



NSW DEPARTMENT OF
PRIMARY INDUSTRIES

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Helen Scott-Orr

Innovative Zoning for EI eradication from NSW



Standstill Phase – 25 Aug – 21 Sept '07

- No movement of horses and donkeys in, into or out of the whole of NSW
- Formal quarantine of all IPs and DCPs + forwards and backwards tracing of horse movements to and from them
- 10km Restricted Area from boundary of each IP, later changed to LGAs & parishes
- Progressively more stringent personal disinfection guidelines for horse owners, vets, farriers, dentists etc.



Impacts of statewide standstill

- Enormous economic and social impacts of standstill rapidly became evident.
- Extreme disruption and financial losses to horse-related businesses and community events e.g. shows
- Acute social deprivation and distress for some horse owners due to self-imposed biosecurity measures
- Increasing animal welfare issues due to difficulties for farriers, vets, dentists in visiting horses
- Potential loss of a year's crop of valuable foals due to prevention of mares moving to stallions.

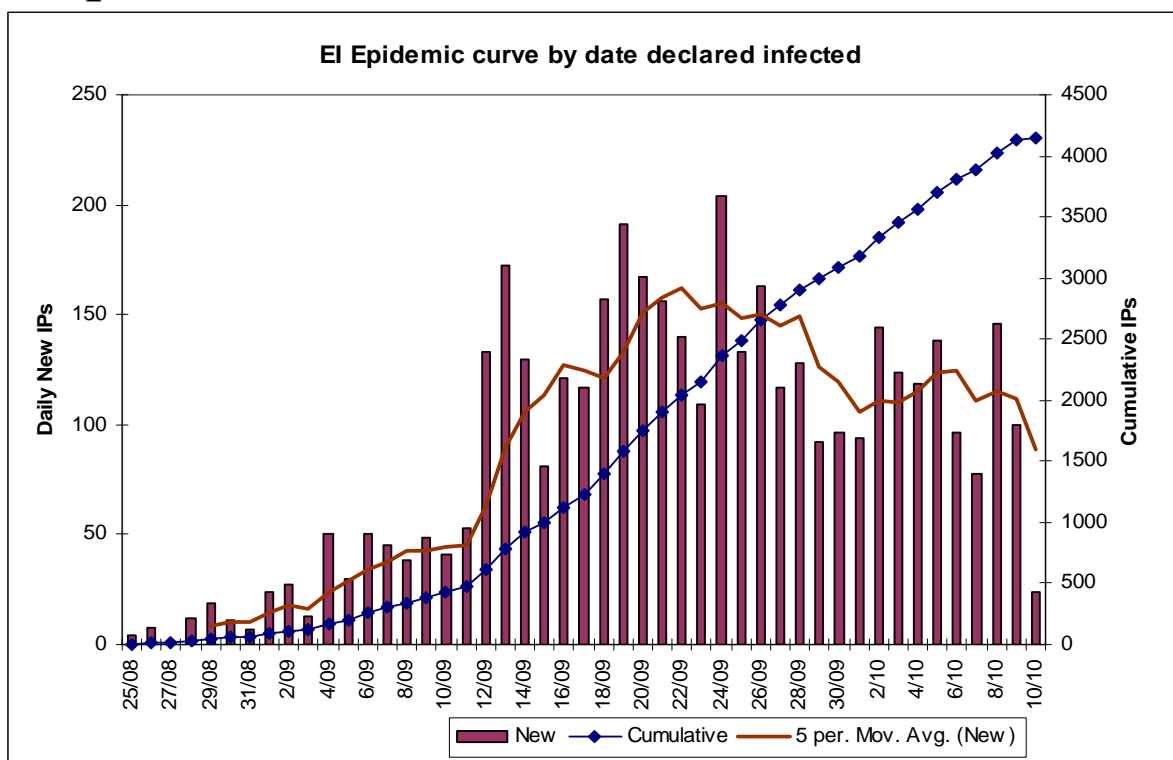


Effect of standstill on disease spread

- Largely prevented disease jumping to new areas not infected by 26.8.07
- Did not prevent spread to contiguous properties in peri-urban areas
- Did not prevent transmission by fomites carried by people
- Did not prevent windborne transmission estimated at >1km per day in some areas

Effect on disease spread

- Numbers of IPs increased rapidly
- Huge workload for LDCC & Legal in managing quarantines and RA declarations





Zoning foreshadowed in week 1

- Green, Amber and Red, Zones proposed
- **PROTECTED AREA – GREEN ZONE**
 - No movement restrictions on horses, equipment etc
 - Horse gatherings allowed with self registration
- **CONTROL AREA – AMBER ZONE - ~50km around RED**
 - No horse or equipment movements except by permit
 - Meetings, aggregations and movements of horses subject to individual risk assessments
- **RESTRICTED AREA - RED ZONE - ~ 10km around IP / DCP**
 - Standstill and order prohibiting horse shows, events, gatherings etc continued

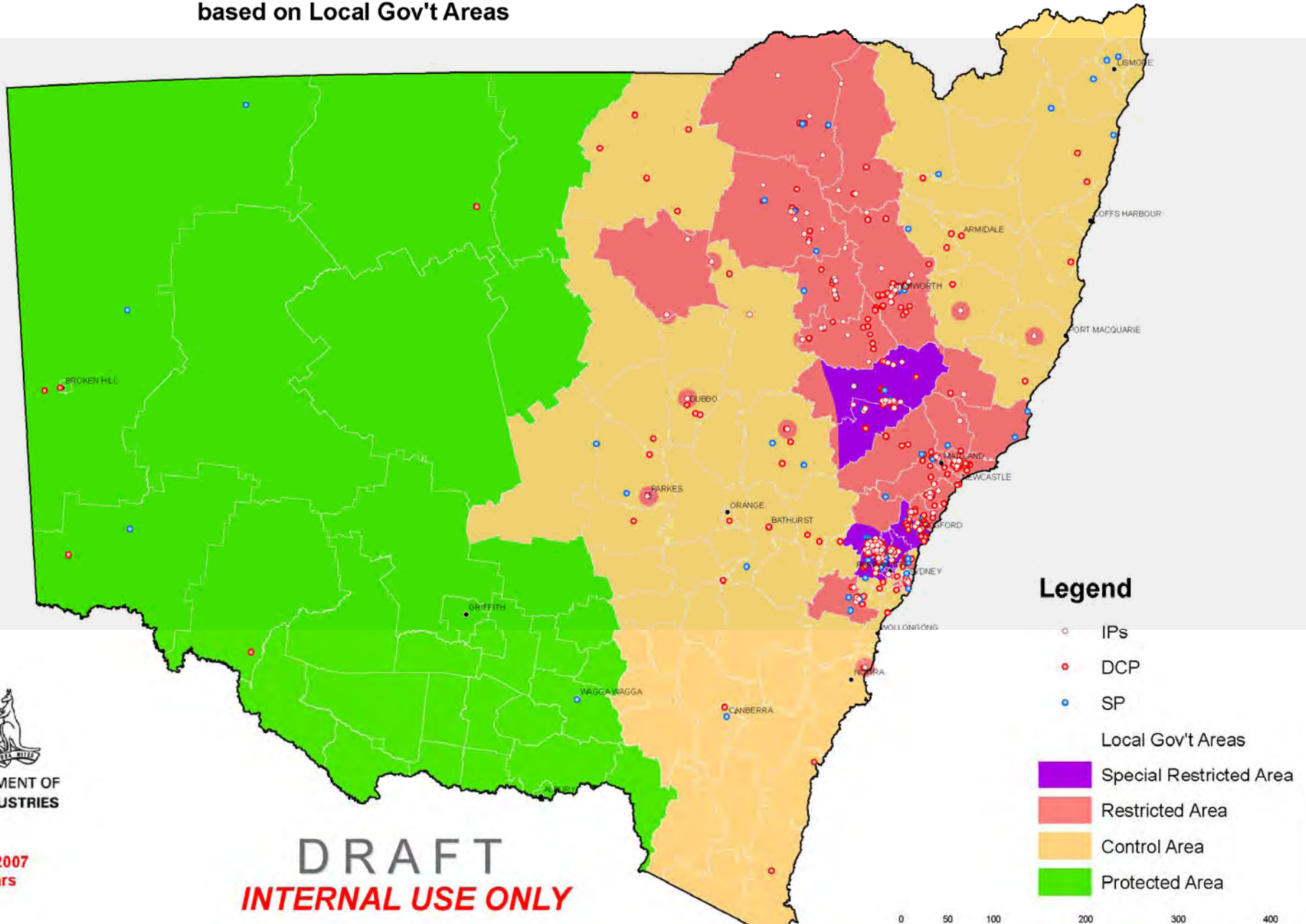


Plans for Purple Zones by week 3

- Areas of high horse density – 1 epidemiological unit
- Disease spread very likely despite all regulatory measures
- At least 10km Red Zone between Purple and Amber
- Allow free movement within heavily infected area
- Allow movements in for breeding and management
- Movements out subject to v. stringent measures

Proposed Movement Zones in NSW

based on Local Gov't Areas



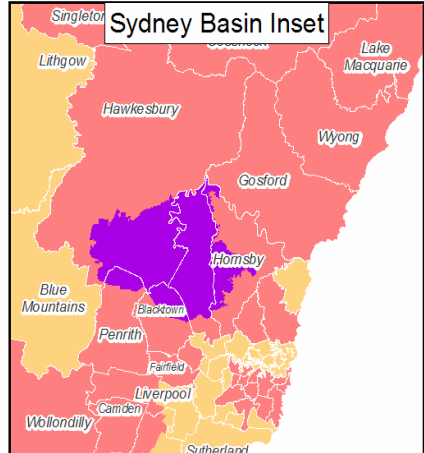
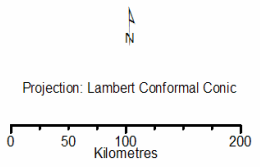
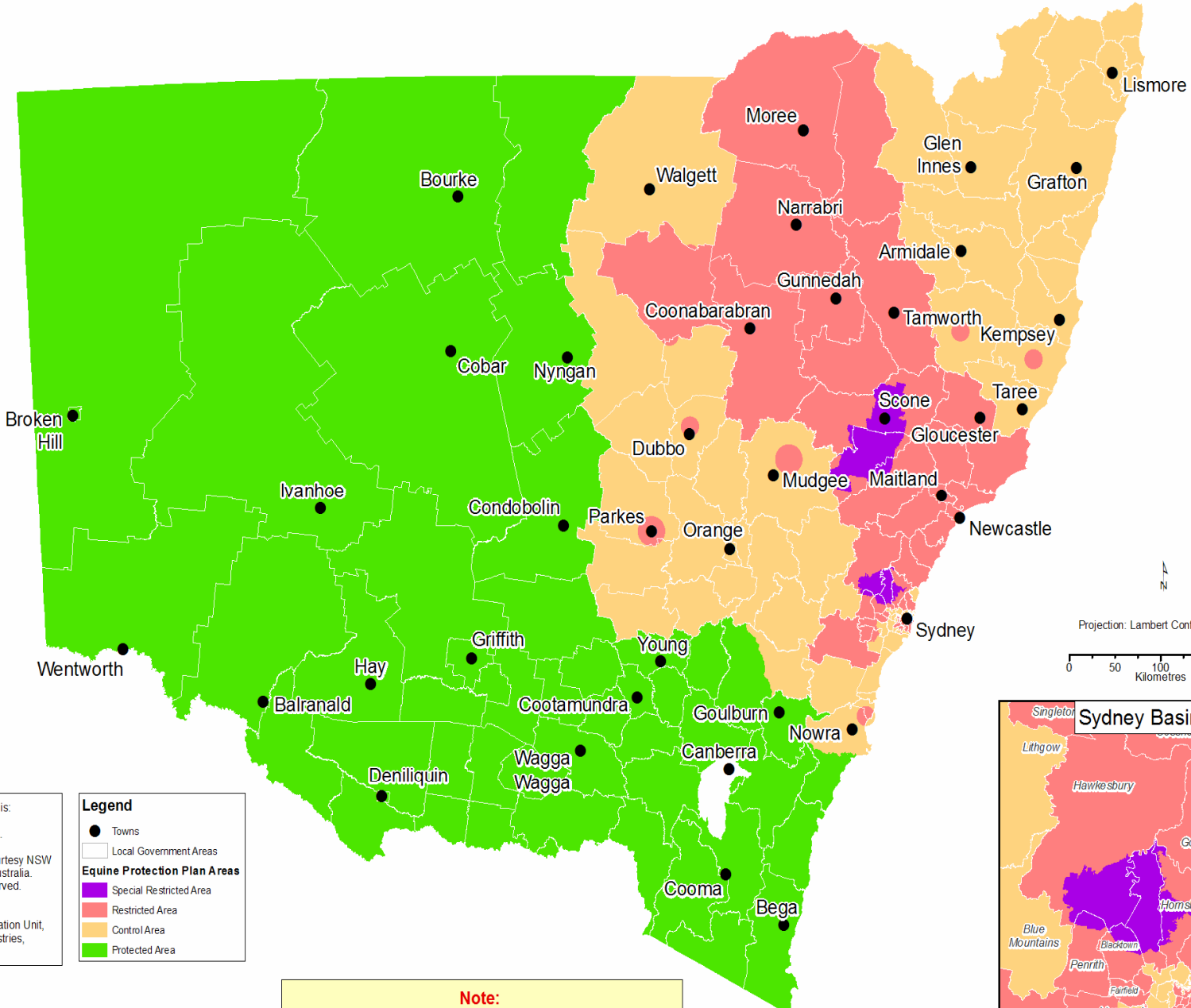
DEPARTMENT OF
INDUSTRIES

September 2007
130 hrs

DRAFT
INTERNAL USE ONLY

Date : 21 SEPTEMBER 2007
 Time : 10:15 AEST
 Based on data from laboratory reports
 as at 2007-09-21 08:00

EQUINE INFLUENZA PROTECTION PLAN



This map incorporates data which is:
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 NSW Department of Primary Industries,
 September 2007.

Legend

- Towns
- Local Government Areas
- Equine Protection Plan Areas
 - Special Restricted Area
 - Restricted Area
 - Control Area
 - Protected Area

Note:
 This map may be updated or changed at any time.
 Please ensure you are referring to the most up to
 date version.



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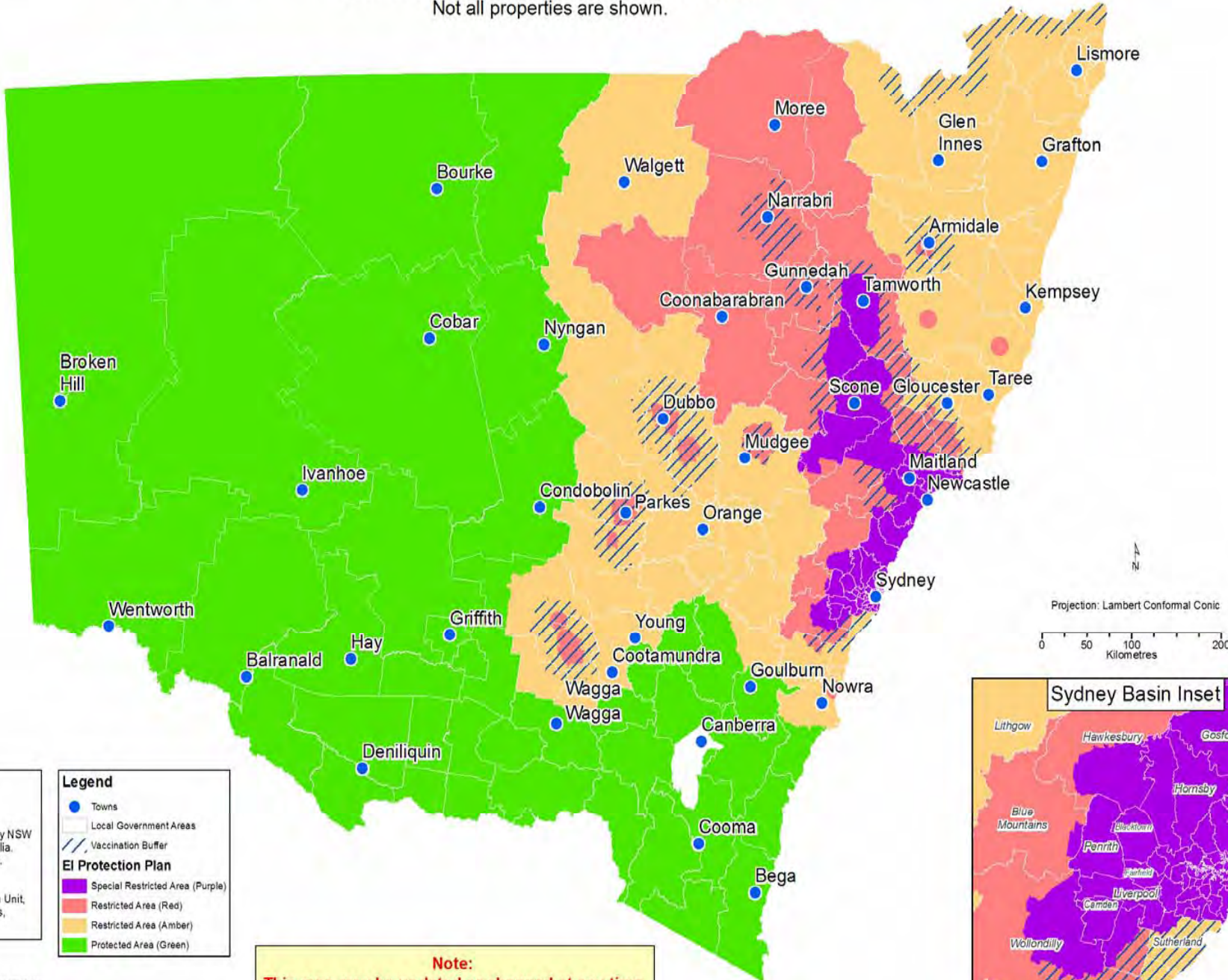


Vaccination Buffers and Zone Boundaries

- Vaccination started on 29 September in buffer zones
- Initially – surround Red / Purple Zones and isolated Red “doughnuts”, from outside in
- Later – in-fill from buffer zones towards / into Red / Purple Zone, plug all potential spread
- Vaccination centre order – Mittagong, Gloucester, Wellington, Dubbo, Armidale, Forbes/Parkes, Mudgee, Temora, Woodenbong, Gunnedah, Scone, Tenterfield, Merriwa/Scone, Blue Mountains
- Later again - mop up self-notified uninfected groups of horses in PZ/RZ
- Observed – rapid stop of spread once vaccination buffer encountered spreading disease

EQUINE INFLUENZA CONTROL & ERADICATION PLAN

Declaration of Status is PROVISIONAL at this time.
Not all properties are shown.



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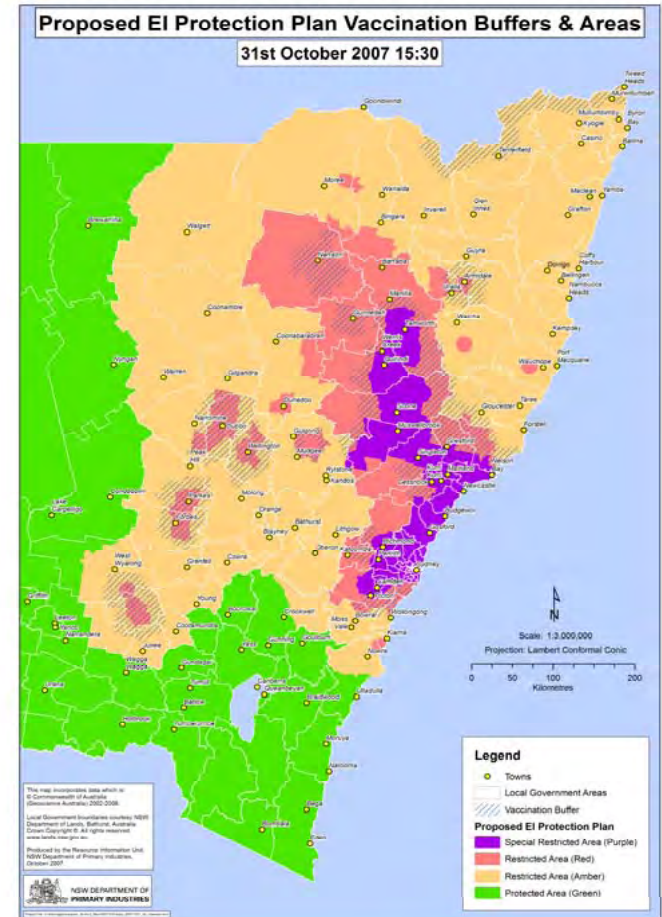
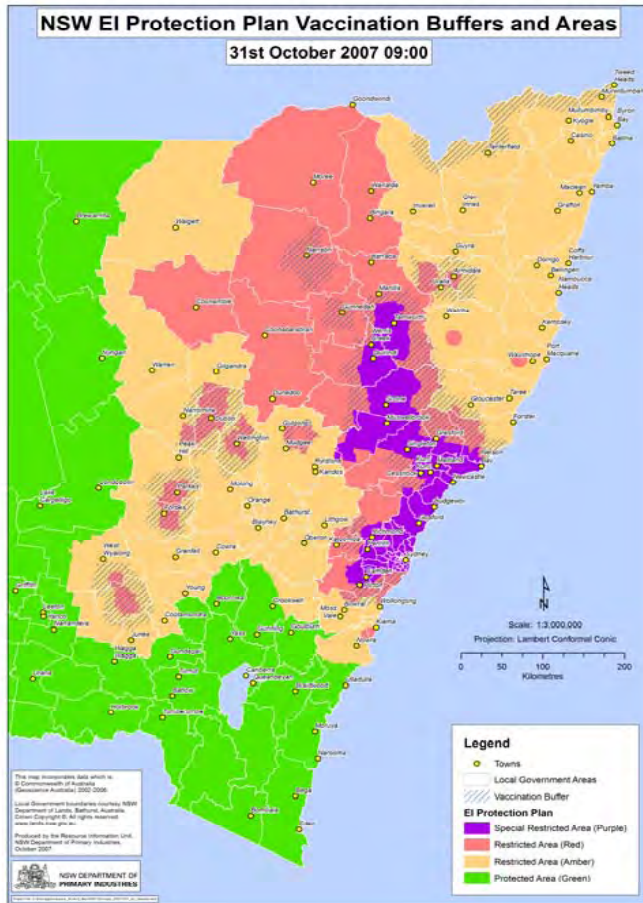
- Towns
- Local Government Areas
- ▨ Vaccination Buffer

EI Protection Plan

- Special Restricted Area (Purple)
- Restricted Area (Red)
- Restricted Area (Amber)
- Protected Area (Green)

Note:
This map may be updated or changed at any time.

40% Reduction in Red Zone by 1 November





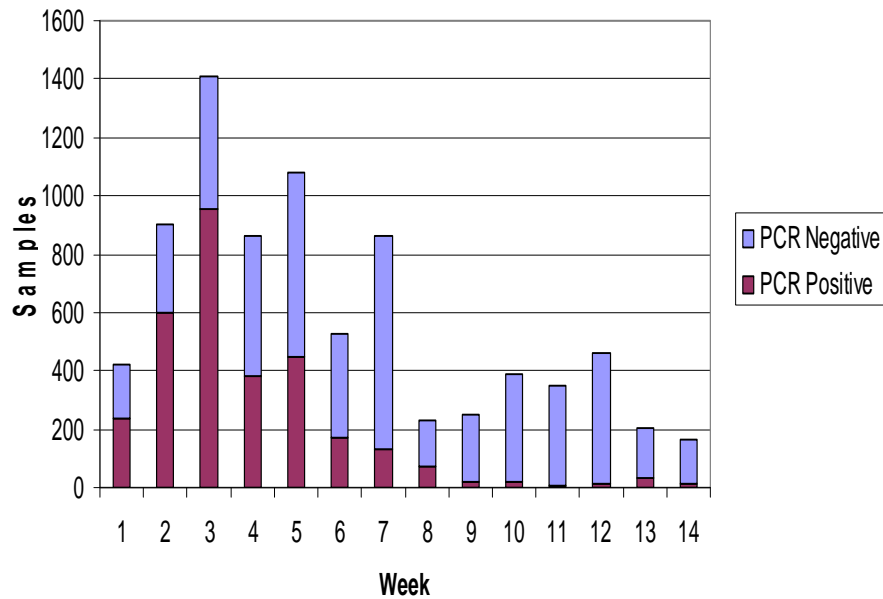
Expansion of Purple Zone on 19.10.07

- Caused alarm at CCEAD
- Provided industry relief within a larger area of the state from Camden to Tamworth
- Movement of horses into PZ allowed until 31.10.07 then stopped
- Acknowledged the reality of disease spread inside the Zone
- Allowed better focussing of regulatory effort - quarantines revoked
- Allowed targeting of vaccine first in buffers then into PZ
- Only major escape was in SE Sydney to Helensburgh area – probably wind borne.

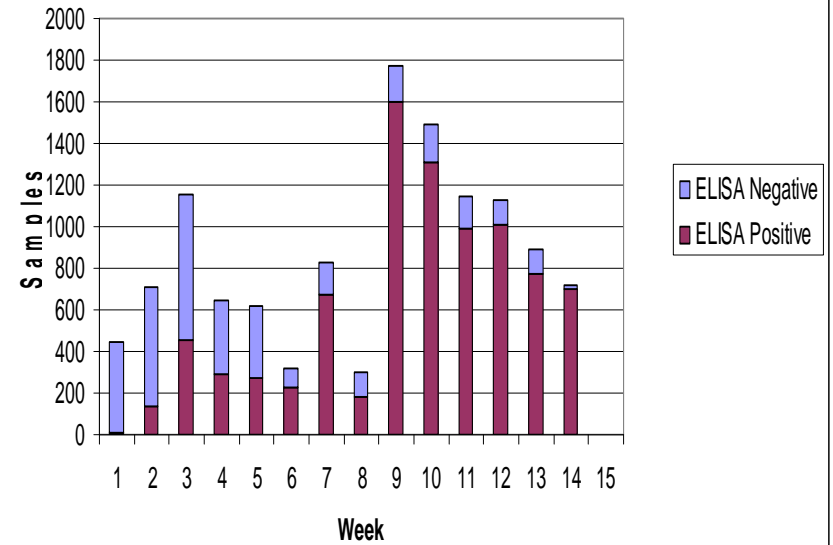


Lab results in the Purple Zone

PCR Testing results for Purple zone by week



ELISA Testing results for Purple zone by week





Proof of Freedom Working Group Concerns

- Possible cryptic foci (unreported/remote)
- Possible ‘silent’ virus circulation in vaccinated animals
- Mixture of recovered, vaccinated, vaccinated/infected and unexposed horses
- Varying immune status across population – immune, those with declining post-vaccinal immunity, susceptible including foals entering the population etc.
- Incomplete sampling frame due to lack of knowledge of population distribution



Response – Purple Zone Clearance plan

- PZ divided into 6 compartments
- Intensive mapping and investigation of IPs, DCPs, traces from mid-late Nov. – serology & PCR
- Mapping of seropositive and vacc. horses.
- Achieve v. high levels of Ab positive horses by vacc.
- High levels of monitoring for virus circulation by PCR
- Later some unvacc. horses left as sentinels



Proving the Purple Zone free of EI

- Comprehensive targeted and random surveillance
- In retrospect probably overkill but allowed very high level of assurance to interstate and eventually international colleagues that no disease remained.
- High use of GIS tools was an enormous help
- Role of LDCC in devising and implementing the surveillance operations was outstanding
- Role of lab in conducting the volume of PCR tests was also outstanding.



Conclusion – value of Purple Zone

- Possibly accelerated eradication
- Certainly did not delay it
- Greatly mitigated economic costs of the outbreak for some players
- Allowed animal welfare requirements to be attended to
- Should be considered for inclusion in appropriate AUSVETPLAN disease strategies.