AHA prepared by BV. The process used for preparing these reports is illustrated in Figure 6B.

Figure 6B
AHA Quarterly Reporting



Source: Victorian Auditor-General's Office (2008).

Further monitoring and reporting is provided through simulation exercises and each has a clear rationale and well-defined evaluation plan.

6.3.2 Reporting on the performance of BV with regard to EAD monitoring and response is comprehensive

The status of EAD planning and response is reported in a range of formats including annual reports, business plans and AHA reporting. Each of these contributes to accountability for appropriate biosecurity management within BV.

Reporting information provided by BV is generally:

- easy to understand, relevant and demonstrates a clear link to the organisational objectives and government goals
- appropriate, providing sufficient information to assess the extent to which the organisation has achieved its goals, outcomes or specific targets

- fair in its representation of the performance of the agency in that it does so accurately and without bias, including performance shortfalls
- does not contain any discernible gaps.

The veracity of BV's performance reporting is tested through its participation in ongoing AHA reporting, which allows for benchmarking against other states.

An examination of BV's outputs indicate they have met or exceeded their targets for 2006–07 as outlined in Budget Paper Three. Appendix D describes BV's results for 2006–07.

6.4 Information management

6.4.1 DPI has an information management system that supports an effective EAD response

Adequate information systems are critical to the effective performance of EAD biosecurity functions. An EAD information system that allows for information sharing on the progress of disease spread and management within the state and between jurisdictions as required by the type of EAD incursion is a key element of an effective EAD response.

BioWeb and ADMIS are the two information management systems DPI uses for biosecurity incident management. BioWeb connects information from a variety of sources and databases and provides an innovative system for linking key data relevant to an effective EAD response. Sources and databases include the Property Identification Tailtag Register (PITR), the National Livestock Identification System (NLIS) Mirror, the Livestock Tag and Trace (LTAT) and the ADMIS system.

ADMIS is a data storage system developed by DPI to case manage properties and diseases. The data contained on the system includes NLIS information, historical data, observational data entered by Animal Health Field Services (AHFS) and laboratory results entered by ASB. The information in the system is primarily used for an EAD response involving an endemic disease. ADMIS's superior functionality and direct linkage to the NLIS means that DPI can respond to an EAD more quickly effectively than under the previous national ANEMIS system.

In addition to ADMIS, DPI has developed LiveTrace over the last eighteen months utilising data from the NLIS Mirror, ADMIS and PITR databases. LiveTrace links the different systems to allow for efficient comparison and graphical presentation of a large amount of data in an easy to read format. For example, analysis can be performed to identify all other animals with which an infected animal has had contact. This epidemiological capability will be extremely valuable in a disease outbreak, and is currently unique internationally to Victoria.

The flexibility and responsiveness of DPI's biosecurity management was demonstrated during the recent EI incident. BV relied on ADMIS's spatial functionality to identify where horses were located and were able to successfully manage the movement of horses.

6.4.2 Data Integrity issues within BioWeb need to be addressed

Figure 6C outlines the type of data integrity controls BV has in place.

Figure 6C
BV's Data Integrity Controls

Data Integrity Control	Description of Integrity Control
Data Authorisation Controls	These controls provide security regarding who has access to information within BioWeb and identification of required data entry within AHFS service level agreements.
Data Input Controls	These controls include the development of a Manual of Procedures, SVO review of data entered by AHOs and the conduct of audits under the ISO certification process.
Data Processing Controls	These controls include the establishment of an ADMIS working group that authorises changes to the system and the documentation of development and change controls under the International Organization for Standardization (ISO) certification process.
Data Output Controls	These controls include the specification of quarterly reports within AHFS service level agreements.
Boundary Controls	These controls include the maintenance of an active directory and active controls over sensitive information.

Source: Victorian Auditor-General's Office (2008).

Whilst BV's data integrity controls strengthen BioWeb's ability to capture information, there are two issues with existing data integrity and validation processes that need to be addressed, including the:

- differing approach to data entry across the regions, with some regions being significantly better than others
- incomplete entry of property data.

The first prevents BV from providing assurance that the information from within the BioWeb system is accurate and complete. To address this issue, BV is attempting to implement a validation process in the database—although data that has not been entered cannot be validated.

The second is caused by a lack of cooperation from a local government authority in providing property data, which will need to be resolved through negotiation.

The issues are indicative of inadequate controls around data entry and validation indicating a lack of system maturity. To strengthen its data integrity, BV needs to further develop its:

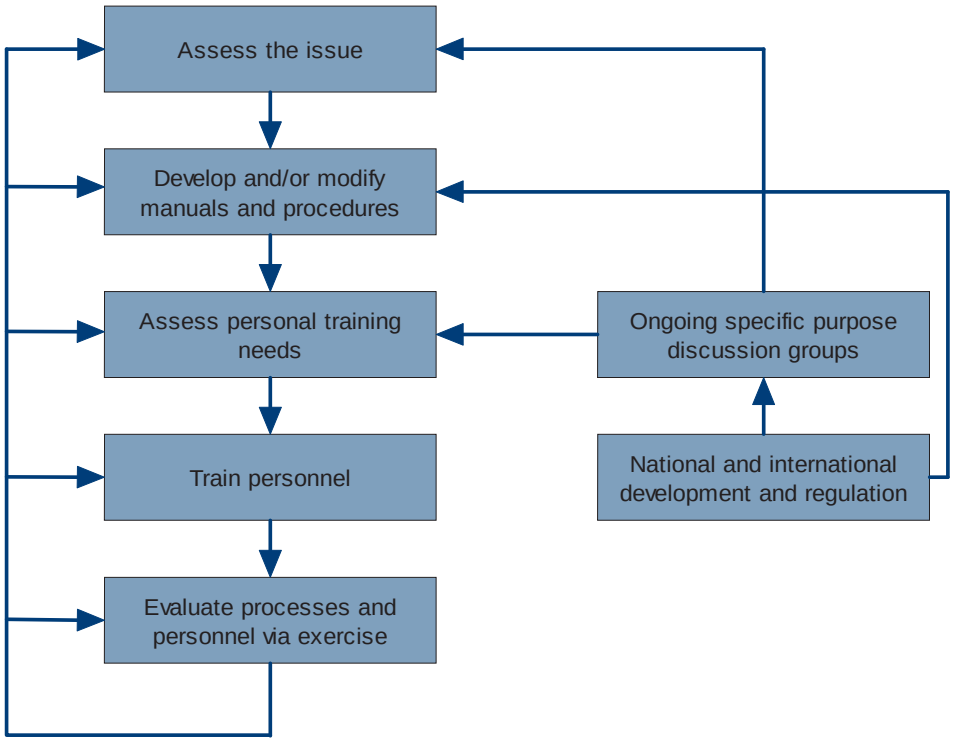
- data authorisation and input controls to provide assurance on the integrity of data collation and entry processes into the data information system
- data processing and output controls to provide assurance on the integrity of the information system when processing input data and generating output data
- boundary controls to provide assurance on the integrity of information originating from outside the organisation and protection of information during transmission and transport.

6.5 Continuous improvement

6.5.1 Systems and process are in place to support continuous improvement in planning and risk management for biosecurity incidents

The process of continuous improvement is based on the 'plan, do, check, act' model. The implementation of this model varies, ranging from very formal implementation of continuous improvement within ASB to meet ISO certification requirements, through to less formalised reviews of national and international developments through such mechanisms as localised discussion groups to capture lessons learned. The process is embedded in key corporate documents, for example, the BV Business Plan notes that 'Learnings from evaluation of the exercise have been applied to further refine and improve response plans'. Part 5 of the report has outlined the approach to review and evaluation of simulation exercises, EAD incidents and capability training as evidence of continuous improvement. Figure 6D depicts BV's continuous improvement model.

Figure 6D
BV's continuous improvement model



Source: Victorian Auditor-General's Office (2008).

6.6 Conclusions

The performance management framework supporting EAD planning and response is clearly articulated and is able to account for the achievement of DPI and government objectives. BV performance measurement and reporting is reflective of and connected to higher level DPI Key Strategies and KRAs.

Performance monitoring and reporting within BV is transparent and incorporates both qualitative and quantitative reporting. Performance monitoring and reporting covers a broad continuum, from high level achievements through to very low level specification for field testing.

The BioWeb/ADMIS systems provide BV with a comprehensive platform for managing EAD planning and response. The functionality of BioWeb and ADMIS ensures that they remain the systems of choice for BV.

Continuous improvement is embedded in DPI's development of biosecurity incident management.

Recommendation

6.1 BV should enhance controls to provide assurance regarding data integrity. This process should include:

- working with local government to provide accurate and complete property data across the state
- enhancing processes for ensuring consistent notification of disease events across regions
- reviewing all processes related to the collation, input, processing, output and protection of data to improve the integrity of the system.

Appendix A.
Acronyms

Acronym	Definition
ADMIS	Animal Disease Management Information System
AHA	Animal Health Australia
AHFS	Animal Health Field Staff
AI	Avian Influenza
ANEMIS	Animal Disease Emergency Information System
ASB	Animal Standards Branch
AusBIOSEC	Australian Biosecurity System for Primary Production and the Environment
AUSVETPLAN	Australian Veterinary Emergency Plan
BV	Biosecurity Victoria
CVO	Chief Veterinary Officer
DHS	Department of Human Services
DPI	Department of Primary Industries
DSE	Department of Sustainability and Environment
EAD	Emergency Animal Disease
EADRA	Emergency Animal Disease Response Agreement
EADP	Emergency Animal Disease Preparedness
EI	Equine Influenza
EMA	Emergency Management Act
EMMV	Emergency Management Manual Victoria
EPA	Environmental Protection Authority
ERRT	Emergency Response and Recovery Team

FMD	Foot and Mouth Disease
ILO	Industry Liaison Officer
ISO	International Organization for Standardization
IT	Information Technology
KPI	Key Performance Indicator
KRA	Key Result Area
LDCC	Local Disease Control Centre
LTAT	Livestock Tag and Trace
MoPs	Manual of Procedures
MOU	Memorandum of Understanding
NAHPS	National Animal Health Performance Standards
NLIS	National Livestock Identification System
NSW	New South Wales
OB	Ovine Brucellosis
PITR	Property Identification Tailtag Register
QA	Quality Assurance
QLD	Queensland
RRT	Rapid Response Team
SoPs	Standard Operating Procedures
TSE	Transmissible Spongiform Encephalopathy

Appendix B.
Glossary of terms

ADMIS

ADMIS (Animal Disease Management Information System) is the software package created by DPI to store all property-related information in animal disease and welfare issues.

ANEMIS

The Animal Emergency Management Information System (ANEMIS) software is a record based computer program designed to store and retrieve information about disease control activities carried out at a local disease control centre. ANEMIS is used in conjunction with the ADMIS system.

‘All hazards, all agencies’ approach

An ‘all hazards, all agencies’ approach to emergency management ensures arrangements are able to deal effectively with a wide range of emergency situations, including emergencies for which there has been little or no experience, such as emergency animal disease, terrorist incidents, or natural disasters.

Australian Biosecurity System for Primary Production and the Environment (AusBIOSEC)

A national initiative designed to enhance national biosecurity arrangements.

Australian Veterinary Emergency Plan (AUSVETPLAN)

The national emergency management plan for responding to an emergency animal disease outbreak. The plan is made up of a compendium of volumes dealing with different diseases and livestock-related enterprises and procedures.

Biosecurity

Biosecurity is a general description for a set of measures designed to protect a country, state, or individual farming properties from the entry and spread of unwanted animals, pests, diseases and weeds.

BioWeb

Bioweb is a secure DPI intranet site, managed by Biosecurity Victoria.

Bovine Spongiform Encephalopathy (BSE)

A fatal nervous disease of cattle. It is part of the TSE group of diseases.

Cattle

Means any bull, cow, ox, steer, heifer, calf or buffalo.

Emergency animal disease

A disease that is (a) exotic to Australia or (b) a variant of an endemic disease or (c) a serious infectious disease of unknown or uncertain cause or (d) a severe outbreak of a known endemic disease, and that is considered to be of national significance with serious social or trade implications.

Emergency Animal Disease Response Agreement (EADRA)

A national agreement between all jurisdictions and peak industry bodies for managing prevention, response and recovery from an emergency animal disease outbreak, including cost sharing arrangements.

Emergency Animal Disease Response Plan (EADRP)

An incident-specific Emergency Animal Disease Response Plan (EADRP) is prepared by the Chief Veterinary Officer using the relevant AUSVETPLAN. The EADRP provides contingency information for all aspects of a particular disease outbreak in Australia.

Emergency Management Manual Victoria (EMMV)

This manual underpins all Victorian emergency management response arrangements, including large scale disease outbreaks. It contains policy and planning documents, as well as information on the roles of different agencies in terms of prevention, response and recovery for emergency incidents.

Endemic animal disease

A disease affecting animals that is known to occur in Australia.

Endemic zoonotic diseases

Endemic is the ecological state of occurring naturally in a population or place. A zoonosis is a disease transmissible between animals and humans. Therefore, for the purpose of this report, endemic zoonotic diseases are animal diseases that occur naturally in Australia and that are transmissible to humans.

Enzootic Bovine Leucosis

A viral disease that causes leukaemia in cattle.

Epidemiology

Epidemiology describes disease patterns in animal (including human) and plant populations, identifies the causes of diseases and provides data essential for the management, evaluation and planning of services for the prevention, control and treatment of disease.

Exotic animal disease

A disease affecting animals that does not normally occur in Australia.

Exotic zoonotic disease

An exotic zoonotic disease is an animal disease transmissible to humans that does not normally occur in Australia.

Incursion

An incursion refers to the introduction of an exotic disease from overseas.

International Organization for Standardization

An international-standard-setting body composed of representatives from various national standards organisations. The organisation promulgates world-wide proprietary industrial and commercial standards.

Johne's Disease

An infectious fatal wasting disease that can occur in sheep and cattle.

Livestock

For the purposes of this audit, livestock refers to the horses, cattle, sheep and other useful animals kept or bred. It does not include fisheries, acquaculture or bees.

Livestock Disease Control Act 1994

The Livestock Disease Control Act (1994) provides the legal basis for monitoring and control of diseases of animals in Victoria.

Livestock product integrity programs

Livestock product integrity programs assist in strengthening food safety systems, e.g., the National Livestock Identification System.

Livestock Tag and Trace (LTAT)

LTAT is a multi-species tag registering and tracing system that accommodates mob based and individual movement tracing, animal sighting, treatments, and PIC and device status.

Livestock value chain

The livestock value chain is the full range of activities from the earlier level of input, through processes along the chain, to delivery of the final product to the consumer. It includes breeders, producers (their input suppliers such as stockfeed companies), abattoirs, meat processors, transporters, packers, wholesalers, marketers, retailers and import/export distributors.

Manual of Procedures (MoP)

MoPs are authorised written procedures that provide guidance on responding to a specific disease or carrying out specific activities, e.g., responding to an Anthrax outbreak, imported cattle monitoring.

National Animal Health Performance Standards (NAHPS)

Animal Health Australia is charged with a number of responsibilities under EADRA. One of these is to assist members in improving the capability and performance of the national animal health system. NAHPS is assessed against the core functions of consumer protection, trade and market access, disease surveillance, endemic disease management, emergency preparedness and response and livestock welfare.

National Biosecurity Committee

On 1 July 2008 the new National Biosecurity Committee became the new advisory committee to the Primary Industries Standing Committee and the Primary Industries Ministerial Council, replacing the Primary Industries Health Committee.

National Livestock Identification System (NLIS)

The national scheme operating throughout Australia for the identification and tracing of livestock, and operating under the auspices and direction of SAFEMEAT.

National Livestock Identification System (NLIS) Mirror

The NLIS Mirror links into PITR, ADMIS and LTAT. It holds all NLIS movements and device status information and can be used to produce ad-hoc reports in a more efficient manner than reports sourced directly from NLIS. The NLIS Mirror is synchronised with the NLIS database each night.

NLIS database

National database operated by MLA which holds the register of NLIS Devices, including microchip and associated NLIS numbers, transaction records, and residue, disease and market access status information for Property Identification Codes and NLIS identified cattle and sheep identified with electronic NLIS (Sheep) tags. The database also facilitates the provision of carcase feedback to producers.

Outbreak

An outbreak refers to a sudden and active manifestation of a disease.

Peri-urban/small rural landholders

Refer to the emerging sector of buyers of agricultural land around the fringes of Australia's major cities, rural urban centres and amenable regional locations motivated by lifestyle choice. These landholders are distinctively different from traditional commercial farmers in their characteristics, values, attitudes and land management practices. While they may live on rural properties, land use activities are not solely productivity driven and often reflect urban values. Farming is usually not their primary occupation, background or main income source.

Producer

A person, organisation or company actively engaged in the raising of cattle, sheep or goats for subsequent sale, and includes dairy farmers, feedlot operators and fibre goat producers.

Property Identification Code

A Property Identification Code is a unique identifying code assigned to each agricultural property in the State, and recorded on a central database operated by DPI.

Property Identification Tailtag Register (PITR)

The PITR system registers properties and species present.

Restricted Animal Material

Restricted Animal Material is any material taken from a vertebrate animal, other than gelatin, milk products, oils extracted from fish, or treated cooking oil. It includes rendered products such as blood meal, meat meal, meat and bone meal, poultry meal, and compounded feeds made from these products.

Ruminants

Ruminants are animals that chew the cud, such as cattle, sheep, goats, and other cloven-hoofed species.

Ruminant Feed Ban

The Ruminant Feed Ban refers to the prohibition of feeding Restricted Animal Material to ruminants.

SAFEMEAT

The national industry/government committee responsible for food safety policy development within the Australian red meat industries.

Sheep

Includes lambs, hoggets, wethers, ewes and rams.

Standard Operating Procedure (SOP)

SOPs are authorised written procedures that provide instructions for carrying out procedures in a safe and consistent manner, necessarily specific to a given disease, e.g., decontamination, equipment operation, sampling and inspection.

Swill

Swill is food waste containing meat or any other mammalian products or by-products.

Swill feeding

Swill feeding is the feeding of swill to pigs.

Tracing

Traceability programs such as the NLIS allow the prompt tracing of any beef from the product's destination back to the farm. The basis of Australia's livestock traceability system is the Property Identification Code (PIC), which underpins the NLIS programs.

Trigger reporting

Trigger reporting occurs when mortality or morbidity levels in livestock reach designated levels

Transmissible Spongiform Encephalopathy (TSE)

TSE refers to a group of diseases that causes degenerative changes in the brain and other nervous tissues.

Vectors

Vectors are organisms capable of transmitting parasites.

Zoonoses

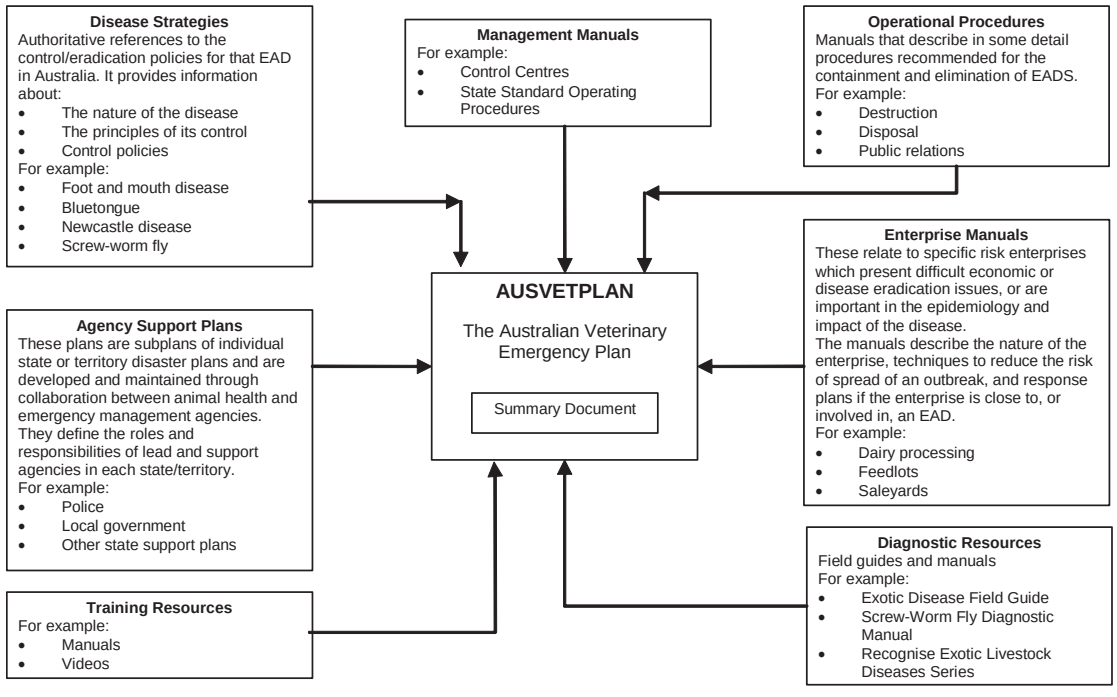
Zoonotic diseases or zoonoses are those that can be transmitted from vertebrate animals to humans.

Appendix C.
Components of AUSVETPLAN

AUSVETPLAN provides a comprehensive framework that specifies the various roles, responsibilities and policies to be followed by all agencies in an EAD response. These procedures are currently contained in a series of fifty manuals that address thirty diseases, nine specific types of enterprise and various operational procedures, including valuation and compensation. The components of AUSVETPLAN are diagrammatically presented in Figure C1 below.

Figure C1

Components of AUSVETPLAN



Source: Primary Industries Ministerial Council, *AUSVETPLAN*, version 3.1, 2008.

Appendix D.

Summary of Biosecurity Victoria's performance measures and reporting

Performance monitoring is undertaken across a range of different elements within EAD planning and response, and the performance measures used can be traced from higher level corporate measures through to low level operational measures (e.g., numbers of BSE exclusion samples collected). These performance measures are identified in various corporate documents including the ASB Business Plan and the ASB Disease Surveillance Program Plan. Examples of these performance measures are provided in the table below.

Figure D1
BV's performance measures and reporting summary table

Source document	Content	Specific detail
BV Business Plan	Output Performance 2006/07	Major outputs, deliverables and performance measures
	Budget Performance 2006/07	Predicted and revised total appropriations, by branch and unit
	Major achievements for 2006/07	Descriptive detail on selected achievements across programs
	Summary of BV Contribution to Key Corporate Initiatives	Descriptive detail relating BV contribution to DPI initiatives
	Key Project Alignment to DPI Key Result Areas	Table of information correlated directly with specific DPI KRAs and including progress indicators, risks, actions and key projects
	Divisional Risks	Table of specific risks, rankings and key deliverables including accountabilities and timeframes
	Details of Key Project Priorities for 2007-08	Table of key project priorities, specific budget allocations and accountable personnel
	Details of ICT Priorities for action 2007-08	Table of ICT priorities, including specific projects and detailed deliverables
ASB Business Plan	Alignment of ASB Commitments with DPI Key Strategies and KRAs	Table of information correlated directly with specific DPI Key Strategies and KRAs and including specific commitments and linkages to identified ASB Key Projects
	ASB Key Projects	Detailed summary of the objectives, key project priorities, programs to deliver key objectives and program leaders for each of its three key projects
	ASB Commitments and Key Performance Indicators	Table of specific ASB commitments, key performance measures/progress indicators directly linked to each commitment, the ASB program delivering the commitment and the reporting frequency
	ASB ISO Certification	Table of additional KPIs, programs, reporting frequency and target dates related specifically to maintaining ASB's ISO certification
BV Quarterly Reporting	Progress Report on Commitments	Microsoft Excel spreadsheet detailing for each commitment the BV branch responsible, the contact person, the performance measure or progress indicator, quarter by quarter progress summary and significance and explanation of delays
ASB Service Agreements	Program Deliverables	Table of key deliverables, specifications, due dates, responsible personnel, reference material and priority
	Specific Performance Measures and Key Deliverables	Table relating key deliverables to specific field testing requirements
	Reporting Requirements	Table setting out requirements for ad hoc, investigation and quarterly reporting by service partners

Source: BV Business Plan 2007/08, ASB Business Plan 2007/08.

Figure D2
Alignment of ASB commitments with DPI key strategies and KRAS

DPI Key Strategies	DPI Key Result Areas (KRA)	ASB Commitment for 2006/07	Linked to ASB Key Project
Promote trade by protecting and enhancing across to markets	KRA 2: • Victoria is ready to prevent and respond to pests, diseases, chemical residue incidents and bioterrorism threats	Enhance emergency response training for staff and industry	AD 101
		ASB to employ two IT specialists	AD 101
		Enhance Victoria's capability and capacity to respond effectively to plan and animal and pest disease.	AD 101
	KRA 3: • Safer, greener, healthier and secure food	Compliance with food quality assurance standards	AD 02
	KRA 4: • Increase market opportunities for Victoria's primary products	Commence implementation of NLIS sheep	AD 102
		Maintain Victoria freedom from animal and plant pests and disease which could significantly impact on trade	AD 101 AD 102 AD 103
	KRA 5: • Improve animal welfare standards and practices in Victoria	Improved community awareness about responsible pet ownership and care	AD 102
Develop a strong culture of continuous improvement within DPI	KRA 6: • Improve knowledge and information management	IT professional within BV will meet on a quarterly basis to discuss IT issues	-
		ISO 9002 certification of NLIS for disease and residue control	-
		Develop staff vaccination registration for animal health staff	-
		Review and maintain currency of ASB OH&S Plan	-
		Participate in CAS Review of the delivery of animal health services	-

Source: Animal Standards Branch Business Plan 2006–07.

Budget Paper Three for 2006/07 describes the outputs for BV. The results for 2006/07 are outlined below.

Figure D3
BV's outputs for 2006/07

Major Outputs/Deliverables/Performance Measures	Unit of Measure	2006–07 Target	2006–07 Output
Services to improve market access, market development and consumer confidence in food and agricultural products—systems, standards and services to Victoria's food and agriculture sector that enhance market access, market development and consumer confidence including improved product integrity and quality assurance, business and value chain facilitation, pest, disease and disaster management, minimisation of the risk of chemical residues, protection of the welfare of animals, development of the agri-food industry, market and trade development and an enhanced policy environment for industry and community growth.			
Quantity: Plant pest, disease and residue control plans maintained to assist industry to access markets	Number	6	6
Quantity: Animal pest, disease and residue control plans maintained to assist industry to access markets.	Number	5	5
Quality: Compliance with international and national quality assurance standards by meeting certification authorities' required performance audits.	Number	3	3
Compliance with relevant industry standards for animal welfare.	per cent	>95%	>96%
Timeliness: Proportion of national quality assurance and animal welfare programs implemented within agreed timelines.	per cent	>95%	100%
Response time to plant pest, disease, residue and disaster incidents.		<24 hours	<24 hours
Response times to animal pest, disease, residue and disaster incidents.		<24 hours	<24 hours

Source: Biosecurity Victoria Business Plan 2007/08.

Auditor-General's reports

Reports tabled during 2008–09

Report title	Date tabled
Managing Complaints Against Ticket Inspectors (2008-09:1)	July 2008
Records Management Checklist: A Tool to Improve Records Management (2008-09:2)	July 2008
Investing Smarter in Public Sector ICT: Turning Principles into Practice (2008-09:3)	July 2008
Private Practice Arrangements in Health Services (2008-09:4)	October 2008
Working with Children Check (2008-09:5)	October 2008
CASES21 (2008-09:6)	October 2008
School Buildings: Planning, Maintenance and Renewal (2008-09:7)	November 2008
Managing Acute Patient Flows (2008-09:8)	November 2008

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