Managing animal health emergencies

Emergency animal disease responses in Australia are coordinated nationally. Governments, the private sector and other key players work together to ensure a successful outcome.

This chapter describes the arrangements and initiatives that are in place to prepare for, and respond to, emergency animal diseases (EADs). It also provides information on disease incidents involving terrestrial animals that occurred during 2014. Information on management of aquatic animal health emergencies and aquatic animal disease incidents during 2014 is provided in Chapter 5.

The Australian Government, state and territory governments, livestock industries, the Commonwealth Scientific and Industrial Research Organisation (CSIRO), private veterinarians and laboratories, and other animal health workers all contribute to the management of EADs. Animal Health Australia (AHA) participates on behalf of its members.

4.1 Response plans and coordination

EAD responses in Australia are coordinated nationally – governments and industry work together to ensure a successful outcome. Responses are underpinned by the Government and Livestock Industry Cost Sharing Deed in Respect of Emergency Animal Disease Responses (Emergency Animal Disease Response Agreement – EADRA).

The EADRA ensures that responses:

- accommodate the relevant state’s or territory’s legislative, industry, government and community structures
- are guided by a nationally agreed plan – the Australian Veterinary Emergency Plan (AUSVETPLAN).
4.1.1 Review of foot-and-mouth disease preparedness – response to the Matthews review

Following recommendations made by Mr Ken Matthews AO in A review of Australia’s preparedness for the threat of foot-and-mouth disease,60 Australia’s National Biosecurity Committee agreed to develop a National Foot-and-Mouth Disease (FMD) Action Plan. The plan identifies priority activities for national action to address policy and capacity gaps, as well as actions currently under way and areas to be addressed through industry–government collaboration.

Through the collaborative efforts of the Australian Government Department of Agriculture, the states and territories, livestock industry groups and AHA, significant progress has been made in strengthening Australia’s preparedness for an outbreak of FMD. Specific national FMD preparedness programs include:

- the training program for Australian veterinarians and livestock handlers in the real-time detection and control of FMD, run in Nepal by the European Commission for the Control of Foot-and-Mouth Disease (EuFMD; see Section 4.2.3)
- Exercise Odysseus – a national livestock standstill program; this was a national program of exercises based on simulation of the early days of an FMD outbreak (see Section 4.2.5).

In March 2014, the Department of Agriculture and the New Zealand Ministry for Primary Industries (MPI) signed a memorandum of understanding to collaborate on FMD preparedness. The Trans-Tasman FMD Action Plan builds on the strong collaboration in FMD preparedness and response between Australia and New Zealand. In addition to an increased level of information and intelligence sharing, this agreement has already led to:

- the training of 12 New Zealand veterinarians under the Australian FMD real-time training program
- several New Zealand MPI officers observing activities under Exercise Odysseus
- the start of a Centre of Excellence for Biosecurity Risk Analysis collaborative modelling project between the Department of Agriculture, the New Zealand MPI, AsureQuality (a New Zealand–based biosecurity company) and the Australian National University; this project will assist decision making on appropriate response strategies for FMD in both countries, including the potential use of vaccination.

States and territories have also been improving their FMD preparedness, particularly through their involvement in Exercise Odysseus and other specific activities. For example, Queensland has initiated a three-year FMD Preparedness Program, which focuses on surveillance, prevention and response systems. The program includes consideration of vaccination strategies, mass animal destruction and disposal challenges, and stakeholder engagement and awareness, with the aim of increasing awareness and preparedness for an FMD emergency at the whole-of-government, industry and community levels. Outputs from the program are well advanced and are intended to be shared with other jurisdictions to enhance the national preparedness agenda.

Queensland has taken the lead for reporting progress in national FMD preparedness to the National Biosecurity Committee, and is working with all jurisdictions to provide a complete picture of the work being done in this area across the country.

4.1.2 Preparedness for avian influenza

In October 2013, an outbreak of highly pathogenic avian influenza (HPAI; subtype H7N2) occurred on two poultry farms near Young in New South Wales. On 21 February 2014, after resolution of the outbreak, Australia declared resumption of its status as a country free from HPAI, in accordance with Article 10.4.4 of the World Organisation for Animal Health (OIE) Terrestrial animal health code. Throughout 2014, reports continued of outbreaks of HPAI H5N1 in wild birds, poultry and humans in Asia. In addition, the low pathogenicity avian influenza (LPAI) H7N9 strain continued to cause human deaths in China.

Australia provides ongoing assistance with control of HPAI and other zoonotic and emerging diseases in neighbouring countries by delivering capacity-building programs that help countries to prevent, detect and respond to disease in animals. The Department of Agriculture also maintains the Avian Influenza Toolkit website,61 which provides resources to help countries manage the threat of avian influenza and other EADs.

Although HPAI H5N1 has never been detected in wild birds or poultry in Australia, preparedness is a high priority. Australian governments and AHA work with the Australian poultry industries to strengthen preparedness and response capacities for avian influenza on a continuous basis, and to maintain awareness of biosecurity among poultry owners. In November 2013, Animal Health Committee (AHC) established a working

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61  www.aitoolkit.org
group to provide advice on measures that might be adopted to reduce the recent and ongoing occurrence of avian influenza outbreaks in Australian poultry. The working group identified a range of proposals covering surveillance programs, auditable biosecurity programs and possible changes to the way avian influenza is addressed in the EADRA. It also examined the influence of the expansion of free-range poultry farming. Discussions with industry have been initiated, and will continue in 2015, to identify and implement the most practical ways to minimise the risk of avian influenza infection in the poultry industries.

The Department of Agriculture also focuses on border security activities, to detect illegally imported poultry and poultry products.

Through Wildlife Health Australia, the Department of Agriculture coordinates a national surveillance program for avian influenza in wild birds (see Section 3.2.4). The program provides information on the prevalence and subtypes of avian influenza viruses in wild birds, and acts as an early warning system for the poultry industry. Samples were taken from 8140 wild birds during 2014, and a variety of LPAI virus subtypes (including H5 and H7) were found.

In 2014, surveillance of poultry flocks for avian influenza continued. There were no detections of avian influenza in Australia during 2014.

4.1.3 Emergency Animal Disease Response Agreement

The EADRA\(^{62}\) is a legally binding agreement between the Australian Government, state and territory governments, livestock industries (currently 14 industries) and AHA. It supports a rapid and efficient response to an EAD outbreak. The agreement, which is a world first, establishes basic operating principles and guidelines, and defines roles and responsibilities of the parties that are involved. It provides for formal consultation and dispute resolution between government and industry on resource allocation, funding, training, risk management and ongoing biosecurity arrangements.

The 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 capacity to respond to an EAD by having adequate numbers of trained personnel available to fill roles specified in AUSVETPLAN
- participating in decision making relating to EAD responses, through representation on the Consultative Committee on Emergency Animal Diseases (CCEAD) and the National Management Group (NMG)
- sharing the eligible response costs of EAD incursions using pre-agreed formulas.

The EADRA is regularly reviewed so that it remains relevant, flexible and functional. In 2014, only minor and administrative updates were made. The latest version of the EADRA can be found on the AHA website.

Parties to the EADRA endorsed two new guidance documents, which are published on the AHA website:\(^63\)

- **Interpretation of compensation and cost sharing in the Emergency Animal Disease Response Agreement**
- **Normal commitments for parties to the Emergency Animal Disease Response Agreement.**

### 4.1.4 Australian Veterinary Emergency Plan

**AUSVETPLAN**\(^64\) is a comprehensive series of manuals that sets out the starting policy and guidelines for agencies and organisations involved in a response to an EAD outbreak.

AHA works in consultation with its government and industry members to prepare and review the AUSVETPLAN manuals and supporting documents. AHA does not determine animal health policy; it facilitates the development of national policy through engagement with the relevant stakeholders. Governments are ultimately responsible for developing and implementing national disease response policies.

The availability of agreed AUSVETPLAN disease strategies or response policy briefs\(^65\) for all diseases listed in the EADRA ensures that informed decisions about the policies and procedures needed to manage an EAD response are immediately at hand; no time is lost in the event of an EAD outbreak. This requires that as many policy principles as possible are agreed to during non-outbreak times. EAD responses are planned and implemented at three levels – national, state or territory, and local – and involve animal health authorities, emergency management agencies and industry organisations.

The disease strategies and response policy briefs are supported by operational manuals, enterprise manuals, and other resource and guidance documents. The AUSVETPLAN Summary document\(^66\) describes the components of AUSVETPLAN and outlines their functional relationships.

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**Improved usability**

AUSVETPLAN manuals are moving to an online system as part of a new edition 4 format that uses generic text that applies across all manuals. This will allow manuals to be revised more efficiently, and will also allow people involved in outbreaks to download or print documents that are tailored to their particular operational needs. Existing manuals are being entered into the online system in an agreed order of priority.

**Updating prioritised AUSVETPLAN manuals**

In 2014, AHA worked with the AUSVETPLAN Technical Review Group, industry and government experts, AHC and scientific editors to revise and publish updated prioritised AUSVETPLAN manuals.

The updated manuals published were:

- **African swine fever (disease strategy)** – a major revision to update the manual to the new edition 4 standardised format; and to incorporate new scientific knowledge about the disease and its control, updated information relating to recent amendments to the OIE standards, case definitions, and movement control matrices
- **an enterprise manual for the zoo industry** – a major revision to update the format of the manual, and information relating to national requirements and international guidelines
- **a guidance document on declared areas and premises classifications in an EAD response** – a major revision to better define declared areas and other areas (e.g. transmission area) used for disease control purposes; and to include relevant considerations regarding OIE zoning and compartmentalisation, guidelines for reclassifying previously declared areas, definitions for various types of premises (approved processing facilities, dangerous contact processing facilities and premises of relevance), and improved flowcharts for the transition of premises classifications in restricted and control areas
- **two new resource documents** – one on destruction of birds, and one on trapping procedures for *Culicoides* insect vectors
- **a new public information manual** – this was developed by the Biosecurity Incident National Communications Network, comprising members from animal and plant health organisations and communications managers from relevant national, and state and territory agencies.

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\(^{65}\) Response policy briefs cover EADs that are subject to cost sharing between governments and livestock industries, but are not currently covered by full disease strategies.

In addition to these major updates, AHA made minor updates to the FMD and Newcastle disease manuals. The FMD manual was updated with editorial changes. The Newcastle disease manual was updated by replacing the appendix on standard operating procedures for vaccination with a reference to the Newcastle disease vaccination program – standard operating procedures.67

Revisions were also made in 2014 to the AUSVETPLAN disease strategies for Australian bat lyssavirus, avian influenza, porcine reproductive and respiratory syndrome, scrapie and screw-worm fly; and to the Control centres management manual, the Disposal operational manual, the Valuation and compensation manual, and the enterprise manual for the wool industry. These revisions are undergoing formal approvals processes.

4.1.5 Nationally agreed standard operating procedures

Nationally agreed standard operating procedures (NASOPs) have been developed for use by states and territories during responses to EAD incidents and emergencies. They support national consistency and provide guidance to response personnel undertaking operational tasks. Although not formally a part of AUSVETPLAN, NASOPs underpin elements of AUSVETPLAN and describe the actions typically undertaken during a response to an incident. They are provided to guide states and territories in developing local procedures and work instructions.

NASOPs currently published on the AHA website68 address topics relevant to animal disease emergencies, such as personal decontamination, collecting samples, managing stock during a national livestock standstill and transporting carcasses.

The Biosecurity Emergency Preparedness Working Group of the National Biosecurity Committee has accepted responsibility for developing generic NASOPs that apply to all biosecurity responses, such as conducting briefings and debriefings.

In 2014, NASOPs relating to the implementation of a national livestock standstill were assessed as part of Exercise Odysseus (the program of exercises for a national livestock standstill; see Section 4.2.5). These NASOPs may be reviewed following analysis of the outcomes of Exercise Odysseus.

4.1.6 What happens in an emergency animal disease response?

Operational responsibility for the response to an EAD lies with the relevant state or territory, which develops an EAD Response Plan (EADRP). In most jurisdictions, the government department of agriculture or primary industries manages the response to an EAD outbreak and implements the EADRP. State and territory chief veterinary officers (CVOs) have leadership roles in the response, which also involves state emergency services, public safety services and other government departments, as needed. Pre-existing emergency management and whole-of-government arrangements allow agriculture or primary industries departments to draw on resources and expertise from these agencies.

The CCEAD is responsible for technical coordination of an EAD response. The Australian CVO or delegate chairs the committee, which comprises the state and territory CVOs, the Director of the CSIRO Australian Animal Health Laboratory (CSIRO-AAHL), members of the Department of Agriculture, and technical representatives from relevant industries. Industry representatives comprise one nominee agreed to by all industry parties and one nominee from each of the affected industries. AHA attends CCEAD meetings as an observer.

To ensure a timely and effective response, the CCEAD oversees implementation of EADRPs, strategy development and planning, and the development of technical policy. The CCEAD provides advice to an NMG that is established for each incident. The Secretary of the Department of Agriculture chairs the NMG, and members are chief executives of the state and territory agriculture or primary industries departments, and chief executives from each affected industry. Representatives of AHA attend NMG meetings as observers.

When the NMG receives technical advice from the CCEAD, it considers policy and financial issues associated with the EADRP. The NMG’s agreement to an EADRP is an undertaking to share eligible costs under the EADRA.

This structure ensures that the resources needed for agriculture and animal health authorities to deal with an EAD are available and coordinated for the most effective response.

Further information about the mechanism of an EAD response and how cost-sharing provisions are implemented can be found in the AUSVETPLAN Summary document.69

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4.1.7 Improved national arrangements for emergency preparedness and response

Under Schedule 7 of the Intergovernmental Agreement on Biosecurity, the Australian, state and territory governments are working together to improve emergency preparedness and response arrangements to allow:

- nationally consistent response arrangements
- consistent and agreed funding arrangements
- timely decisions and actions
- trained people to move between jurisdictions
- a coordinated national approach to capability and infrastructure for biosecurity emergency responses
- development and maintenance of scientific and technical capacity to support response activities
- improved communication capability between jurisdictions during an emergency.

4.2 Preparedness initiatives

4.2.1 Emergency Animal Disease Preparedness and Response Service Stream

When EAD outbreaks occur, preparedness to manage and respond to them ensures that Australia can mount a rapid and effective response with minimal disruption to livestock (including horse) industries and food industries. Development of Australia’s EAD preparedness is coordinated through the Emergency Animal Disease Preparedness and Response Service Stream, which is managed by AHA. The main objective is to ensure that Australia is well prepared for EAD incidents through a range of activities, including public awareness, training, simulation exercises and surveillance.

For example, part of Australia’s preparedness to manage an FMD outbreak is the establishment and maintenance of an FMD vaccine bank. The bank allows rapid production and delivery of FMD vaccine, should it be required in an outbreak situation. AHA also has a contract in place for cold storage and distribution of vaccine. A new manufacture, storage and supply agreement came into effect on 15 December 2014, following expiry of the previous arrangements.

4.2.2 National Emergency Animal Disease Training Program

In the event of an EAD incident, government officers, livestock producers, private veterinary practitioners and emergency workers are called on to help eradicate or control the disease. AUSVETPLAN defines how a response to an EAD incident is to be conducted and the roles that require specific training.

The National Emergency Animal Disease Training Program provides education and training in the various EAD response functions. Face-to-face EAD awareness training provides government officers, private practitioners and industry members with a basic understanding of Australia’s agreed response strategies. Formal accredited training, covering the skills and knowledge needed to perform a function during an EAD response, is available for government officers through in-house jurisdictional programs, and for industry members through AHA.
Governance

Oversight for the training program is provided by the National Animal Health Training Steering Committee (NAHTSC), which has representation from all relevant government agencies and industry. It coordinates the various elements of the training program, ensures national consistency in delivery of training and helps to prioritise AHA’s training work program.

The elements of national EAD training are delivered by different organisations, as described in the following subsections.

Jurisdictional response team training

Each state and territory maintains a team of personnel capable of responding to biosecurity emergencies. This ‘first-response’ team is responsible for managing the initial response to an EAD, including staffing control centres and beginning field activities. First-response team members receive training in their EAD response functions from jurisdictional training programs.

Professional development for biosecurity response trainers

AHA sponsors the delivery of professional development programs for jurisdictional and industry biosecurity response trainers. A short workshop on training and assessment is held each year at the NAHTSC’s annual meeting. AHA also sponsors an annual workshop to promote continued professional development for trainers. This helps to ensure that biosecurity response trainers are qualified to deliver accredited training under the Australian Qualifications Framework. In 2014, training personnel participated in workshops on developing online learning courses, advanced training skills, and delivering training to people with diverse language, literacy and numeracy skills.

Development and sharing of training materials

AHA facilitates the development of training resources that can be shared nationally, and are delivered by qualified and experienced trainers to government and industry response staff. Training resources include online modules, induction training modules and face-to-face workshops. AHA’s online Emergency Animal Disease Foundation course is a generic introduction to EAD response arrangements in Australia. It provides information on the basic principles of an EAD response, AUSVETPLAN, the responsibilities of people involved in a response, and the importance of communications and information management during a response.

CCEAD and NMG training

AHA holds twice-yearly workshops to prepare industry executives, technical specialists and senior government officers for service on the two key decision-making bodies – the NMG and the CCEAD (see Section 4.1.6) – during an EAD response. In 2014, as part of the Exercise Odysseus national livestock standstill exercise (see Section 4.2.5), CCEAD and NMG representatives were able to practise their roles in simulation exercises.

Rapid Response Team

The national Rapid Response Team (RRT) is an Australian Government initiative that was originally developed to help smaller jurisdictions establish emergency control centres for disease outbreaks. The RRT is a group of 50 government response personnel with expertise in key control centre management positions. During their 3–5-year membership on the team, members take part in professional development activities to maintain and develop their response skills.

In 2014, the RRT participated in numerous activities as part of Exercise Odysseus, a national program of exercises based on simulation of the early days of an FMD outbreak (see Section 4.2.5).

Private veterinary practitioner engagement

The states and territories hold regular EAD awareness workshops for private veterinary practitioners, to assist them with recognising EADs and to remind them of their reporting obligations. CSIRO-AAHL contributes to these training workshops.

Industry training

In 2014, industry personnel participated in regional, state and national exercises as part of the Exercise Odysseus program of activities (see Section 4.2.5).

4.2.3 Nepal real-time FMD training

In 2014, the Department of Agriculture extended its agreement with the EuFMD for the provision of real-time FMD training. Costs of the program are shared between the Australian Government, some state governments and peak industry organisations, and the New Zealand MPI. During 2014, six courses were conducted by the EuFMD in Nepal; three courses are confirmed for 2015. Since the first course in 2012, 139 Australian veterinarians and stock handlers have been trained in the detection and control of FMD, strengthening Australia’s capacity for early warning of an FMD outbreak and response to an outbreak.
After returning to Australia, all trainees are required to undertake extension activities to increase awareness about FMD among private veterinarians, livestock workers and producers.

4.2.4 International modelling studies to support planning for emergency animal diseases

To strengthen EAD preparedness, Australia collaborates with other countries on epidemiology and disease modelling. During 2014, Australia provided technical expertise and modelling capabilities to the EuFMD using the Department of Agriculture’s newly developed national simulation model, the Australian Animal Disease model. This tool has been developed as a decision-support tool for EAD planning and preparedness.

Australia also continued to contribute actively to a multicountry FMD vaccination modelling study coordinated through the EpiTeam, a subgroup of the Emergency Management Working Group of the Quadrilateral Group of Countries (Australia, Canada, New Zealand and the United States). The use of vaccination to control an outbreak of FMD in a previously FMD-free country is increasingly being recognised as important, particularly given changes to the OIE guidelines on regaining FMD-free status.70 In 2014, the EpiTeam completed a model comparison study71 that evaluated different vaccination strategies, to identify conditions under which vaccination may, or may not, be beneficial in managing an FMD outbreak. Data from the 2010 FMD exercise in the United Kingdom, Exercise Silver Birch, was used as the basis for the study.

Using the United Kingdom scenario, disease spread models predicted that vaccination was more effective than stamping out alone (i.e. destruction of infected herds) in reducing outbreak size and duration. Vaccination was also more effective when commenced earlier in the outbreak and when resource shortages were expected.

However, other work using certain Australian FMD scenarios has shown that vaccination did not reduce outbreak size and duration, particularly in extensive grazing situations.

The study provided important information on operational issues associated with using vaccines for FMD control, and added credibility to the use of simulation models in decision making about disease control. The findings will be used to develop and support more robust and acceptable policies for FMD control. Australia is also collaborating on an international project to evaluate the use of ensemble modelling methods – these attempt to improve the quality of model predictions by pooling findings from a range of models.

At a national level, modelling studies are used to support animal health policies in Australia. These studies include evaluating the resources needed to manage a large FMD outbreak, assessing welfare implications of movement restrictions during an EAD response and evaluating active surveillance measures to improve early detection of an FMD incursion. In 2014, the Department of Agriculture provided modelling support to the national standstill exercise (Exercise Odysseus) and to FMD preparedness projects in Queensland.

4.2.5 Exercise Odysseus – Australia’s national livestock standstill exercise

If an outbreak of FMD is strongly suspected or confirmed in Australia, a national livestock standstill will be implemented for at least 72 hours. The standstill will apply to all FMD-susceptible animals to reduce spread of the disease, and to allow response agencies to determine the nature and extent of the outbreak. To be effective, the standstill needs to be implemented rapidly.

As part of Australia’s EAD preparedness, Exercise Odysseus – a series of discussion exercises and field-based activities – was conducted throughout 2014 to strengthen government and industry arrangements for implementation of a national livestock standstill. Testing response arrangements is an important part of preparedness for an EAD such as FMD.

Exercise Odysseus was planned and conducted by Australian, state and territory government biosecurity agencies; livestock and associated industries; and AHA.

The exercise was based on the scenario of an FMD outbreak and the first week of the response to the outbreak. It considered the roles of governments and industry, disease response plans and arrangements, livestock in transit, and the rapid provision of accurate public information. Issues associated with extending the standstill beyond 72 hours were also examined.

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70 Under Article 8.7.9 of the OIE Terrestrial animal health code, six months are required before a country can regain its FMD-free status when a stamping-out policy, emergency vaccination and serological surveillance are applied.

In addition to assessing response arrangements, Exercise Odysseus provided an opportunity to raise awareness of:

- FMD and its potential impact on Australia's agricultural industries, environment, communities and economy
- the national plans and arrangements that enable a rapid response to FMD
- what people in various roles need to do when a national livestock standstill is implemented
- the importance of biosecurity practices and surveillance activities for early detection of EADs.

An essential element of Exercise Odysseus was continuous evaluation to identify potential improvements in current plans and arrangements, to ensure that a national livestock standstill can be implemented effectively.

4.2.6 Animal health diagnostic laboratories

Australia’s animal health laboratories play a crucial role in the national capacity to respond to a disease emergency. Australia’s state and territory government animal health laboratories, CSIRO-AAHL, university veterinary laboratories and private veterinary laboratories all participate in, and contribute to, national EAD response programs and initiatives. CSIRO-AAHL and some state laboratories also serve as the national and/or OIE reference laboratories for specific EADs, providing in-depth investigational and research capacities, as well as training.

AHA contributes to Australia’s network of animal health laboratories by managing AUSVETPLAN, the National Animal Health Laboratory Coordination Program73 and the Australian Animal Pathology Standards Program (AAPSP).74 These national programs meet future requirements for disease surveillance, in-depth case investigations, testing during emergencies, quality assurance and training. The AUSVETPLAN Laboratory preparedness management manual75 details current laboratory standards and practices in an EAD response, and assists laboratories to prepare a contingency plan for a disease emergency.

Australian Animal Pathology Standards Program

The AAPSP Digital Slide Archive comprises images of endemic and exotic diseases in a wide range of terrestrial and aquatic animal species, for training and education of AAPSP members. The archive has been steadily growing in 2014, and currently holds more than 5000 slides. Slides have been contributed mainly by CSIRO-AAHL, the United States Armed Forces Institute of Pathology, the Australian and New Zealand Aquatic Pathology Archive and the National Registry of Domestic Animal Pathology (held by the Elizabeth Macarthur Agricultural Institute).

State and territory government and private veterinary laboratories in Australia participate in a quarterly histopathology proficiency testing program, which was launched in 2006. The testing covers written descriptions, morphological diagnosis and interpretation, and comments on the pathological changes detected in digitally scanned, stained tissue sections. The assessment forms part of the records of accredited laboratories that are audited by the National Association of Testing Authorities. In 2014, the AAPSP successfully maintained the standards for histopathology proficiency testing.

Laboratories for Emergency Animal Disease Diagnosis and Response network

The Laboratories for Emergency Animal Disease Diagnosis and Response (LEADDR) network consists of members from the Australian Government, CSIRO-AAHL, and state and territory government laboratories. The network, which reports to the Sub-Committee on Animal Health Laboratory Standards (SCAHLS), aims to standardise or harmonise testing services for targeted EADs of terrestrial and aquatic animals in all member laboratories. This ensures a nationally coordinated approach and maximises the availability of national resources to meet demands for large-scale testing in an EAD outbreak. The AUSVETPLAN Laboratory preparedness management manual details LEADDR’s role in the overall EAD response procedure.

Since 2009, LEADDR has been working to standardise testing services for a number of EADs, including avian influenza, Newcastle disease, bluetongue, infection with Hendra virus, white spot syndrome and infection with ostreid herpesvirus-1 microvariant.

In 2013, through a project funded by the Department of Agriculture, LEADDR established screening capability for FMD, using serology and real-time polymerase chain reaction rather than proliferation of live virus, in interested member laboratories. In 2014, the Department of Agriculture continued to provide funding support to LEADDR for FMD proficiency testing as part of the network’s ongoing quality assurance program.

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In December 2014, a number of laboratory working groups were abolished as a result of the Australian Government Smaller Government reforms to eliminate duplication and waste, streamline services and reduce the cost of government administration. AHC will ensure that experts who provide laboratory-related advice on Australia’s national animal health system will come together as needed.

During an EAD outbreak, the Laboratory Subcommittee – CCEAD will be formed to support the CCEAD or Aquatic CCEAD (see Chapter 5). The Laboratory Subcommittee – CCEAD consists of relevant experts from the LEADDR network and other laboratories, as required. CSIRO-AAHL remains the national diagnostic centre for exotic EADs and transfers AHC-agreed testing capabilities to suitable network laboratories under controlled quality assurance conditions.

In 2014, in addition to participating in various proficiency testing programs as part of its quality assurance program, LEADDR members continued to meet regularly, exchange scientific and technical information, and discuss new technical issues as they arose.

Regional and international networking for laboratories

To strengthen Australia’s international relevance in preparedness for, and response to, major disease emergencies, and to ensure Australia’s access to specific expertise or materials that are not immediately available in Australia, the LEADDR member laboratories maintain a strong working relationship with various overseas veterinary and public health laboratories. The OIE National Focal Point for Veterinary Laboratories, based in the Department of Agriculture, has continued to support Australia’s OIE Delegate on various regional and international issues relating to animal health laboratories, including laboratory capacity building for disease emergencies (also see Chapter 9).

4.2.7 Swill-feeding activities

In 2014, nationally consistent minimum guidelines for monitoring compliance with the prohibition on feeding of swill (prohibited pig feed), as well as enforcement actions, were further developed. Work is also progressing to reflect previously agreed definitions in legislation. These activities, which were facilitated by AHA, brought together the Australian Government, state and territory governments, and the pork industry. The work is currently being finalised, and will be implemented in early 2015.

While the national guidelines are being developed, existing state work plans addressing swill feeding are being implemented.

4.3 Increasing awareness and understanding

4.3.1 National communication arrangements for biosecurity incidents

The Biosecurity Incident National Communication Network (NCN) produces nationally consistent public information in response to pest and disease outbreaks, and animal welfare incidents. Members are communication managers from the Australian, state and territory government agencies responsible for biosecurity, and from animal and plant health organisations.

In 2014, the Biosecurity incident public information manual was finalised and published as an AUSVETPLAN resource document.76 The manual describes how public information will be delivered across all jurisdictions during a biosecurity incident.

The NCN continues to support national FMD preparedness initiatives, including participating in Exercise Odysseus. Two national communication exercises were held as part of Exercise Odysseus, involving industry communication managers from affected industries.

The NCN is also progressing work under the National FMD Action Plan to deliver more nationally consistent FMD communication and engagement activities across the country.

4.3.2 Farm Biosecurity campaign

Farm Biosecurity is a national awareness and engagement program that provides information to livestock producers and related service providers about on-farm biosecurity, and prevention of animal diseases and plant pests. The program is a joint initiative of AHA and Plant Health Australia. It encourages producers to identify risks to their livestock and plant products, and minimise these risks by incorporating on-farm biosecurity measures into their everyday operations.

Farm Biosecurity uses a number of channels to communicate its messages about the six biosecurity essentials for good on-farm biosecurity. These channels include established and new electronic media, a range of educational materials and direct stakeholder engagement. The program promotes the Emergency Animal Disease Watch Hotline77 and the Exotic Plant Pest Hotline78 to report unusual signs of diseases or pests.

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77 Emergency Animal Disease Watch Hotline: 1800 675 888
78 Exotic Plant Pest Hotline: 1800 084 881
In 2014, a number of activities took place, including production and promotion of two videos featuring information on biosecurity practices for producers. These are the third and fourth videos of a series of six to be produced and made available on the Farm Biosecurity website and through other channels.

4.4 Biosecurity planning

Effective biosecurity at the enterprise and industry levels is extremely important in reducing the risk of introduction or spread of animal diseases. This is recognised by the Australian livestock industries and governments in the EADRA, which requires that all signatories develop, implement and maintain biosecurity plans at industry, regional and farm levels for their sector.

The farm-level biosecurity plans describe measures to mitigate the risks of disease entry or spread. The plan for each EADRA party is endorsed by the other EADRA parties and is subject to ongoing review and maintenance.

AHA works with its members to ensure that the biosecurity plans are science based, relevant, cost-effective and contemporary. All plans can be found on the AHA79 and Farm Biosecurity websites.80

Australia’s National farm biosecurity technical manual for egg production81, published in 2015, is a cooperative initiative of AHA and Australia’s egg production industry. The manual documents and raises awareness of best practice in biosecurity. Designed as an industry resource, the manual can be used by egg producers to gauge their own biosecurity requirements and implement biosecurity practices suitable for their particular circumstances. The practices listed in the manual have been incorporated as standards into the egg industry’s quality assurance program, Egg Corp Assured. Every year, a third party audits each accredited egg producer against these standards.

4.5 Emergency animal disease responses in 2014

Appendix 3 lists investigations of potential exotic diseases and other EADs in Australia during 2014. This section discusses a number of incidents and responses involving disease in livestock and companion animals. Significant disease events that primarily involved wildlife are discussed in Section 3.1.7.

4.5.1 Hendra virus in New South Wales and Queensland

Numerous Hendra virus incidents have occurred in Queensland and New South Wales since 1994, involving more than 90 horses. Most infected horses have died as a result of the disease.

In 2014, four incidents were reported: in March in Bundaberg, Queensland; in June in Beenleigh, Queensland; in June in Murwillumbah, New South Wales; and in July in Gladstone, Queensland (see Table 4.1 and Figure 4.1). The Queensland and New South Wales governments implement well-established biosecurity and public health responses to Hendra virus incidents.

To date, seven people are known to have been infected with the virus. Four of these have died, and one is reported to have ongoing health problems. Hendra virus infection has also been detected in two dogs that were in close contact with infected horses. Both dogs remained clinically normal, with no occurrence of related illness.

Flying foxes (fruit bats) are the natural host for Hendra virus, and infection is periodically present in flying fox populations across Australia. The virus has been isolated from all four species of flying fox: black (Pteropus alecto), grey-headed (P. poliocephalus), little red (P. scapulatus) and spectacled (P. conspicillatus). Spillover of infection from flying foxes to horses occurs as rare, sporadic events. To date, cases of Hendra virus infection in horses have only been detected in Queensland and northern New South Wales.

Horse-to-horse transmission of the virus has been seen in some incidents. Humans that have become infected have had very close contact with sick or dead infected horses. Infected dogs have also been in close contact with infected horses. Person-to-person or bat-to-person transmission of the virus has not been reported.

The incidents are not known to be linked, beyond a common exposure of horses to flying foxes. Wherever flying foxes and horses are together, there is potential for spillover of the virus to horses and then transmission to other horses, dogs or people. Regardless of the likelihood of flying foxes in any particular area being infected, it is prudent risk management for horse owners to take steps to minimise the potential for contact between flying foxes and horses, and to vaccinate their horses against Hendra virus.

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## Table 4.1  Hendra virus incidents, 2014

<table>
<thead>
<tr>
<th>Location</th>
<th>State</th>
<th>Month</th>
<th>Equine cases</th>
<th>Canine cases</th>
<th>Human cases</th>
<th>Human deaths</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bundaberg</td>
<td>Queensland</td>
<td>March</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Beenleigh</td>
<td>Queensland</td>
<td>June</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Murwillumbah</td>
<td>New South Wales</td>
<td>June</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Gladstone</td>
<td>Queensland</td>
<td>July</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td><strong>4</strong></td>
<td><strong>0</strong></td>
<td><strong>0</strong></td>
<td><strong>0</strong></td>
</tr>
</tbody>
</table>

Figure 4.1  Locations of Hendra virus incidents, 2014

### 4.5.2 Anthrax in sheep in New South Wales

Anthrax affected a small number of sheep on a single property near Cobar in western New South Wales in late September 2014 (see Section 2.4.5). Control measures were implemented based on agreed national response policy, including tracing and quarantine, burning of carcasses and vaccination. The disease did not spread beyond the single property. Human health authorities were notified, and public health precautions were implemented.

### 4.5.3 Atypical scrapie in sheep in Victoria and Western Australia

Single cases of atypical scrapie in aged sheep were confirmed in Victoria in July 2014, and in Western Australia in September 2014 and December 2014. In all three cases, CSIRO-AAHL confirmed that testing was consistent with the diagnosis of atypical scrapie and not classical scrapie. These were the third, fourth and fifth cases of atypical scrapie detected nationally.

Atypical scrapie, which can arise spontaneously in aged sheep, is not an OIE-listed disease. Australia continues to be recognised as free from classical scrapie (a transmissible spongiform encephalopathy), and has a legislated ruminant feed ban and other controls to minimise the risk of this disease. The confirmed cases of atypical scrapie indicate that our surveillance systems are active and functional, and can detect and exclude animals showing signs consistent with OIE-listed transmissible spongiform encephalopathies.

### 4.5.4 Pigeon paramyxovirus in Victoria

Pigeon paramyxovirus was confirmed in separate lofts of racing pigeons in Victoria in September and December 2014. The disease is considered to be endemic in Victoria. The pigeons had not been vaccinated. The outbreaks in both premises were self-limiting.

### 4.5.5 Theileriosis in cattle in South Australia

In October 2014, South Australia recorded its first cases of theileriosis (Ikeda strain), a tick-borne disease that causes anaemia and can result in mortalities in cattle. The disease is endemic in parts of New South Wales and Victoria, and appears to have spread to South Australia through cattle movement.

### 4.5.6 Leishmaniasis in a dog in Victoria

A breeding cocker spaniel dog imported from Spain in October 2013 was found to be infected with Leishmania in Victoria in October 2014. Leishmaniasis is a zoonotic disease that is primarily transmitted by insect vectors. It causes ongoing chronic illness, which can be fatal to infected animals. The disease is nationally notifiable in Australia. Australian import requirements have recently been amended to require that dogs imported from endemic areas test negative for leishmaniasis. However, such testing is not always reliable because the disease has an incubation period of one month to seven years.
Australia is considered to be free from the specific sandfly vector required for transmission of canine and human forms of the disease. A version of the disease occurs in kangaroos, but the vector involved has not been identified. Recent research shows that canine leishmaniasis may be sexually transmissible.

The Victorian case has been fully investigated. The infected dog was euthanased. All breeding and other contacts of the infected dog have tested negative and are being monitored. Australia is updating its response arrangements via a national response policy brief.

4.5.7 Triple D syndrome in cattle in New South Wales

A mysterious ‘diarrhoea, drooling and death’ (triple D) syndrome that resulted in deaths of cattle in late 2013 in an isolated region of western New South Wales subsided and disappeared in early 2014. Despite the efforts of a wide range of experts, including veterinary epidemiologists, laboratory diagnosticians, toxicologists, botanists and others, the cause of the syndrome remains unknown. The 2013 event is the third time the syndrome has occurred in the region; previous events, in 2006 and 2009, were on a smaller scale. As occurred previously, a thorough infectious disease diagnostic process – including sequencing by CSIRO-AAHL and covering all possible notifiable diseases – failed to identify a causative infectious agent. Together with an apparent association with hot, dry weather patterns, this suggests that the syndrome may have a noninfectious cause, possibly relating to plant, soil or water toxicity.