

Abstracts & Presentations:

ERADICATING EQUINE INFLUENZA (EI) IN NSW SYMPOSIUM

'Perspectives of Victory'

ELIZABETH MACARTHUR AGRICULTURAL INSTITUTE

15-16 DECEMBER 2008



NSW DEPARTMENT OF PRIMARY INDUSTRIES

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Convenor

Therese Wright

Committee

Bruce Christie, Kevin Cooper, Stephen Dunn, Cathie Drury-Klein, Wendy Gillard and Therese Wright

NSW Department of Primary Industries

FOREWORD

Australia is free from Equine Influenza! Congratulations to everyone involved with the campaign. It was a great team effort and everyone should be proud of such an achievement. Four months after EI was diagnosed, NSW was free from disease. We have now completed the surveillance needed to convince the rest of the world that this is true and the international community is looking at Australia in wonder and amazement at what we were able to accomplish. People from government, the horse industry, the horse owning public and private veterinary practitioners all working together, have demonstrated what cooperation, dedication and commitment can achieve.

Horse owners no longer have to fear their horses coming down with the 'flu'. Imagine what it would be like if we were able to eliminate the 'flu' virus from the human population! The savings in both money and time would benefit the entire world. It is because of the efforts of this great team that the horse industry doesn't have to live with ongoing losses.

There are many stories to tell and lessons to be learned. The more formal will be published in scientific papers and others in reviews. Over today and tomorrow we won't be hearing formal papers, we will be looking and listening to people telling personal stories that reflect what individuals or groups did and achieved. These presentations will give people an insight into the roles and contributions that made the whole campaign a success. From day one when the initial call was received on the Emergency Animal Disease hotline through to the final surveillance, who did what and how it all worked should become clear to everyone. We have carefully selected a range of people to represent each of the major groups. Unfortunately, we can't have everyone giving a presentation as there were more than 2,000 people involved in NSW alone. Many people in the other infected state of Queensland, in the non-infected states and territories, the Commonwealth and even New Zealand were also involved. At this symposium we will concentrate primarily on what we did in NSW.

Once again congratulations to all participants and the public for their support and patience. Eradicating EI is far greater than simply eradicating the disease and protecting horses from the 'flu'. It also demonstrates and reinforces to the world that NSW and Australia produce the best agricultural products and guarantee their disease and residue freedom. It is extremely important for us to keep and expand our markets and economy internationally.

In this response, NSW led the nation. The major fight and decisions took place in NSW. We should all feel justifiably proud to have been part of it.

Thank you.

Bruce M Christie
NSW Chief Veterinary Officer
December 2008

TABLE OF CONTENTS

PROGRAM.....	5
2008 NSW PREMIERS PUBLIC SECTOR GOLD AWARD	7
EQUINE INFLUENZA HITS NSW – NATIONAL COORDINATION.....	8
CENTENNIAL PARK EQUESTRIAN CENTRE LOCKDOWN.....	10
EPIDEMIOLOGY: HOW EQUINE INFLUENZA (EI) SPREAD IN THE HORSE POPULATION IN NSW	11
THE IMPORTANCE OF NEW TECHNOLOGIES IN THE LABORATORY	14
EQUINE INFLUENZA CONTROL STRATEGIES	16
EQUINE INFLUENZA OUTBREAK - SOME LEGAL CONSIDERATIONS.....	17
INNOVATIVE ZONING TO SUPPORT EQUINE INFLUENZA ERADICATION FROM NSW	18
TURNING THE MAP WHITE.....	19
EI MEDIA AND PUBLIC INFORMATION CAMPAIGN	20
PUBLIC COMMUNICATION DURING THE EI RESPONSE	22
EQUINE INFLUENZA – COMMUNITY MEETINGS	23
‘LOCKDOWN STORIES FROM PARKES’ THROUGH THE EYES OF THE HACK WORLD	24
PERSONAL EXPERIENCES AND IMPACTS’ EQUINE INFLUENZA MOONBI LOCKDOWN.....	25
EQUINE INFLUENZA LOCKDOWN STORIES - ST ALBANS	29
SDCHQ – THE BUSINESS BEHIND THE BUSYNESS	31
RACING AND QUARANTINE ISSUES.....	32
PERMIT MANAGEMENT	34
EFFECTS OF THE EMERGENCY RESPONSE TO THE EQUINE INFLUENZA INCURSION ON THE AUSTRALIAN HORSE INDUSTRY COUNCIL INC. (AHIC).....	35
ERADICATING EQUINE INFLUENZA IN- NSW RACING PERSPECTIVE	37
EQUESTRIAN FEDERATION OF AUSTRALIA’S MANAGEMENT OF THE CRISIS	39
EFFECTS ON THE GREYHOUND & HARNESS RACING REGULATORY AUTHORITY (GHRRA)41	
INDUSTRY LIAISON – ROLE, IMPORTANCE AND STORIES	43
PSYCHOLOGICAL DISTRESS ASSOCIATED WITH EQUINE INFLUENZA.....	45
PRACTITIONER PERSPECTIVE ON THE EQUINE INFLUENZA OUTBREAK.....	47
EXPERIENCES OF PRIVATE VETERINARY PRACTITIONERS.....	48
VACCINATION PRACTICALITIES.....	49
INFORMATION MANAGEMENT- COORDINATING INFORMATION TECHNOLOGY RESOURCES	51
MAPPING - INFORMATION MANAGEMENT.....	54
EQUINE INFLUENZA - FINAL SURVEILLANCE.....	55
EQUINE BIOSECURITY: CURRENT IMPORT ARRANGEMENTS.....	59
GETTING IN FRONT.....	60

PROGRAM

Monday, 15 December 2008

14:30 – 15:00 **Welcome** (including Presentation to Dr Peter Kirkland NSW Scientist of the Year - plant and animal sciences category)
The Hon. Ian Macdonald, Minister for Primary Industries

EI - Day One

15:00 – 15:20 **Equine Influenza Hits NSW – National Coordination**
Bruce Christie, NSW DPI

15:20 – 15:30 **Locking Down Centennial Park**
Wayne Haigh, NSW DPI

Science

15:30 – 15:40 **How the Disease Spread (epidemiology)**
Barbara Moloney, NSW DPI

15:40 – 15:50 **The Importance of New Technologies in the Laboratory**
Peter Kirkland, NSW DPI

Controls

15:50 – 16:00 **Control Strategies**
Ian Roth, NSW DPI

16:00 – 16:20 Questions to Speakers

16:20 – 16:50 **Afternoon Tea**

16:50 – 17:00 **Legal Aspects**
Barbara Jones, NSW DPI

17:00 – 17:10 **Zoning & Proof of Freedom Planning**
Helen Scott-Orr, NSW DPI

17:10 – 17:20 **Turning the Map White**
Graham Wilson, BioBrokers

Communication

17:20 – 17:30 **Media Liaison**
Brett Fifield, NSW DPI

17:30 – 17:40 **Public Communication**
Bruce Ward, NSW DPI

17:40 – 17:50 **Community Meetings**
Stephen Dunn, NSW DPI

Locked down

17:50 – 18:00 **Lockdown Stories – Parkes**
Sandra Henry, horse owner

18:00 – 18:10 **Lockdown Stories – Tamworth**
Meg Drury, Equestrian Federation (Dressage) and horse owner

18:10 – 18:20 **Lockdown Stories – St Albans**
Rob Bowman, NSW DPI

18:20 – 18:40 Questions to Speakers/Close

19:30 for 20:00 **Dinner, Camden Valley Inn**

Tuesday, 16 December 2008

State Disease Control Headquarters

09:00 – 09:20 **A Director's Role**
Barry Kay, NSW DPI

Industry Implications

09:20 – 09:30 **Racing & Quarantine Issues**
Rory Arthur, NSW DPI

09:30 – 09:40 **Permit Management**
Jackie Barker, RLPB Coonabarabran

09:40 – 09:50 **Australian Horse Industry Council's Perspectives**
Rod Hoare, Australian Horse Industry Council

09:50 – 10:00 **How EI Affected Racing NSW**
Craig Suann, Racing NSW

10:00 – 10:10 **Equestrian Federation of Australia's Management of the Crisis**
Wendy Cohen, Equestrian Federation of Australia (NSW)

10:10 – 10:20 **Effects on the Greyhound & Harness Racing Regulatory Authority**
John Coughlan, Greyhound & Harness Racing Regulatory Authority

10:20 – 10:30 **Stories from an Industry Liaison Officer**
Edwena Mitchell, Horse Industry Representative

10:30 – 11:00 **Morning Tea**

11:00 – 11:20 Questions to Speakers

11:20 – 11:30 **Psychological Distress associated with Equine Influenza**
Mel Taylor, Senior Research Fellow, University of Western Sydney

Vets

11:40 – 11:50 **Experiences of Private Practitioners**
Derek Major, Agnes Banks Equine Clinic

11:50 – 12:00 **Experiences of Private Veterinary Practitioners**
Brett Jones, Wyong Equine Clinic

12:00 – 12:10 **Vaccination Practicalities**
John Seaman, NSW DPI

Information Management

12:10 – 12:20 **Coordinating Information Technology Resources**
John Rapley, NSW DPI

12:20 – 12:30 **Mapping – Database Management**
Rob Colless, NSW Lands

Maintaining EI freedom

12:30 – 12:40 **Final Surveillance and Scares**
Therese Wright, NSW DPI

12:40 – 12:50 **Australian Quarantine Inspection Service – Changes & Improvements**
Phil Widders, AQIS

12:50 – 13:00 **Getting Ahead – The Way Forward**
Kevin Cooper, NSW DPI

13:00 – 13:10 Questions to Speakers

13:10 – 13:30 **Summation & Close**
Bruce Christie, NSW DPI

13:30 – 14:30 **Lunch/Close**

2008 NSW PREMIERS PUBLIC SECTOR GOLD AWARD

NSW EI Eradication Campaign



EQUINE INFLUENZA HITS NSW – NATIONAL COORDINATION

Bruce M Christie

NSW Chief Veterinary Officer and Director Animal and Plant Biosecurity, NSW DPI
Email: bruce.christie@dpi.nsw.gov.au

On the morning of 24 August 2007 a private veterinary practitioner advised the NSW Department of Primary Industries (DPI) via the Emergency Animal Disease (EAD) Hotline of concerns that a number of horses stabled at the Centennial Park Equestrian Centre at Moore Park were displaying signs consistent with equine influenza (EI). The report followed an outbreak of EI in Japan, the importation of breeding stallions from Japan and reports that some of these stallions located at the Eastern Creek Quarantine Station were showing clinical signs of EI.

Government veterinarians were dispatched to collect samples from the affected horses and late on the evening of 24 August 2007, staff at the Elizabeth Macarthur Agricultural Institute (EMAI) laboratory at Menangle confirmed that samples collected from all 11 suspect horses were positive for influenza A. This initial diagnosis was subsequently confirmed on 25 August 2007 by tests conducted on a second set of samples dispatched to the Australian Animal Health Laboratory (AAHL) at Geelong.

Following the notification of suspect EI the NSW Biosecurity First Response Team were placed on alert and a State Disease Control Headquarters (SDCHQ) was established at the head office of DPI in Orange, NSW on the afternoon of 24 August 2007. Staff worked into the early hours of the next morning and at 2.00 am on 25 August 2007 a Control Order banning the movement of all horses and horse products was issued under the *Exotic Diseases of Animals Act 1991*.

Australia has developed its own world leading unique plans for responding to an outbreak of an EAD. Central to these arrangements are the *Government and Livestock Industry Cost Sharing Deed in Respect of Emergency Animal Diseases* (referred to as the Emergency Animal Disease Response Agreement or EADRA) and the Australian Veterinary Emergency Plan (AUSVETPLAN).

Responsibility for the overall national strategy and financial management of a response to an EAD rests with the National Management Group (NMG) made up of the Secretary of Australian Government Department of Agriculture Forestry and Fisheries (DAFF), Directors-General of all State Departments of Primary Industries or equivalent, and the presidents or equivalents of major national peak industry bodies of the affected species and representatives of unaffected industries.

NMG receives technical advice from the Consultative Committee on Emergency Animal Diseases (CCEAD). CCEAD is made up of chief veterinary officers of all states, territories and the Commonwealth, other Commonwealth officers and representatives of major national peak industry bodies of the affected species and representatives of unaffected industries. CCEAD is also responsible for coordinating the national approach.

Following the declaration of an EAD, the NSW Chief Veterinary Officer assumes overall responsibility for directing the state response. This strategy is developed with reference to the relevant AUSVETPLAN disease manual and is detailed in a formal EAD Response Plan prepared by SDCHQ and submitted for endorsement by CCEAD and then NMG. SDCHQ coordinates the states operations and is responsible for inter state liaison and federal reporting, while the LDCC has responsibility for frontline eradication and control operations.

CENTENNIAL PARK EQUESTRIAN CENTRE LOCKDOWN

Wayne Haigh

Regulatory Officer, NSW DPI
email: wayne.haigh@dpi.nsw.gov.au

The first case of Equine Influenza (EI) in Australia was found in a stallion at Sydney's Eastern Creek Quarantine Station which was locked down on Thursday 23 August 2007.

On Friday 24 August 2007, recreational horses stabled at Centennial Park Equestrian Centre (CPEC) in Sydney's east, were found to be suffering from clinical symptoms consistent with EI.



What happened next:

- Quarantine Notice Served.
- Media frenzy on Saturday, 25 August 2007.
- Emotions and fears of businesses, horse owners and staff of CPEC.
- Meeting held with tenants and horse owners of 9:00 am 25 August 2007 – Dealing with the key challenges that arose
- Disposal of stable waste - Operation "Horse S****" and its objectives.
- Sentinel horse testing program.
- The paper trail and financial accountability.
- Where CPEC and its tenants/horse owners are today.

EPIDEMIOLOGY: HOW EQUINE INFLUENZA (EI) SPREAD IN THE HORSE POPULATION IN NSW

Barbara Moloney BVSc, MVS, MACVSc

Technical Specialist (Disease Surveillance & Risk Management), NSW DPI
Email: barbara.moloney@dpi.nsw.gov.au

Introduction

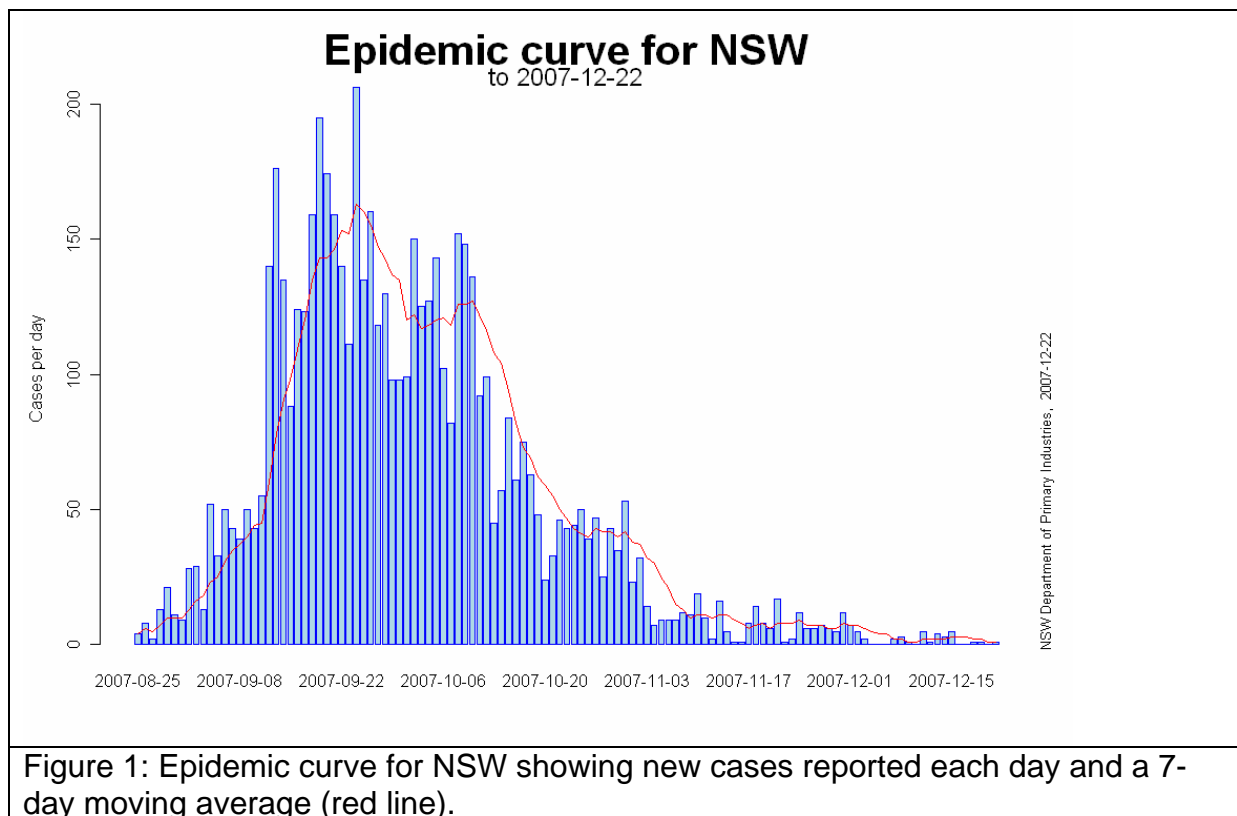
Epidemiology is the study of the occurrence of disease in populations, involving the relationships of the disease causing agent (EI virus), with the hosts (horses and other equids) and the environment (where the horses are located).

EI is a highly contagious disease which had never occurred in Australia prior to August 2007. This meant that the horse population was generally naïve (not immune) to EI, apart from small numbers of horses involved in international travel.

The disease has a short incubation period of 2 to 5 days, during which time the horse shows no clinical signs but may be shedding virus. A benefit of having a non-immune population was that cases of disease could be readily identified.

Epidemic curve – how the disease progressed in time

The epidemic that occurred in NSW is typical for an infectious disease in a susceptible population, and is illustrated in the graph of cases reported over time (Figure 1). At the peak of the outbreak, more than 200 new cases were being reported daily (24 September 2007). The last case in NSW was detected on the 22 December 2007.



Movement Spread - Significant spread events in NSW

The horse population in NSW is relatively mobile, resulting in the spread of disease before the standstill was fully implemented. For this reason it was important to analyse what was happening in different areas of NSW (Figure 2).

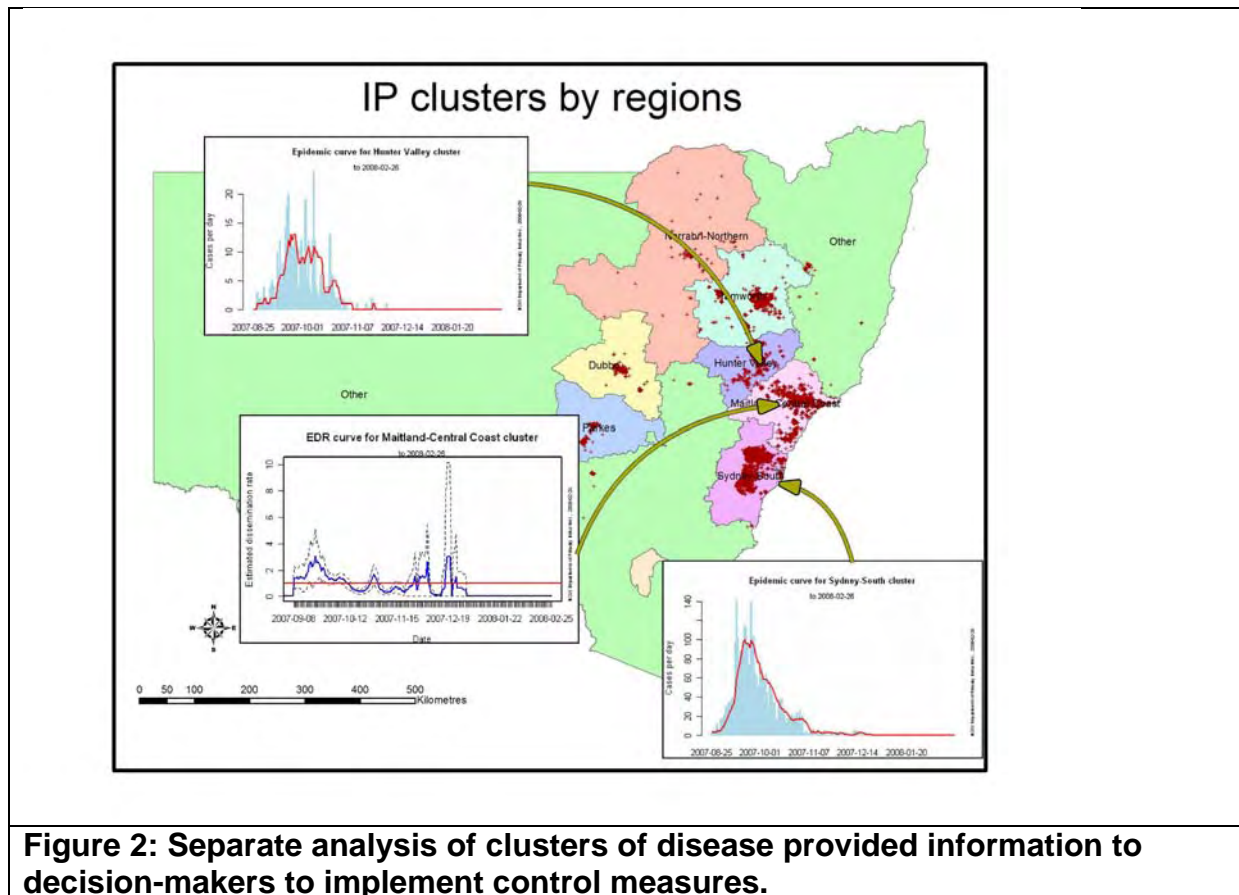


Figure 2: Separate analysis of clusters of disease provided information to decision-makers to implement control measures.

Monitoring of the disease in the clusters demonstrated that movement restrictions were highly effective in preventing the spread of EI following the three major spread events:

1. Infected horses at the Maitland one-day event on 17-19 August were the source of infection at Centennial Park (22 August) and another 50-plus locations including south and west of Sydney, Gloucester, Central Coast, Scone/Hunter Valley and Warwick in Qld.
2. Horses from Centennial Park moved to Parkes Showground, Berry and a small number of locations in north-western Sydney between 19 – 25 August
3. A campdraft event at Narrabri included horses which had contact with infected horses from Maitland during a stopover in Scone, and animals returned home from Narrabri on 25 August prior to full implementation of the standstill; this led to dispersion of infection more than 60 locations including Dubbo, Gulargambone, Coonamble, Moree, Armidale, Walcha and Dungog.

Local spread (including airborne)

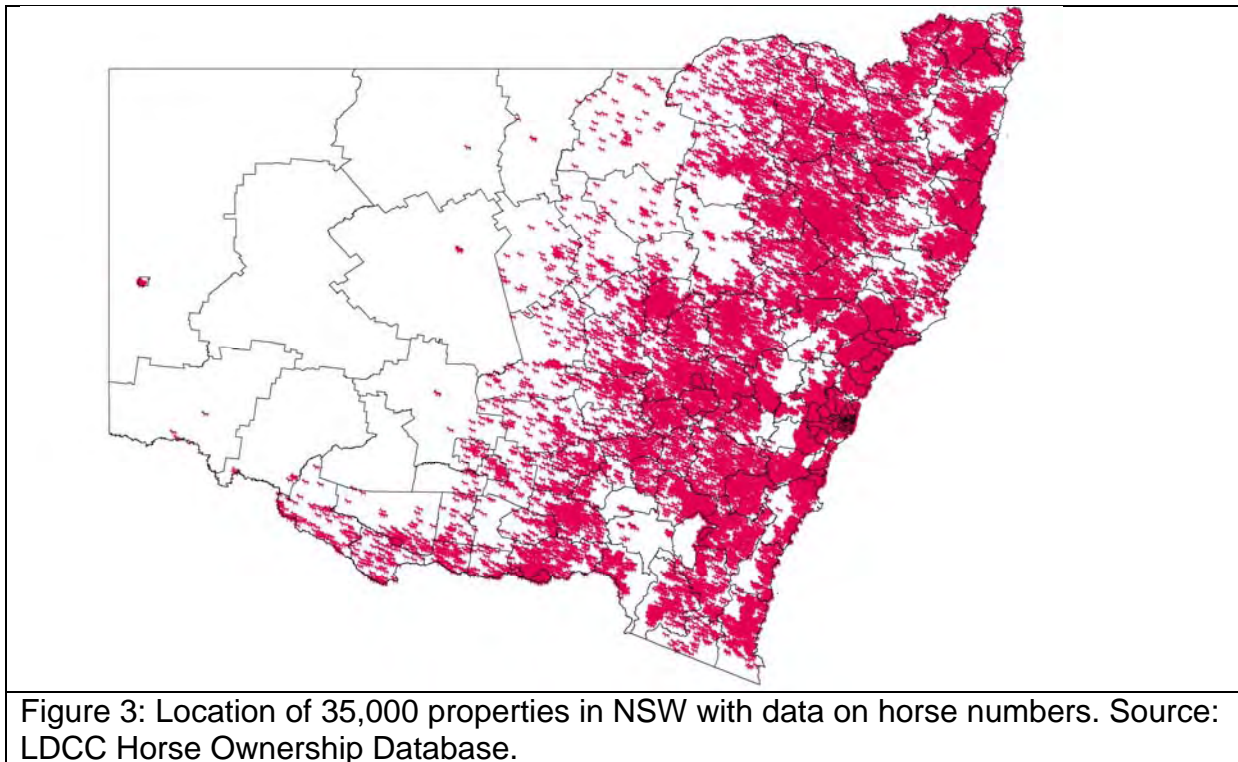
EI was able to spread from property to property where horses were present, and in some cases documented over longer distances (several kilometres) where no intervening horses were present. This included areas where low-lying mists were seen extending along valleys. Creation of buffer zones with few susceptible horses was effective in preventing local spread.

Fomite spread (including contaminated people and equipment)

A small number of new foci of infection occurred where there were no known movement of horses or local spread, likely including the first movement of infection outside of quarantine. Other locations infected in this manner included Barmedman/Temora and Warwick Farm Racecourse. Biosecurity measures were highly effective in controlling fomite spread over longer distances.

Where horses were located: Denominator population

For measured disease rates to be most meaningful, it is necessary to understand where horses are located. Based on information available, the highest density of horses are located in the coastal and eastern half of NSW, with lower densities in the Western Division and National Parks areas, as shown in Figure 3. Small numbers of feral horses were identified in the latter areas, but these generally had limited or no contact with domestic horses and were not considered to be a risk.



THE IMPORTANCE OF NEW TECHNOLOGIES IN THE LABORATORY

Peter Kirkland, Edla Arzey, Deborah Finlaison, Xingnian Gu and Andrew Read

Virology Laboratory
Elizabeth Macarthur Agriculture Institute, Woodbridge Rd, Menangle, NSW
Email: peter.kirkland@dpi.nsw.gov.au

The clinical signs of equine influenza (EI), although often highly suggestive, are also observed in other respiratory infections of horses. Therefore, it is essential to have laboratory tests undertaken to confirm that a horse has been infected with equine influenza virus. Traditionally equine influenza diagnosis has relied on virus isolation (culture) which takes many weeks, or when antibody tests were undertaken, confirmation could not be achieved until 10-14 days after the onset of disease when a horse had produced antibodies against the virus. During the 2007 EI outbreak, two new tests used in the Virology Laboratory at EMAI were applied for the first time to the diagnosis of EI. These tests were the Type A Influenza reverse transcriptase real time polymerase chain reaction assay (qRT-PCR), used to detect the RNA of the virus and the blocking enzyme linked immunosorbent assay (bELISA) to detect antibodies to the virus.

The Virology Laboratory became involved in the EI incident on the evening of 24 August 2007 when a diagnostic team returned from the Centennial Park Equestrian Centre after collecting nasal swabs and blood samples from 11 affected horses. En route to EMAI the team had delivered a duplicate set of samples to Sydney Airport for despatch to the Australian Animal Health Laboratory (AAHL) at Geelong, Victoria. The samples were received at EMAI at about 19.50. Testing in the influenza A qRT-PCR commenced soon after and the Chief Veterinary Officer (CVO) was advised of the results at 23.03. All of the horses that had been sampled gave positive results. These results were confirmed at AAHL early on the afternoon of 25 August. Due to the delay in the arrival of the samples at AAHL, the CVO called a state-wide standstill on the movement of horses on the basis of the EMAI results. It is widely agreed that the initial rapid diagnosis and the early implementation of a restriction on the movement of horses are probably the most important factors in preventing nationwide spread and allowing eradication to remain a feasible objective. The first positive results using the conventional virus isolation technology were not available for almost three weeks after the outbreak commenced. If the Virology Laboratory had not been prepared and not had the qRT-PCR available, it is likely that the virus could have spread throughout the eastern states and perhaps nation-wide.

The qRT-CPR was used extensively during the outbreak for the extensive testing program that was undertaken during surveillance in free zones, in buffer zones at the time of vaccination, prior to the release of infected properties from quarantine and for movement purposes or to participate in a race.

Testing could be completed in less than three hours of receipt of samples and a high throughput capability allowed more than 70,000 samples to be tested, with 30,000 tested in a four week period during the 'Proof of Freedom' stage with a throughput of up to 3,000 samples per day. Without the use of the qRT-PCR, it would not have been possible to conclusively prove that EI had been eradicated.

An Influenza A pan-reactive blocking ELISA (bELISA) was used routinely for the detection of antibodies to EI virus to confirm freedom in the free zones and to confirm that all horses in large populations had been infected. More than 65,000 assays were completed during the outbreak.

While qRT-PCR and bELISA had previously been used for testing of avian samples, neither of these diagnostic tests had been used to test samples from horses infected with EI. The use of qRT-PCR, with its very high sensitivity and ability to detect non-infectious virus, posed a number of questions including the duration of shedding of virus. With the bELISA, there was interest in establishing the time at which antibodies could be first detected and whether this assay could differentiate between a response to vaccination and natural infection (a DIVA capacity). Seroconversion was observed in the bELISA between 5-7 days post infection and the bELISA readily distinguished between infected and vaccinated horses. This is believed to be the first large scale application of these assays to testing for EIV.

EQUINE INFLUENZA CONTROL STRATEGIES

Ian Roth

Manager Field Veterinary Services and Product Integrity, NSW DPI
Email: ian.roth@dpi.nsw.gov.au

Immediately after EI was diagnosed outside of a quarantine station a total national ban on the movement of horses and horse products was introduced. These restrictions were progressively eased as the distribution of infection was determined. Permits allowed movements under defined conditions. Movement restrictions were crucial in containing spread of the disease.

Movement conditions were coupled with zoning to define differences in prevalence levels in different parts of NSW and Australia. Zones were colour coded and included red, amber, green, purple and white. Compliance with movement controls was good thanks to assistance from the police and a very effective communication strategy. Road and Traffic Authority (RTA) signage helped advise of requirements when people were entering zones. Allowing some parts of Australia to resume business was very important in maintaining support for the program. The purple zone was a new concept and assisted with the return to usual business especially breeding in this heavily infected zone.

Surveillance and tracing helped find new cases and stop the further spread of EI. Reporting by the public also helped find outlying cases. Ensuring that the disease was not spread by people and fomites (inanimate objects on which infectious particles can be transferred) was also crucial.

Strategic use of vaccination helped reduce the pool of susceptible horses and hence the amount of virus available for spread. The Genetically Modified (GM) vaccine selected proved to be very effective in allowing immunity to rapidly develop and reduce spread of the disease. The strategy of ring vaccination around infected areas was developed to control lateral spread.

National coordination of disease control was very important and helped ensure a consistent message and approach to the successful eradication of the disease.



EQUINE INFLUENZA OUTBREAK - SOME LEGAL CONSIDERATIONS

Barbara Jones

Director Legal, NSW DPI

Email: barbara.jones@dpi.nsw.gov.au

Every exotic disease outbreak has its own dynamics, however each is essentially a regulatory scheme, albeit undertaken in a drastically shortened timeframe.

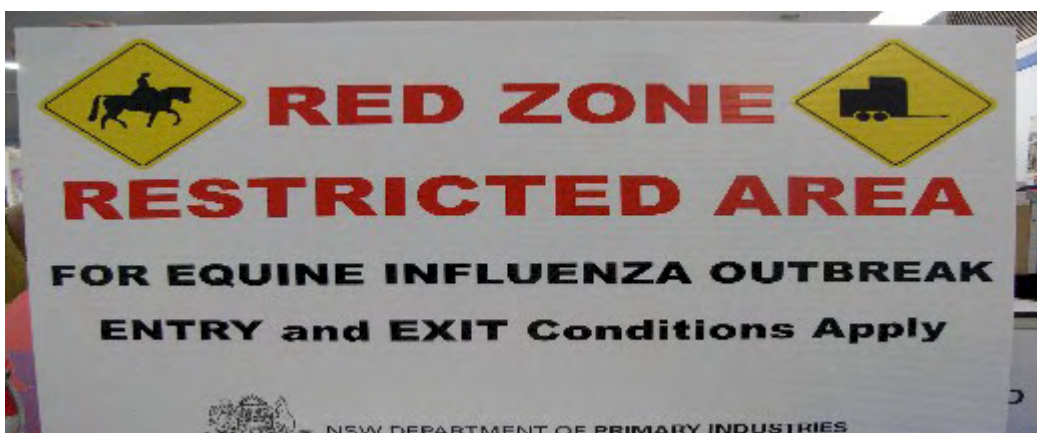
Equine Influenza presented the Legal Services Branch and the *Exotic diseases of Animals Act 1991* (now the *Animal Diseases (Emergency Outbreaks) Act 1991*) with its own set of unique legal dynamics.

Any regulatory scheme relies on a high degree of voluntary compliance from the public; however it is essential to the control of a fast moving exotic disease that strong powers can be demonstrated to deter anyone from attempting to breach controls that have been put in place.

For that reason, the legal staff worked until 4am on the morning of Saturday 25 August 2007 to ensure that an infected place order was drafted, signed and served on the first known infected place. Also a restricted area order and a control area order were necessary to ensure that the horse community was brought to a standstill before they commenced their usual early Saturday morning movements.

During the course of the outbreak, approximately 300 such orders were drafted as the disease moved across the eastern part of the state. Legal officers continued their usual work as well as tending to a myriad of issues thrown up by the outbreak.

This outbreak has highlighted how resource hungry an exotic disease control and eradication campaign can be from a legal perspective. It also highlights how important it is that any control and eradication campaign must be conducted within the framework of a flexible Act of Parliament, together with dynamic policies and procedures, to ensure the swift and legally defensible conduct of the campaign.



INNOVATIVE ZONING TO SUPPORT EQUINE INFLUENZA ERADICATION FROM NSW

Helen Scott-Orr

Director Health Sciences, Strategic Alliances and Evaluation, NSW DPI
Email: helen.scott-orr@dpi.nsw.gov.au

Following detection of Equine Influenza (EI) in NSW on 24 August 2007, a complete standstill was imposed the following morning on the movement of all horses and donkeys within the state. Individual quarantines were also applied to infected and suspect premises and properties and strict guidelines for personal, equipment and vehicle disinfection were issued for the movement of people on and off these premises, especially those handling horses closely such as veterinarians, farriers and horse dentists.

Within two weeks, a zoning system of Red (Restricted), Amber (Control), and Green (Protected) Zones was proposed, to free up movement in uninfected and low risk areas of the state. Detailed policies and procedures for inter-zonal movement were developed to give effect to the more general provisions already in the AUSVETPLAN national disease control strategy for EI. Prospective zone boundaries were progressively adjusted in the light of disease surveillance information and plans for the application of vaccination buffers around infected areas.

Despite strict quarantines on infected premises and a high level of compliance with personal biosecurity requirements, EI was continuing to spread in the proposed Red Zone by either horse to horse, human or windborne carriage of virus to horses on contiguous and nearby premises. The onerous standstill restrictions imposed on the movement of horses and people were proving ineffective and counterproductive and so the concept of a new Special Restricted Area, the Purple Zone, was introduced. Within this zone free movement of horses and people would be allowed but strict biosecurity provisions applied to the movement of horses and horse product on people, horse equipment and vehicles out of the zone.

The initial zoning of NSW into four different zones, including two small Purple Zones, was promulgated as the NSW Equine Influenza Protection Plan on 21 September 2007. A much larger Purple Zone was subsequently introduced on 19 October, after which the Zone remained largely the same until it was conclusively proven that EI had been eradicated from it.

The roles of this Purple Zone in accelerating disease burnout, reducing economic losses caused by control measures and regulatory effort, and maintaining industry support for the eradication program are discussed. Subsequent implications for proof of freedom of the whole of NSW and Australia are also discussed.

TURNING THE MAP WHITE

Graham Wilson (BVSc, MACVSc)

Director Biobrokers Pty Ltd and Epidemiologist (Local Disease Control Centre, EMAI)
Email: biobrokers@bigpond.com

Clinical Equine Influenza on infected horse properties in NSW typically lasted about two weeks on individual properties and for about four weeks in a local area. Once EI had moved through an area the priority was demonstration of absence of disease and virus. To achieve this laboratory testing was used to both demonstrate herd immunity and absence of virus by PCR testing. Vaccination was utilised to supplement natural immunity levels and ensure a lack of susceptible hosts. Individual properties required either a minimum period of 42 days after clinical disease with a negative PCR test, or a period of 60 days without testing, at which time the property status moved to Resolved.

The EI outbreak comprised a central highly infected area from the lower New England, along the Hunter Valley, Central Coast and across the Sydney basin, and a series of isolated clusters, ringing this main outbreak area. The EI infected areas were assigned an initial zone status of red or purple.

Requirements for proof of freedom varied with initial prevalence and the number of clinical cases, effectively dividing the EI infected areas between those of low and high prevalence.

The first priority was to demonstrate eradication of EI in the external clusters, by moving red status zones to amber, and then after a further period of 30 days to green status. The next priority was to move the central area (purple and red buffer zone) to a green zone. The final stage was to move green zones to white zones (EI free zones). In some cases zones moved directly from red/purple to green status based on epidemiological risk analysis, combined with testing, absence of clinical disease, and very high proportions of adjoining herd immunity due to vaccination.

Surveillance for disease absence used a combination of random surveillance, targeted surveillance and passive surveillance. For zone disease status progression in external clusters random surveillance testing required a 95% probability of detecting 5% prevalence of EI virus. Within the central zone/s the requirement was for a 99% probability of detecting 1% prevalence of EI virus. In the central purple/red buffer area this resulted in random testing of approximately 12,000 horses on 2000 properties with negative PCR results. About twice this number of horses was also screened for disease absence using a combination of passive and targeted surveillance.

Final surveillance to move to white status used the same spectrum of surveillance approaches, with a focus on targeted surveillance of highest risk groups such as susceptible horses in previously infected areas, in combination with an extended period of absence of clinical signs. The final areas on NSW moved to white status on 30 June 2008, approximately 10 months after initial infection.

EI MEDIA AND PUBLIC INFORMATION CAMPAIGN

Brett Fifield

Director Public Affairs and Media, NSW DPI

Email: brett.fifield@dpi.nsw.gov.au

Public information was a crucial component of the NSW Department of Primary Industries (DPI) Equine Influenza (EI) eradication strategy. An EI Public Information Plan was developed by NSW DPI to ensure the awareness, cooperation and compliance of the State's horse owners and horse industry workers, and to maintain public confidence in the ability of NSW DPI to work with the horse industries to eradicate the disease.

The approach of the NSW DPI Public Affairs and Media branch was to:

- Establish NSW DPI as the main source of news and information on EI
- Ensure a rapid and open flow of information to the public
- Be a transparent and trustworthy source
- Use strong yet compassionate language through respected spokespeople to convey reasonable authority
- Be responsive not reactionary

Networking and gathering of information was vitally important to ensure DPI:

- Had a finger on the pulse within the operation to ensure we knew the news first
- Engaged with key horse industry organisations
- Developed media partnerships and relations with key outlets
- Liaised closely with other agencies through existing committees and networks

Key messages were developed and revised with input from the target horse industry audience:

- In all messaging people were referred for more information to EI hotline 1800 675 888 and www.dpi.nsw.gov.au/equine-influenza.
- Only key media spokespeople were used with access to daily talking points to ensure consistency in delivery
- Horse industry 'champions' were used to promote a message of cooperation and to tell our story through others.
- Messages were localised to keep different regional communities up-to-date with their situation

Message distribution was a vital part of the strategy and involved the comprehensive use of all media and communication channels (eg, metropolitan, regional and horse-industry specific media, advertising, web, email, blogs, SMS, printed fact sheets, public meetings, Roads and Traffic Authority (RTA) electronic roadside signage).

The NSW DPI public information activities met campaign objectives through all challenging stages of the 10-month EI eradication campaign:

- More than 300 media releases were distributed resulting in thousands of radio and television interviews, and newspaper articles. More than 50 media conferences and media events staged with visual cues such as hand washing, horses being vaccinated, phantom race meetings.
- NSW DPI website, 1800 EI Hotline established immediately and key sources of information
- 58 state-wide community meetings attended by 6000 people.
- Community Service Announcement instigated and run on ABC
- Advertising: \$980,000 print campaign used metropolitan, regional, rural and horse-specific newspapers and magazines
- Industry engagement: Minister for Primary Industries taskforce involving key industry organisations such as Racing NSW, GGHRA, the EFA, Thoroughbred breeders and the Horse Industry Council
- Fifteen information sheets published on web and disseminated in print at saddleries, rural stores, through Forward Command Posts, private veterinarians and NSW DPI offices
- Harnessing new media: Audio podcasts with Chief Veterinary Officer posted to website and accessed by media. Staff monitored and contributed to blogs and horse-industry web pages. Video footage and television news releases distributed to television networks. Lists of 12,000 direct emails used for updates

Australia is now free from EI due in part to extensive coverage in the media and the widespread availability of detailed public information and advice from a reputable official source – NSW DPI – on the internet, from the 1800 hotline, at public meetings and in written information sheets.

Quantitative and qualitative analysis of NSW DPI's communication campaign by Media Monitors revealed extensive coverage of the key NSW DPI messages on EI in the media.

A Media Monitors "favourability" index was very positive on the delivery of key NSW DPI messages, effective spokespeople and the success informing and leading the public debate.

The leading spokesperson with high favorability was the Minister for Primary Industries. Chief Veterinary Officer Bruce Christie was the fourth leading spokesperson behind Chief Steward Ray Murrhy and Federal Minister, Peter McGauran. Bruce's favourability was 100 per cent with no 'neutral' or 'unfavorable' coverage recorded.

The key NSW DPI messages on the horse standstill, biosecurity, movement requirements and vaccination received widespread and positive coverage.

PUBLIC COMMUNICATION DURING THE EI RESPONSE

Bruce Ward

Manager Publishing, NSW DPI
Email: bruce.ward@dpi.nsw.gov.au

Public communication played a critical role in eradicating equine influenza

- 60,000 calls to the hotline, peaking at 1,500 per day
- 680,000 page views on the website peaking at 9,000 per day
- 50 publications
- 206,000 Transported Horse Statement forms and 9,300 events registered

Successes included

- Use of the website as a single point of authority for information and updates ensured consistent and up-to-date information
- Informal monitoring and management of public electronic discussion allowed us to address concerns and rumours effectively
- Relevant and appropriate publication materials were prepared quickly and efficiently
- The daily update provided a focal point for keeping people up-to-date
- Rapid development of web-based applications such as the Travelling Horse Statement (THS) and event registrations was important to the overall operation

Lessons for next time

- It would be good to have a more formal watch on electronic social networks and public information spaces like Wikipedia
- We need to include technical writers in the communications team to speed the development of information products
- We need to have the ability to split off the public website so it can be moved off site in a very large operation. This would reduce the risk that a spike in website hits could bring down all electronic communications
- It would be good to have more alternatives for people who do not use the Internet
- We followed a strategy of 'start small but fast, then expand and improve'. This worked extremely well. We need to retain the ability to develop tailored services quickly when needed
- Communication options are expanding and this makes it even more important to coordinate the messages delivered from all parts of the operation

EQUINE INFLUENZA – COMMUNITY MEETINGS

Stephen Dunn

Deputy Chief Veterinary Officer, NSW DPI
Email: stephen.dunn@dpi.nsw.gov.au

More than 60 community meetings provided a valuable method of keeping local communities informed on aspects of the disease

- EI – what is it
- How did it get here & how does it spread
- Clinical signs and effects
- Testing for EI & caring for sick horses
- The EI Response – State & National
- Current status of spread
- Current zoning
- Vaccination
- Disinfection & on-farm biosecurity

Where possible, the meetings utilised local disease response personnel to deliver the information. Often veterinary practitioners from the area commented on their local experiences in dealing with the disease.

A major benefit of the meetings was that they provided participants with the opportunity to ask questions and to receive answers. They provided an opportunity for people to “vent” frustrations. The meetings also provided valuable feedback to campaign personnel.

More importantly the meetings enabled the big picture of the campaign to be explained to the community. While there may have been continuing disease spreading within the local area it gave staff the opportunity to defend the campaign by presenting data that demonstrated that the disease was not expanding across the nation but was well contained.

PARKES PRISON

'LOCKDOWN STORIES FROM PARKES' THROUGH THE EYES OF THE HACK WORLD

Sandra Henry

Email: axle@virtualcity.com.au

Equine Influenza (EI) was introduced to Parkes unknowingly by horse owners who had travelled from Centennial Park to compete at the Parkes Show before the first case of EI was confirmed. It was 51 days later that the final 26 horses who had been in lockdown were allowed to return home.



A Review of Being In Lockdown

- Day one - Saturday 25th August 2007
- Sick horses and NO vet
- Lack of Information on what was happening to US
- Centennial Park horses are sent home early
- Problems with getting horses tested
- People going to zoos and sheep sales in the middle of EI
- People losing faith and tempers in the industry
- The *GOING HOME* Party
- The Return to Parkes Show 2008

PERSONAL EXPERIENCES AND IMPACTS' EQUINE INFLUENZA MOONBI LOCKDOWN

Meg Drury

President Tamworth Dressage Club, Horse Owner and Competitor
Email: gillabri@bigpond.com

Moonbi is a small hamlet 20kms north of Tamworth on the New England Highway.

Friday, 24 August 2007

Tamworth Dressage prepare for their annual club championships which are held at the Tamworth Dressage Grounds at the Moonbi sports ground. Dressage is a very labour intensive sport and the lead up to competition is a very busy time, hence the mention of 'Equine Influenza' (EI) was only a faint impression in the back of my mind.

Saturday morning 25 August 2007

7:00 depart for Moonbi with horse loaded after the farrier had replaced a shoe. As I arrive at Moonbi, 12 kms from my home, my farrier Mal had contacted me to say that the media was saying that there was to be no further horse movement in NSW and to ring the NSW DPI Hotline number.

On trying to contact the Hotline number I was put onto a message bank. I was just wanting direction with what to do. The Moonbi area is known for its bad mobile telephone reception. I did not receive a reply to my message.

I continue to prepare for the days events. A competitor was warming up and when I mentioned the 'Flu' he innocently said to me *'my horses have had a bit of a cough for a few days but they seem okay'*. These horses had been competing at 'The Ranch', Maitland the previous weekend.

As media attention grabbed hold of the 'outbreak' news, my phone started to ring. Firstly a committee member to say she had contacted the 'EFA' asking what should we do. Their reply was to continue with your event as all horse would be on the grounds.

By 11:00 the owner of the horses who had the flu like systems had contacted the NSW DPI and within a very short period of time, the local Rural Lands Protection Board vet, Dr Bob McKinnon was on the grounds taking samples (both blood and nasal swabs). These samples from three horses from the same property were immediately transported by road to Sydney. The Police and Rural Lands Protection Board were on the gate stopping all movement within that same period of time.

The competition continued throughout the day even though people were starting to become confused and wanting to know the outcome of the suspected breakout.

As history was in the making I documented all the happenings.

- 13:00 A meeting for all in the grounds was called by the NSW DPI and we were advised there was to be no horse movement from the grounds until further notice.
- 14:00 Risk assessments were requested to be completed and three horses were permitted to leave the grounds. To this date one of those horse has not had 'EI', funnily enough it come from Narrabri.
- 15:30 Further movement from the grounds ceased.
- 16:00 All horses on the grounds to remain until further notice.
- 17:00 38 horses in total were to remain on the grounds and this included the three that had already been tested and another 10 horses that had come from 'The Ranch' Maitland.

Media attention had commenced early and remained consistent from then on. Horse facilities at Moonbi were adequate for horses overnight only. These consisted of small stables and a set of stock yards, where the horses with the flu like symptoms (including my own) were yarded.

As most competitors had left home thinking they would be away from home for only one day they had no provisions for themselves or their horses. Tamworth Dressage sought and bought hay from a local supplier to feed the horse s overnight. Accommodation was organised for competitors. Mr Arnold Turner from the NSW DPI was assigned in charge and was on the gate along with assistance from RLPB. This position was later delegated to Mr Bruce Tyrell. The whole incident was sometimes so unbelievable it was laughable; no one could believe the situation we were in. As I arrived home that night very late, the missed calls on the phone were amazing.

Sunday, 26 August 2007

- Our Dressage Competition was abandoned
- Moonbi grounds were being treated as a 'Suspect Premise'
- NSW DPI, RLPB, Fire Brigade and security was placed on the gate. All the direction was coming from State Disease Control Headquarters and information was changing constantly.
- Security and the Fire Brigade manned the front gate for the entire 'Lockdown'
- Horses from 'The Ranch' now had flu like systems. Blood samples were taken, only another two horses were tested and that was all that was tested on the Moonbi site.
- Meetings throughout the day were held to keep people informed as they were starting to want answers.
- Dr Bob McKinnon should have been commended for his unflappable approach to the situation
- Free Fodder Maintenance portions and bedding was allocated to Moonbi.

Monday, 27 August 2007

- Blood tests from first three horses returned positive
- Moonbi was declared an 'Infected Premise'
- Total quarantine of horses on the grounds was commenced. Biosecurity commenced in full, and with the security remained in place for the entire 'Lockdown' period
- From this day on the remaining horses went down with the flu. It seemed to move very quickly, but was still contained within the Moonbi Sportsground.
- My horse went down on Wednesday 29 August and became very unwell, with the classic signs, including a very bright orange nasal discharge.
- As I worked full-time I had to rely on people in the grounds to care and attend to my horse when I was not available
- As the government vets were in such demand, we attempted to get local private vets to come to us, but they were very hesitant as they were frightened to infect their businesses. We eventually secured one from the Tamworth Veterinary Clinic who was prepared to come and did so throughout the whole 'Lockdown'.
- As all the horses eventually came down with the symptoms and most were very ill. The majority also went down with secondary infections. Was this because they were all confined in a small area?
- It was not only the animals that were affected, but peoples lives changed dramatically
- Local people were allowed to leave the Moonbi facility and go home overnight. However, those that were not local had no option but to stay and this was a very big issue. On-site accommodation was sought and donations from local and people outside of the district lent their caravans which were placed on site. These remained on site for the entire 'Lockdown' period.

The competitors that came to Moonbi had come from a variety of situations.

- A mother and daughter from Nyngan. The mother owned a racing stable and the daughter attended boarding school at Bathurst. She was scared to go home as she feared carrying the disease to her stables and into another region.
- A student who attended NEGS School in Armidale who was not permitted back to school due to the fact NEGS has a riding school. She is cared for by her grandparents who suffer ill health. They remained on the ground for the entire 'Lockdown'. Local doctors were sought to care for their needs.
- A woman who owned a business in Scone and had to continue to run it from a distance.
- A young mother from Bingara who needed to care for her baby.
- Little girls who were competing at their first ever dressage competitions.
- Horse owners who lived in Amber & Green zones who had to agist horses and go through vigorous quarantine before being permitted home

The NSW DPI offered much assistance and improved all on-ground facilities where possible. They sought help from Community Health and other Government Departments who came to the grounds to offer assistance where necessary.

Initially two 'Briefs' were held per day to inform people of the current happenings. As time went on things amongst the group would sometimes become terse and unpleasant.

The Industry Liaison Officers from NSW DPI Orange Headquarters were a great source of information and seemed to be able to move mountains. They offered us great encouragement. The daily updates that were provided on the internet were also of great benefit.

The media attention was rampant and one member took it upon herself to write daily articles to the local paper. These were eventually stopped as they were more detrimental than helpful and just her own personal thoughts on the situation. As time went on and the outside horse community was suffering due to the 'Flu' now becoming rampant around the area, bad publicity was being received for those in 'Lockdown'. Paper articles were being written about how we were receiving all possible help while those at home were not receiving any government assistance.

Within three weeks of being in 'Lockdown' all horses had had the flu had recovered.

Was it necessary to keep us there for a further three weeks? All horses were retested on 20 September, with one only coming back still shedding, they were all retested again on 27 September. It was not until 3 October that permits were received and the 'Moonbi Lockdown' was abandoned and we were allowed to leave Moonbi. Those who lived in Green and Amber zones had to quarantine their horses further before being able to return home.

Conclusion

- Personally, Moonbi had an amazing effect on me
- I somewhat felt responsible for the people who were involved as they had come to a competition that was run by our club
- The friendship that was formed by many of the people involved has remained strong
- The most common thing you hear people say is 'It Could Have been worse'
- I've learnt don't wear shoes with holes in them because your feet get wet when you do biosecurity at the gate
- We are all better prepared and more knowledgeable about what could happen next time even though we are somewhat paranoid when we hear a horse cough!

EQUINE INFLUENZA LOCKDOWN STORIES - ST ALBANS

Rob Bowman

Senior Inspector, NSW DPI

Email: robert.bowman@dpi.nsw.gov.au

St Albans is a tiny village one hour from Windsor. Set deep in the McDonald Valley, the historic village features the Settlers Arms Hotel, Court House Guest House, a barn, fire station and around 20 homes. Locals refer to the place as the Forgotten Valley, struggling to get basic road and other infrastructure maintained.

Well off the beaten track the village caters for a passing tourist trade, mainly day-trippers from Sydney. Annual events include a folk festival and the Shazada Endurance Horse Event.

Shazada eventers camp with their horses along the river bank as well as public and private land throughout the village for several days. The 400 km event is staged over five days taking the hilly bush tracks and river flat country surrounding the village.

Eventers spend twelve months training themselves and their horses for this major event on the endurance horse calendar. Horses arrive in peak condition busting out of their skins ready for a hard five days of premier endurance riding.

August 2007 was set for staging of the 27th Shazada ride when chaos struck in the form of Equine Influenza. On 25 August, the NSW Minister for Primary Industries ordered a complete standstill of horse movements in NSW and by 17:00 the Shazada event was cancelled by NSW DPI. By this time around 200 people with 90 plus horses had set up camp for Shazada 2007.

The St Albans Lockdown was announced to the Shazada participants at 7:00 on 27 August 2008. The final movement permit was issued at around 16:00 on 31 August. The five day Lockdown is filled with stories of how a small unit of NSW DPI staff along with the Shazada inmates and their horses faced the challenges of the Lockdown in a remote and difficult location.

Those challenges included the limited availability of communications with the outside world, limited services to cover the basic hygiene requirements of the group, limited fresh water supply, long distances to travel to access shops and businesses to supply horse food and welfare needs.

The logistics of dealing with the physical resources and animal welfare were well within the capabilities of the DPI staff. In contrast, the remoteness and isolation of St Albans presented a whole list of challenges in dealing with the human element of the Lockdown and drew heavily on the skills and patience of the NSW DPI staff. Skills in communication, leadership, negotiation and diplomacy were tested to the fullest.

The Shazada eventers have no greater passion than their horses. The event has a strong focus on horse care. Constant TPR (Temperature, Pulse & Respiration) checks and vetting of all horses by professional vets associated with the event are standard practice. Records of horse health are maintained from the time each animal arrives. This documented evidence of the health status of every horse assisted in the decision making process to eventually allow movement permits to go home.

On the way to that decision the eventers spent several days waiting anxiously, not knowing what their immediate future held and how long they would be stuck. There was a strong underlying element of determination not to go home without their horses under nothing less than extreme circumstances.

NSW DPI staff at the site were constantly relaying information about the lockdown and the problems we faced to the Local Disease Control Centre (LDCC) & the State Disease control Headquarters (SDCHQ). At the same time we negotiated a strong case have the horses released.

Twice daily camp meetings were held to keep the group briefed on proceedings. The meetings also provided inmates an opportunity to express ideas, concerns and feelings on their situation.

Our knowledge of the procedures that SDCHQ had to go through to make their decision to release the horses was communicated to the group and bought us time while we negotiated.

The focus of the group remained on getting home while their horses were still healthy. We were constantly reminded that they felt like they were sitting ducks. Being in an open environment camped throughout the village they felt very exposed to the risk of someone travelling through and bringing in the virus. An outbreak could see their horses held in-situ for weeks rather than the few days they anticipated.

Horse owners that would normally be happy for an interested passer-by to say "G'day" and pat a horse, were very protective and wary of outsiders.

Dissent, disagreement and frustration were often the highlights of camp meetings and while maintaining communication with the group was essential we were always pleased to have meetings come to an end.

Maintaining morale and group cohesion was extremely important and the organising committee must be praised for their considerable effort and diplomacy in managing the group. Overall the Shazada inmates should be praised for the innovative and entertaining ways they kept themselves occupied while they waited for the release of their horses.

Special mention must go to the private vet, Kim Hagan and his team of assistants for their tireless efforts in monitoring horse health; and to the invaluable presence of NSW DPI's Greg Glasgow whose true 'bushy' style and hard work won over the Shazada inmates and kept everyone working together.

SDCHQ – THE BUSINESS BEHIND THE BUSINESS

Barry Kay & Jonathon Gregory

Director Biosecurity Enhancement and Biosecurity Business Manager NSW DPI
Emails: barry.kay@dpi.nsw.gov.au, jonathon.gregory@dpi.nsw.gov.au

The State Disease Control Headquarters (SDCHQ) grew from a handful of key staff to hundreds of people working across the NSW Department Of Primary Industries , the State Emergency Operations Centre, the Rural Lands Protection Boards, Industry, other jurisdictions and the Commonwealth to deliver the leadership, business functions, planning, policy direction and financial accountability that supported the frontline troops.

SDCHQ managed the day to day support mechanisms of Information and Communications Technology, legal, media & communications, finance and administration, geospatial and mapping, human resources, assets and the Whole of Government response.

Of critical importance is SDCHQ's role in preparing and presenting the appropriate documentation to satisfy the NSW Government, community, industry, other jurisdictions and trading partners that the response was adequate, technically valid and in line with expenditure expectations.



RACING AND QUARANTINE ISSUES

Rory J Arthur (BVSc, MVSt, MACVSc)

Program Leader Health Management, NSW DPI

Email: rory.arthur@dpi.nsw.gov.au

Racing

The racing industry in Australia creates billion-dollar economic activity. An early priority following the Equine Influenza (EI) incursion was to preserve as much horse racing as possible in NSW without risking EI-eradication objectives.

During the initial horse standstill, horses stabled on or very near racetracks were permitted to continue moving around the racecourse and stabling precincts for training and welfare purposes. Racing NSW imposed biosecurity rules on licensed trainers to minimise the risks of them introducing EI. By the end of week one of the EI response, there were more than 1,400 apparently EI-free horses in training at Newcastle, Rosehill and Warwick Farm racetracks and at Bankstown Harness Racing track.

In collaboration with NSW Racing and the Greyhound and Harness Racing Regulatory Authority, State Disease Control Headquarters (SDCHQ) established EI Prevention Centres at these sites. The objective was to facilitate 'within-precinct' racing to maintain economic activity, with the potential for 'between-precinct' movements to occur if the centres were successful. The Centres were managed by veterinarians, racing authority stewards and race club staff under a typical Incident Command Structure. Among other things, more than 1,500 trainers and stable staff were assessed for the risk that they would bring EI virus into the precinct. People with potential contacts with infected areas were stood-down from working and staff entering stables were required to follow rules for biosecurity.

Race meetings were held at Warwick Farm and Bankstown two weeks after the outbreak started while EI was spreading rapidly around the Sydney basin and Maitland. However, at week four, EI entered Warwick Farm through unknown means. Then, in an unrelated incident at week five, a trainer at Bankstown Paceway left the precinct, worked with a risky horse, returned to his stables and infected his horses. Subsequently all horses on the precinct became infected. When this happened, a Bankstown Paceway stable employee admitted that he was also working (against the rules) at Rosehill stables which subsequently became infected, only days after all horses there had received their first vaccination. By week six, with the biosecurity rules no longer being enforced, horses at Newcastle racetrack also became infected.

Although not managed to the same intensity, similar biosecurity rules applied at other precincts close to or included in Restricted Areas such as Kembla Grange, Wyong and Gosford. These remained apparently EI-free throughout the response campaign.

When the standstill was lifted and the state was divided into declared areas, the biosecurity protocols initiated by Racing NSW and developed with NSW DPI were very useful outside Restricted Areas. They enabled permits to be issued for movements and races in the Control Area (the amber zone) and in the free-protected area (green zone) with minimal risks.

Although the EI Prevention Centres ultimately failed to exclude the EI virus from key sites due to the enormous viral pressure around the Sydney/Maitland area and avoidable breaches of biosecurity, their use in any future EI outbreak should be considered, especially if an early vaccination program is part of the response.

Quarantine centres to facilitate movement

When many hundreds of mares were permitted to move into the purple zone for breeding or racing, it was made clear to owners that there was no strategy developed to get them out – they should expect to stay there. For many reasons, this was impractical in the medium to long term because of health and welfare issues on overcrowded studs, high costs of agistment, emotional distress to some owners with stranded horses and horse sales planned for November and the New Year in Restricted Areas. As the incidence of EI subsided, if the breeding and racing compartments of the horse industry were to remain viable, there had to be a facility to permit horses to move from Restricted Areas into EI-free areas.

NSW DPI established pre-embarkation and post-arrival quarantine facilities in the infected and EI-free zones. The structure and operation of these facilities were based on existing quarantine centre models using Hazard Control Critical Control Points (HACCP) based procedures. Using these quarantine centres, harness racing horses were sent from Sydney to Melbourne for the Inter-dominion carnival. One of Australia's best-performed racehorses, Takeover Target, was able to enter the purple zone in December and return to the EI-free area in January using these facilities. One particular horse selling complex became an approved quarantine facility to help move mares out of the Restricted Area.

Approved quarantine facilities are not easy to establish during an emergency disease response and some private operators were discouraged by the unavailability of liability insurance. Nonetheless, the use of approved quarantine facilities to permit inter-zone movements may need to be considered in any future outbreak.



PERMIT MANAGEMENT

Jackie Barker

Ranger Coonabarabran Rural Lands Protection Board, Coonabarabran
Email: jacquelyn.barker@rlpb.org.au

My involvement with Equine Influenza (EI) began with a request to attend the Brocklehurst Pony Club where a two day rally was underway on the weekend of 25 and 26 August 2007. During the course of the EI response I carried out numerous roles including the issuing of quarantine orders, property visits, auditing of post arrival quarantine facilities and risk assessments of public venues under quarantine including the Dubbo Zoo, showgrounds and racing facilities. The majority of my time in the EI eradication campaign was spent in the Restricted Area Movements (RAMS) unit at the Local Disease Control Centre (LDCC) as a Permit Coordinator and on a Board level assisting with permit management and distribution.



This presentation will address many of the emerging challenges overcome by the RAMS section during the campaign and highlight the strengths of permit development and management system. In all, more than 16,000 movement permits were issued by the LDCC throughout the campaign. The development of the on-line Travelling Horse Statements (THS) and the on-line permit application systems were significant achievements. The extensive management systems developed by RAMS to accommodate this large scale campaign were vital. Such management strategies must be incorporated into future emergency response operations.

EFFECTS OF THE EMERGENCY RESPONSE TO THE EQUINE INFLUENZA INCURSION ON THE AUSTRALIAN HORSE INDUSTRY COUNCIL INC. (AHIC)

Rod Hoare and Barry Smyth

Australian Horse Industry Council

Email: rodhoare@wirefree.net.au

The AHIC is the national organisation representing the horse industry, in particular the non-racing sector which makes up about 85% of the total domestic horse herd. The emergency response to the escape of equine influenza (EI) into the horse populations of NSW and Queensland (Qld) caused a considerable increase in workload for AHIC and stretched its meagre resources to the limit.

The Horse Emergency Contact Database (HECD), which was set up with funding from NSW DPI to provide information to horse industry participants about emergencies, was a vital resource during the emergency response. A SMS message and an email were sent to all HECD registrants within hours of the teleconference which confirmed the EI outbreak. The SMS message was delayed by up to 12 hours – it seems that phone companies only transmit bulk SMS messages at periods of low traffic. Sending an email on a Saturday was not highly effective because many horse owners were away at events for the weekend.

Normal email traffic into the AHIC office runs at about 140 per month. From the initial notification of the EI response in August 2007, there was a rapid increase in email traffic to reach a maximum of 18,000 in September. During the period between August 2007 and June 2008, emails into the AHIC office averaged about 7000 per month. All emails were answered.

Messages sent to the registrants on HECD totaled 3,335 for the two year period between August 2005 and August 2007. Between August 2007 and June 2008, there were more than 1 million messages sent via HECD. Registrants on HECD increased from about 800 in August 2007 to almost 11,000 in June 2008. NSW DPI used the HECD to issue its Daily Update which became the most valued source of information on the outbreak. Qld was offered the HECD for the same purpose but chose to develop its own communication network.

AHIC Directors participated in many committees to represent the non-racing sector since August 2007. There have been 56 meetings of the Consultative Committee on Emergency Animal Diseases (CCEAD), 25 meetings of the National Emergency Animal Disease Management Group (NMG), industry committees in NSW and Qld, and various meetings and committees of review (some of which are ongoing).

AHIC prepared three submissions to the Commission of Inquiry into the escape of EI from Eastern Creek Quarantine Station, and a submission to Animal Health Australia for recategorisation of EI. There were two submissions to the Department of Agriculture, Fisheries and Forestry (DAFF) for funding under the not-for-profit federal assistance scheme.

To obtain some direct feedback and information on the effects of EI on horse industry participants, AHIC ran four internet-based surveys between October 2007 and June 2008. These provided very valuable, detailed information on industry attitudes to the control of EI. There was also opportunity for respondents to provide additional comments. All comments were printed with the survey reports. AHIC is much indebted to Ken Dagley for running these surveys. AHIC also assisted with the survey on the psychological distress caused by the EI incursion that was carried out by Dr Melanie Taylor.

During the period between August 2007 and February 2008, audited hours spent by AHIC Directors on matters related to the EI emergency response were greater than 4,000. This does not include time spent by Directors who were employed as Industry Liaison Officers (ILOs).

AHIC administration, normally provided part-time by Judi Tainsh, coped magnificently under great pressure. Special thanks, Judi. Animal Health Australia (AHA) provided funds for an extra person in the AHIC Geelong office to assist with the marked increase in workload. Additional assistance from AHA to help with the management of media relations proved to be invaluable.

As with the various jurisdictions, industry peak bodies rapidly reach capacity to respond during emergency response to exotic disease incursions. There is no spare capacity and it is difficult to locate people with the necessary skills and expertise to sit on the numerous committees that are formed to deal with the emergency response. Many individuals gave their time and acted in the capacity of ILOs, and their local knowledge was a significant help to the government agencies at the coal face.

AHIC wishes to acknowledge and thank all those who provided help in time of need to contain, control and eradicate EI from Australia.

ERADICATING EQUINE INFLUENZA IN- NSW RACING PERSPECTIVE

Craig Suann

Senior Official Veterinarian, Racing NSW
Email: CSuann@racingnsw.com.au

The 2007 equine Influenza (EI) outbreak had a devastating effect on the NSW thoroughbred racing industry. During the outbreak, 211 scheduled race meetings were cancelled, with a loss of over \$32 million in prize money to owners and a \$4 million reduction in other returns to owners. Additionally, there was a \$200 million loss of TAB turnover. There were also significant losses of race day revenues and other lost revenues for race clubs around the state, adding to the impacts of the EI outbreak on regional communities.

Racing NSW (RNSW) worked closely with Minister Macdonald, the Chief Veterinary Officer and NSW DPI staff in the EI control and eradication program, with Racing NSW officials participating on the Minister's Task Force. Racing NSW Stewards worked with NSW DPI officials to issue 1,248 movement permits, and conducted 345 decontamination audits and 322 biosecurity audits.

An emergency vaccination program was initiated with the Emergency Dealing Determination approval for the ProteqFlu vaccine, with a Racing NSW vaccine control centre established at the Australian Racing Forensic Laboratory. Stewards worked closely with private veterinary practitioners to quickly vaccinate in excess of 8,000 horses in racing stables and on spelling farms in the initial phase. This was an important process in the return to racing since a positive immune status was required for any horse to travel prior to the declaration of freedom in February 2008. Furthermore, Racing NSW facilitated the serological testing of over 900 previously infected horses to facilitate movement of these horses once racing was able to resume.

Racing NSW was instrumental in the successful negotiations for the introduction of a range of Commonwealth Government compensation schemes totalling \$235 million for the combined horse industries in NSW and Queensland, including the Commercial Horse Assistance Payments Scheme (CHAPS), the EI Business Assistance Grant Scheme and the Equine Workers Hardship Wage Supplement Scheme. These schemes were designed to encourage trainers and owners to keep horses in work during the lockdown and subsequent movement restrictions, in order to maintain a pool of horses in work and to enable a proportion of the workforce to remain employed, and to ensure that there were sufficient fit horses ready to resume racing, albeit in a limited sense, following the easing of movement restrictions. These schemes also ensured that the industry did not lose the majority of its skills base during the outbreak, enabling the retention of sufficient skilled workers available for the return to racing. Racing NSW also successfully lobbied for NSW Government financial assistance for industry participants and race clubs, and importantly a one-off grant to help promote the industry following resumption of normal racing activities.

Finally, Racing NSW supports a program of ongoing vaccination of thoroughbred horses to ensure a more rapid return to normal business and therefore less financial stress to the industry and its participants in the event of a future outbreak of EI.



EQUESTRIAN FEDERATION OF AUSTRALIA'S MANAGEMENT OF THE CRISIS (NSW BRANCH)

Wendy Cohen

Executive Officer, EFA NSW
email: wcohen@efa.nsw.com.au

The Equestrian Federation of Australia (EFA NSW) was established in 1951 and incorporated in 1990.

It is the peak body for horse sports in NSW and the state body for the Equestrian Federation of Australia which is the controlling body for horse sport nationally. They in turn affiliated with the Federation Equestre Internationale (FEI), the governing body for horse sports world wide. The EFA NSW also maintains affiliations with relevant state government and non-government agencies such as the NSW Department of Education, NSW Department of Sport and Recreation and the NSW Institute of Sport.

The EFA NSW is a non-profit organisation. It comprises individual members, affiliated clubs, constituents, coaches and officials. Membership throughout NSW exceeds 7000. There are over 3000 registered horses and over 100 affiliated clubs offering EFA competition. The EFA NSW embraces the following six sports:

- Carriage Driving (an international sport)
- Dressage (an international and Olympic sport)
- Eventing (an international and Olympic sport)
- Saddlehorse (a national sport)
- Showjumping (an international and Olympic sport)
- Vaulting (an international sport)



EFA's management of the EI crisis in relation to our members and other stakeholders:

- Immediate response – information management
- The weeks after – government liaison
- Members in Lockdown – EFA NSW Support
- Planning meeting with entire non-racing horse industry
- Media campaign
 - general coverage
 - impact on Olympic hopes and the 'forgotten' victims forum
- Vaccinations
 - The first 100 horses
 - The next 3,000 – accessing vaccines, administration of vaccinations
 - The EFA 'Team'
- CHAPs (Commercial Horse Assistance Payments)
 - Setting up the call centre for CHAPs for entire non-racing horse industry in NSW
 - Relationships with Commonwealth
 - Administration of CHAPs
- Olympic preparations and return of the horse events
 - Cancellation of lead-up and qualifying events
 - Return of the Horse event – with benefits to the Olympians and equestrian sport in general

EFFECTS ON THE GREYHOUND & HARNESS RACING REGULATORY AUTHORITY (GHRRA)

John Coughlan

Chief Executive Officer, GHRRA
email: j.coughlan@ghrra.nsw.gov.au

25 August 2007 was a monumental day in Australian Racing as:

- No thoroughbred meeting
- No harness meeting
- Greyhound meetings proceeded
- Tabcorp turnover 88% below budget for day

NSW harness industry actions taken:

- Followed AUSTVETPLAN
- Liaised with NSW DPI
- Notified participants by telephone
- Notified media through radio, television
- Regularly attended NSW DPI meetings and issued press releases to assist participants
- Vaccinated almost 4,000 harness horses twice in NSW – each microchipped because of the requirements for the use of the genetically modified vaccine

NSW harness industry - What have we learnt?

- That we need a specific Emergency Response Plan using technology to notify each club/licensed participant utilising our licencing system.
- To be better consulted. Initially the Authority was not advised of industry meetings – we found out circuitously. Government departments could have a full time employee to handle customer relations in crisis.
- As far as humanly possible have “single voice” coming from NSW DPI veterinarians.
- Be cognisant of advice provided by external veterinarians
- The importance of having in house/employed veterinarian
- Flow of information to harness participants. Because of its size/importance, the thoroughbred Industry dominated. All other equine sports were “second fiddle”. Need a strategy for the future to overcome this to ensure our message is delivered.
- To establish and implement more stringent penalties for participants who break regulations to obtain better compliance
- The number of horses we did not know existed – particularly when CHAPS payments commenced.
- More effective use of HaRVEY System to ensure all records are updated – provides greater knowledge of horse locations
- More effective vaccination

- Updated list of Trainers with horses in work/started last 18 months. Easier preparation for vaccinations
- The need to vaccinate as an eradication measure on a more timely basis, given results achieved.
- The importance of using a live vaccine to prevent spread.
- EI free prevention zones work

Matters to Contemplate

- The necessity to have national involvement and consensus in decision making process if the issue relates to only a few states
- The need to ensure future policy decisions are not made during the crisis.
- The need to resolve the microchip issue
- **If Thoroughbreds had AI (Artificial Insemination), there is a strong possibility there would be no EI!**



INDUSTRY LIAISON – ROLE, IMPORTANCE AND STORIES

Edwena Mitchell & Cathie Drury-Klein

Horse Industry Representative and NSW DPI
email: emcat@bigpond.com, Cathie.drury-klein@pdi.nsw.gov.au

Industry Liaison Officers (ILOs) played a vital role during the Equine Influenza (EI) outbreak and subsequent eradication of the disease. ILOs were appointed from day one of the outbreak and remained an invaluable link between industry and management of the emergency. They were situated in the State Disease Control Centre (SDCHQ) until 30 June 2008. The ILOs sat in the middle of the equation, required detailed industry knowledge, close contacts within the industry, skills of communication and leadership. The role of the ILOs changed from one day to the next as the eradication program progressed to victory.

ILOs had input into the development of policies and procedures that met both the needs of the disease eradication strategy as well as the long term benefit of the horse industry. They developed many initiatives to make the lives of effected horse owners a little easier and provided a light at the end of the tunnel for many. It was crucial to have industry representatives within the hub of the decision making process.



What did ILO do?

- Involved in the strategy & decision making process throughout the campaign
- Close contact and assistance to those caught in Lock Downs
- Collect data on horse locations –online rego, phone, surveys
- Coordinated communication between NSW Department of Primary Industries (DPI) , the Australian Horse industry council (AHIC) and the very fragmented horse community
- Worked closely with the communications and media branches
- Nominated industry personnel for paid positions within the EI Task Force
- Provided the first line of communication for the initial vaccination roll-out
- Coordinated the voluntary vaccination program
- Coordinated the start up in Purple Zone Drive Thru Vaccination and Test days!
- Vet liaison
- Provided a bridge between regulations and individuals and ability to navigate system
- Provided a bridge between the Racing Industry and the Pleasure & Performance Industries
- Provided an essential role in getting Performance Industry back to competition eg Royal Agricultural Shows, Equestrian Federation of Australia, campdraft, pony clubs and all non racing horse industry groups
- Coordinated the set up quarantine centers to assist moving horses out of the purple zone to return to the green zone or interstate.
- PROVIDED HOPE FOR INDIVIDUALS



PSYCHOLOGICAL DISTRESS ASSOCIATED WITH EQUINE INFLUENZA

Dr Mel Taylor

Science of Mental Health and Adversity (SciMHA), School of Medicine, University of Western Sydney
Email: melanie.taylor@uws.edu.au

This presentation will include data collected during the Equine Influenza (EI) outbreak as part of the Human Impacts of Equine Influenza Study. In this study data were collected from 2,760 horse owners and those in the horse industry using an online survey sent out, initially, by the Australian Horse Industry Council (AHIC) via the Horse Emergency Contact Database and subsequently circulated by other groups and associations including the Harness Racing Association, the Australian Racing Board, the Equestrian Federation of Australia, and Equine Veterinary Association. All industry sectors are represented in the data although the largest groups are from the recreational (30%), equestrian (27%), and breeding sectors (16%). The survey was completed by horse owners in all Australian States and Territories with the majority of respondents coming from NSW (47%), Queensland (20%), and Victoria (20%).

The full study covered a wide range of subject areas; including general attitudes to EI, compliance with biosecurity, communication with and support from support agencies and service providers, and social, emotional and health impacts. The subject of the presentation will be the reported psychological distress during EI and factors associated with psychological distress. Psychological distress was measured using a 10 item composite measure; the Kessler 10 (K10). This measure is used in many state population health surveys in Australia; including NSW, and general population baseline data are readily available.

Analysis of the psychological distress data indicated that levels were highly elevated in the sample generally, even in the uninfected states. Around a third of the sample (34%) reported high psychological distress (compared to National figures of around 12%). Statistical analysis was used to identify factors associated with high psychological distress. Those more vulnerable to high psychological distress were younger people (16-24), those with lower levels of formal education, those in the red EI control colour zones in NSW and Queensland, and those whose main source of income was linked to a horse-related industry.

Data on the reported psychological distress during EI has recently been published in peer-reviewed literature, in an online open access journal; BMC Public Health. A full copy of this article is accessible at the following address: <http://www.biomedcentral.com/1471-2458/8/347>.

Further analysis has been conducted on a wider set of adverse psychosocial responses during EI to identify those in the horse-owning population who were more at risk of such responses. This analysis (currently unpublished) included psychological distress, and expanded on the set of risk factors in the previous analysis.

Findings indicated that factors such as high perceived vulnerability to EI, poor health status, lower resilience (perceived ability to adapt and bounce back), additional traumas, and personality factors (such as low optimism and higher anxiety) were also strongly associated with high psychological distress.

Many of the psychosocial response findings in relation to the EI outbreak are in accord with research literature from the area of psychosocial response to disasters generally, and therefore these data have potential for application and consideration in the wider emergency response context.

A follow-up study, with 1,355 respondents from the first study, was launched on 2 December, 2008 to investigate changes (primarily) in health and well-being and in biosecurity behaviours and attitudes. An update on this study and some preliminary data will also be presented.

PRACTITIONER PERSPECTIVE ON THE EQUINE INFLUENZA OUTBREAK

Derek Major BVSc MACVSc

Agnes Banks Equine Clinic
Email: derek.major@abec.net.au

This paper relates the experiences and observations of an equine veterinary practitioner who has always known of the threat of Equine Influenza to the horse industry, but had never really anticipated the degree of disruption and economic loss it would cause. The practitioner was involved from the scene of spread from Maitland One Day Event, right through to declaration of freedom.

The presentation outlines personal experiences and observations. While the author is in admiration of some of the leaders involved in successfully eliminating the disease, there are significant lessons to be learnt. In particular, it was difficult for anyone to predict just how much resources would be strained, particularly in the areas of technical disease expertise and communications. No amount of exercises and publications could replace real experience.

The disease did not behave exactly as AUSTVETPLAN predicted, and while the Plan withstood the test it needed modification and review as the outbreak progressed. There was a significant lag in the information chain from the disease "coalface" to the administration.

This practitioner started with a rudimentary knowledge of the command and control structure in a disease emergency, but gained increasing respect for the leaders at both the Local disease control Centre (LDCC) and the State Disease Control Headquarters (SDCHQ). Nevertheless, the various roles and chain of command were at times unclear and perhaps demand review.

The centralised distribution of vaccine was cumbersome and caused frustration to those who were attempting to be productive and cost-efficient.

Some criticisms are made of the Judicial Inquiry as a means of disease investigation.

Practitioner Perspective on the Equine Influenza Outbreak - Wyong Equine Clinic

Brett Jones BVSC

Email: brett@wyongequineclinic.com.au

This presentation gives a view from the perspective of a practice that first saw isolated cases of febrile coughing horses in the days after the Carroll's Ranch event at Maitland on 17 to 19 August 2007, and was then heavily involved in all aspects of the outbreak from the time of the announcement of the outbreak to the last diagnosed positives, including:

- phone counselling
- testing
- treating where necessary
- vaccinating
- the final weeks of diagnostic testing.

The basic working structure of the practice is outlined, and the acquired knowledge of the behaviour of the outbreak within the practice area, given its pocketed geographical nature (narrow valleys and trees) is discussed.

The progress of the disease through the area soon became reasonably predictable. The effectiveness of the vaccine was quickly recognised, and with the benefit of a small amount of hindsight (acquired on the go), it could be argued that the vaccine could have been used more aggressively earlier in the outbreak. The vaccine distribution system as it stood would have made this difficult. Aerial movement was deemed the most likely (and hardest to avoid), method of transmission. While, of course, respecting the need for biosecurity, this practitioner remains bemused by the seeming lack of interest by the Judicial Inquiry in aerial transmission as a possible cause of the outbreak. There remained a couple of spot outbreaks in this area not reasonably explained by either aerial transmission or biosecurity breakdown.

The working relationship between the practice and the local Forward Command Post, the Local Disease Control Centre (LDCC) and the State Disease Control Headquarters (SDCHQ) are discussed, along with the method of vaccine distribution and return. While being continually frustrated at the system we worked within, we acknowledge the pressure that those within the system were placed, and the efforts they made.

VACCINATION PRACTICALITIES

John Seaman

Research Leader Animal Health and Food Sciences, NSW DPI
Email: john.seaman@dpi.nsw.gov.au

On 19 September 2007 the Australian Pesticide & Veterinary Medicines Authority issued a permit to the federal Department of Agriculture Forestry and Fisheries (DAFF) to allow the emergency use and supply of an unregistered Agvet chemical product –ProteqFlu for the emergency use to vaccinate horses against Equine Influenza (EI). The permit came with a number of conditions, as set out in an Emergency Dealing Determination (EDD) dealing with genetically modified organisms. These conditions related to the supply, transport, storage, use, record keeping and disposal of the vaccine. ProteqFlu was chosen because of the potential to differentiate infected and vaccinated animals (DIVA) and the strong level of immunity it developed in a relatively short time (based on evidence from South Africa and information supplied by Merial, the manufacture of Proteqflu). Sequencing of the EI virus at the Australian Animal Health Laboratory indicated H3N8 strain with American linkage (Wisconsin 2003 strain) – which would be covered by ProteqFlu.

To fulfil the conditions of the EDD and permit, the vaccine was only to be administered by persons authorised by the Chief Veterinary Officer (CVO). It was determined that the use of the vaccine should be restricted to registered veterinary practitioners who were trained to ensure they were familiar with, and adhered to the conditions of the permit and the EDD. The training was largely undertaken by Ben Edwards (Operations Officer SDCHQ), Sam Allan (NSW DPI Regional Animal Health Leader) and myself on behalf of NSW DPI while a small number of industry veterinarians were trained by the racing authorities.

The first vaccine for disease control was administered in the Mittagong area on 28 September as part of the Buffer Zone Vaccination Program and then from there snowballed to another 14 Local Vaccination Centres involving over 200 veterinarians. Later in the response vaccination was used in the Purple Zone on a task request basis. Some of the “practicalities” associated with the vaccination program include:

- In the early days the training and induction of veterinarians was problematical. A training manual had been developed (by Chris Murray of the Equine Veterinary Association) but everything was rushed due to the pressure to “get out there and start vaccinating”.
- Local Vaccination Centres (LVCs) were set up in 15 locations across the state to undertake Buffer Zone vaccination. The management of these centres was largely ad hoc and their functioning largely depended on the personnel involved. In many cases the Centres were staffed by temporary personnel, often from out of town with little knowledge of the local situation. Of more significance was the remote management from State Disease control Headquarters (SDCHQ) with directions given based on little appreciation of the local situation.
- Workforce planning for the Vaccination Centres was always an issue and became further complicated when a decision was made to allow some of the

buffer vaccination vets to be paid the higher contract rate. Consideration was given to use lay vaccinators and training was undertaken but the option was never taken up. Better planning and advanced negotiations with professional bodies such as the Australian Veterinary Association are needed in the future.

- Biosecurity requirements meant that a vaccination team could reasonably vaccinate only 30-40 horses a day (7-10 locations) – progress was slow, expectations high and staff burn-out an issue.
- Monitoring performance in the Vaccination Centres was a challenge with the opportunity to brief and debrief vaccination teams often limited due the urgency of the situation. There was a need in all areas for closer monitoring of progress by someone who understood the overall program. Auditing of vaccination teams (by Senior Regional Animal Health Managers) was introduced in December.
- There was a consistent issue across Vaccination Centres of locating horses to be vaccinated. The lack of any horse registration system meant that local knowledge became critical but even then many Centres had to resort to census phone contact to ensure all horses were located.
- By the end of December the system had caught up. Policies and procedures were written to cover all aspects of vaccinating, training manuals and protocols were updated, computer support systems such as ANEMIS and Frontgate were working at Vaccination Centres and staff issues largely resolved.

Despite the logistical and management shortcomings the job still got done - largely due to the dedication of staff and support from the horse industry. By the end of January 2008 approximately 30,000 horses had been vaccinated as part of the Buffer Zone Vaccination Program with another 6,000 vaccinated by industry and 15,000 vaccinated in the Purple Zone. Provet (a veterinary supplier) had come on line to support private benefit vaccinations and the disease control aspects of the program were largely finished.

Eradication of EI was made possible due to the dual strategy of limiting the spread of disease via restrictions on movements of horses and horse products and secondly by creating an immune population of horses through the strategic use of vaccine. What vaccination really did was maintain community support. The industry could logically see a way forward and were prepared to follow the movement restrictions as they saw vaccination as a way of protecting themselves for the future. Without vaccination long term movement restrictions would have been difficult to implement and it is unlikely that the disease would have been eradicated.

INFORMATION MANAGEMENT- COORDINATING INFORMATION TECHNOLOGY RESOURCES

John W Rapley

Technical Manager, Emergency & Service Coordination, NSW DPI
E-mail: john.rapley@dpi.nsw.gov.au

Threats & Risks

Within two weeks of Equine Influenza (EI) being announced, Information and Communications Technology (ICT) realised the scale and size of the operations and commissioned a Threat and Risk Assessment to be conducted on the impacts of the EI response. This Threat and Risk Assessment highlighted and identified:

- The shortcomings of the ICT Business Continuity Plans for large scale response efforts such as the EI response
- The need to develop and maintain a permanent emergency response capability based on the EI experience, by documenting the activities associated with managing, coordinating and delivering a large technical response
- The need to reprioritise ICT Capital Works Program and assess the impact and risks on current and future funding and multi-year projects
- The need to reprioritise ICT Operations to manage critical infrastructure, services and support required for the EI response and the core business activities of the Department
- A need to introduce an emergency management culture into the ICT governance & operational frameworks to ensure ICT had a unified approach to the newly defined corporate strategic and operational directions
- The need to introduce Threat and Risk Assessments across ICT during the EI response
- More importantly, it recognised that the effectiveness of the initial ICT response to the EI control and eradication program was largely attributed to the leadership, commitment and experience, which ICT personnel brought with them to the operations.

Operational Impacts

In the first nine weeks of the EI response the Department's ICT Section established 40 operational centers across New South Wales. Included were call centre with overflow call traffic and after-hours operations of the call centre being managed by the NSW State Emergency Services.

To meet the growing needs of the EI response, ICT systems for disease management, mapping and decision support, horse registrations, permits and movements were amongst others that were implemented or developed within the first four weeks.

A state wide training program was delivered across New South Wales to bring a consistent approach to collecting and managing information across the operation.

Approximately 50 Projects were borne from the 250 Task Requests received by ICT and 85% of NSW DPI ICT personnel across New South Wales were involved in the EI response.

Operational Changes

EI influenced the way in which ICT managed day-to-day operations. Some of these changes included:

- Implementing an Emergency Management structure within ICT to provide an interface between EI Operations and ICT. An ICT Duty Manager was appointed to provide a single point of contact for Operational Objectives. An ICT Duty Officer was appointed at the State Disease Head Quarters and the Local Disease Coordination Centres to manage the ongoing day-to-day Operational activities
- Conducting Threat & Risk Assessments to identify risks associated with establishing Operational Centres across New South Wales. Telecommunications Services, Bearer Capacity or Network Access were key issues to be addressed for Regional and Rural Centres, Shared Facilities and Campus Sites
- Negotiating agreements with Service Providers and other Government Agencies such as The Roads & Traffic Authority for Developers, Administrators, Telecommunications and Technical Support Analysts
- A Task Management System was implemented to manage and track the progress of Tasks, Projects, Service Requests and Help Desk Calls generated by the Operations
- A Rapid Systems Development Program was introduced to ensure that critical systems were developed, tested and implemented within the shortest possible time
- A release management framework, which included representatives from the business area of the Operations, was implemented to ensure that service requests for system changes and updates were prioritised and that releases were managed efficiently
- Business Analysts and an Information Manager were introduced into the Operations to identify and negotiate system requirements, eliminate duplication, improve Records and Information Management as a whole across the Operations

- A Training Package for the ICT Systems used in the Equine Influenza was developed and delivered across the Operations
- More importantly and where possible, normalising operations by leveraging existing frameworks, systems and work practices to deliver on Operational imperatives

Lessons Learnt & Recommendations

In February 2008, we commissioned a review of the ICT Response to the EI operations. The review highlighted that the workload for ICT shifted from one functional area of ICT to another, as EI moved from one operational phase to another.

Recommendations arising from this review also aligned with recommendations arising from the strategic & operational management reviews conducted post EI. Some of the recommendations included:

- Developing an ICT Business Continuity Plan, which incorporates an Emergency Response Capability
- Developing a comprehensive ICT Emergency Response Plan
- Developing an ICT emergency management structure to enable the delivery of high quality ICT Services in support of emergency operations. The structure to provide an ICT Duty Manager as a single point of contact and is to include a Business Analyst
- Providing scalable infrastructure and services that are fit-for-purpose, accessible, responsive and reliable for emergency operations
- Negotiating agreements with external providers and government agencies to enable the scaling of ICT infrastructure & services for emergency operations. This includes investigating outsourcing opportunities for emergency operations, which may extend beyond ICT capacity & capability
- All new and existing agreements and contracts to include terms and conditions for expanding, contracting, suspending or terminating service arrangements and/or requirements for emergency operations
- Engaging First Response Teams and business areas of emergency management to negotiate requirements and manage expectations for improved systems & services
- Integrating emergency management response into day-to-day ICT operations
- Activating the ICT Business Continuity Plan to ensure that the impacts of emergency operations on business activities and ICT capital works programs are established, priorities, communicated and effectively managed.

Conclusion

At the end of the day, the EI response was a maturity test for ICT in terms of business continuity, emergency response and preparedness.

Mapping – Information Management

Rob Colless

NSW Department of LANDS
Email: rob.colless@lands.nsw.gov.au

During the Equine Influenza (EI) campaign, geospatial information quickly became one of the major cornerstones leading to overall success. It was not geospatial systems alone, rather it was the innate ability of geospatial systems to integrate diverse data sets to provide KNOWLEDGE. It was with this knowledge that key strategic and operational decisions were more effectively and efficiently made. It is safe to say that geospatial knowledge had significant contribution in every area in the EI operation.

Everywhere one looked there were computers, briefings and wall hangings containing geospatial information and integrated data telling a powerful visual story.

In this presentation it is intended to cover at a strategic level, some of the observations and lessons learnt from the EI campaign from an information management perspective, with a bias to geospatial. It will cover a small history of some of the early challenges, some of the products that developed, but more importantly some of the lessons learnt that can be carried forward. Included will be the concept of the Common Operating Picture (COP).



EQUINE INFLUENZA - FINAL SURVEILLANCE FROM JUNE TO DECEMBER 2008

Therese Wright BVSc (hons)

Policy Officer Animal Biosecurity, NSW DPI
Email: therese.wright@dpi.nsw.gov.au

Australia declared itself free from Equine Influenza (EI) on 30 June 2008. However it will not meet the current requirements set by the World Animal Health Organization (Office Internationale des Epizooties - OIE) for international recognition of freedom from EI until 25 December, 2008.

World Animal Health Organization (OIE) Requirements for Equine Influenza (EI) Freedom

The OIE guidelines for the international recognition of freedom from EI require:

- EI is a notifiable disease
- twelve months have elapsed since the last case of infection was detected
- surveillance for evidence of infection has been carried out during that 12-month period at a level sufficient to provide at least a 95% level of confidence of detecting infection if it is present at a prevalence rate exceeding 1%.

Complete OIE requirements to be recognized as free of EI may be found at http://www.oie.int/eng/normes/MCODE/en_chapitre_1.12.7.pdf.

National Case Definition EI

The Consultative Committee on Emergency Animal Diseases (CCEAD) agreed on a national case definition of EI in Teleconference No. 54 of 15 April 2008. That: *'Equine influenza is a respiratory disease of horses and other equidae that causes coughing, nasal discharge, depression, inappetence and fever of more than 38.5degreesC. In a single horse, a combination of these signs constitutes a suspect case. The disease has a high morbidity and in groups of susceptible horses, a significant proportion is likely to be very rapidly affected. Horses that have been vaccinated can be infected, and infective, excreting small amounts of virus for several days after infection, as well as mechanical carriers of the virus, without necessarily exhibiting overt clinical signs.'*

Responsibility to Report Equine Influenza

EI is a notifiable disease in all Australian states and territories. In NSW the *Animals Diseases (Emergency Outbreaks) Act 1991* places an obligation on any person who suspects EI to notify an inspector. The Act states: 'A person:

- *who owns or is in charge of, or has in his or her possession or control, an animal or animal product which the person suspects is infected with an exotic disease, or*

- *who, as a veterinary practitioner or otherwise, is consulted in relation to an animal or animal product which he or she suspects is infected with an exotic disease, and who does not, as soon as possible after becoming aware of or suspecting that the animal or animal product is infected, report the fact to an inspector by the quickest means of communication available to the person is guilty of an offence.'*

The maximum penalty for this offence is \$22 000.

Suspected EI can be reported:

- to the Emergency Animal Disease (EAD) Hotline - 1800 675 888, or
- to an Inspector.

The Hotline is manned 24 hours a day and information on all calls and related follow-up is recorded in a database.

Industry and Vets on Alert

Veterinarians have received four Biosecurity Bulletins from the Chief Veterinary Officer in the last six months reminding them of reporting obligations or updating them on the NSW EI Surveillance Program. In addition horse event organisers have been provided with guidelines on biosecurity published by NSW DPI. Both vets and members of the horse industry are well aware of their responsibility to report a suspected EAD including EI. The Hotline number has been widely publicised and from 1 July, 2008 to 30 November, 2008 NSW DPI received 283 calls to the Hotline, of which 28 related to horses with potential signs of EI.

Follow up of NSW Hotline Calls Relating to EI

All calls relating to a suspected EAD received on the (EAD) Hotline are transferred to a NSW DPI Biosecurity Vet. The history is recorded and the case assessed. Where it meets the national case definition of EI, the DPI Biosecurity Vet tasked a private practitioner to:

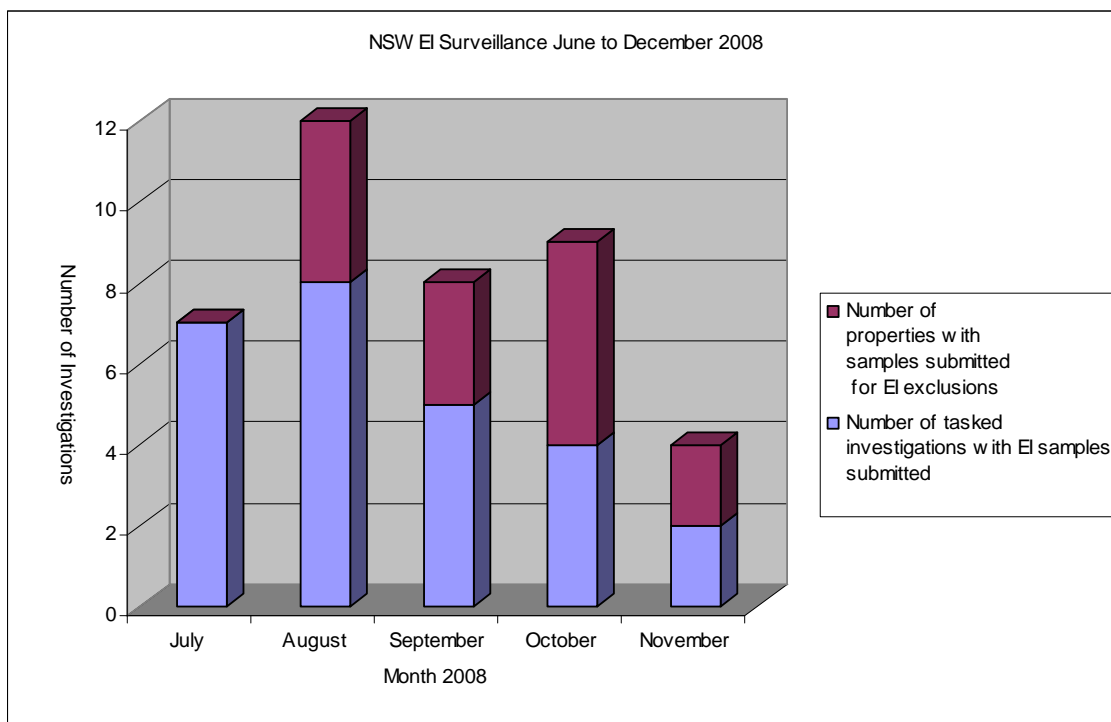
- visit and assess the horse(s)
- collect samples for EI exclusion tests (usually from up to 6 horses)
- submit the samples to the EMAI Menangle laboratory
- send in records of the history on ANEMIS forms

Other Surveillance

Veterinarians (both private practitioners and District Vets) may be asked to investigate cases of horses with respiratory signs. Where the vet does not suspect the horse(s) as having EI, on the basis of the history and/or clinical signs, there is no requirement to report the case to the EAD Hotline but they may still submit samples to the laboratory for routine EI exclusion tests.

Surveillance Summary for June to December 2008

NSW has conducted EI testing on 40 properties from 1 July to 30 November 2008. Of these investigations, 26 were tasked, while 14 were routine EI exclusions.



The last property infected in NSW was confirmed infected on 22 December, 2007 but believed to have been infected on or about 9 December, 2007. However the last confirmed Australia EI case was in the Queensland Morayfield infected cluster on 25 December, 2007. Australia will thus be regarded as officially free of EI on 25 December, 2008, in the absence of any further confirmed cases.

Surveillance Scores

A number of horses destined for export have had weakly positive PCR tests results. Export requirements include collecting nasal swabs to check for EI virus by the direct PCR test and vaccination against EI using a killed vaccine.

Contamination of the nasal swab collected for virus exclusion by minute amounts of viral material from the killed vaccine may produce a weak positive PCR test reaction. Practitioners collecting further nasal swabs from these horses to exclude EI have sometimes been further alarmed to find the horses displaying a range of mild respiratory signs, a common reaction following vaccination with the killed vaccine.

All weak PCR test results were negative when testing was repeated on freshly collected swabs.

To help prevent false alarms due to contaminated swabs, veterinary practitioners were provided with advice on sampling protocols for horses destined for export (see [CVO EI Bulletins 30 and 32](#)).

Conclusion

Since the last movement restrictions were lifted on 14 March, 2008 when Australia was declared provisionally free from EI, horses (including those that are vaccinated, recovered and naïve) have mixed freely. Immunity to EI, in both recovered and many vaccinated horses will have waned over the intervening months. With an expected maximum incubation period of approximately five days, the EI virus would have had over 70 possible incubation cycles in the last year to spread. Therefore, if Australia was still infected with EI we would expect to have many horses infected. Although both veterinarians and the public are alert and have reported possible infections, all surveillance to date is negative.

EQUINE BIOSECURITY: CURRENT IMPORT ARRANGEMENTS

Phil Widders

Australian Quarantine and Inspection Service NSW

Email: phillip.widders@aqis.gov.au

In response to the Equine Influenza (EI) outbreak and the recommendations from the subsequent inquiry, a number of changes to horse import procedures have been implemented, with further modifications likely following reviews of the process by various groups. The changes cover the quarantine continuum, from pre-border, border to post arrival and are supported by enhanced Australian Quarantine and Inspection Service (AQIS) instructional material, training and additional staff resources.

Pre-border changes include:

- AQIS inspection and approval of pre-export facilities and their operation
- enhanced vaccination requirements
- testing for the presence of EI
- pre-clearance of certification

Changes at Australian airports include:

- upgrades to facilities to support containment and decontamination
- deployment of trained AQIS staff at key locations at the aircraft
- transfer facility to manage contact and contamination risks
- control of access to the transfer facility

Changes at quarantine stations include:

- additional facilities for decontamination
- 24hr site supervision
- testing for the presence of EI
- strengthened protocols for investigation and reporting of health abnormalities

Internal AQIS processes have been developed to verify compliance with documented procedures. In addition, the whole processes, and AQIS's implementation of the EI Inquiry recommendations, are subject to review by various individuals and groups, including the Interim Inspector General of Horses, an Expert Group established post EI, Biosecurity Australia, and Professor Peter Shergold. These reviews will ensure that quarantine procedures and implementation remain appropriate and effective for managing the risk of introduction of exotic disease associated with horse imports.

GETTING IN FRONT

Kevin Cooper

Leader Animal, Plant & Fish Health Emergency, NSW DPI
Email: kevin.cooper@dpi.nsw.gov.au

The successful completion of any project usually relies on a well developed plan based on sound information. The same approach is more difficult to apply in an emergency management scenario. Typically the more likely approach is to react to the situation as it develops. In doing so the response is unlikely to get in front with the result that the effects of the emergency will impact on more people.

During the Equine Influenza response there were a number of significant developments that allowed the response to get in front and stay in front. The presentation provides some examples of actions that kept the operation going forward and consistently achieving stated targets ahead of schedule. Examples presented include an early estimation of the scale of the outbreak and the subsequent actions that took the operation forward and the pre-emptive actions taken to set the course for the proof of freedom phase that was completed well ahead of schedule.

Is a high level of preparedness a step toward getting in front?

