

A satellite view of New Zealand, showing the North and South Islands. The land is colored in shades of green and brown, indicating vegetation and terrain. The surrounding ocean is a deep blue, and the Earth's atmosphere is visible as a thin white layer. A dark blue rectangular box is overlaid on the left side of the image, containing the title text in yellow.

Managing the risk of EI in horses imported from Australia



NEW ZEALAND. IT'S OUR
PLACE TO PROTECT.



BIOSECURITY
NEW ZEALAND

Overview




1. Timeline of events
2. NZ response aims
3. Operational activities following notification
 - Border controls
 - Casing and tracing
 - Risk management
 - Surveillance
 - Case definition
4. Test results and interpretation
5. Response summary



1. Timeline of events

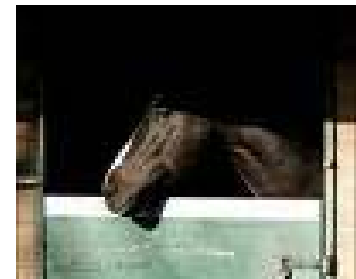


- 23 August 2007, EI suspected in a clinically sick horse at the Eastern Creek Quarantine Station (respiratory disease between 17-20 August 2007)
 - 24 August 2007, EI confirmed in Centennial Park Equestrian Centre
 - 25 August 2007, MAFBNZ officially notified of the outbreak and a response initiated
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Why did NZ respond?



- Prior to the Australian EI incursion there were no pre/post export quarantine measures between NZ and Australia
- The incursion in Australia meant there was potential for EIV to have been imported into NZ



2. NZ response objectives



The response objectives were to stop introduction of EI and determine the EI status of all imported horses



3. Operational activities – first day



On the day of notification NZ:

1. Closed borders to horse imports from Australia
2. Increased border controls for horse equipment
3. Casing and tracing initiated

Movement control was not initiated

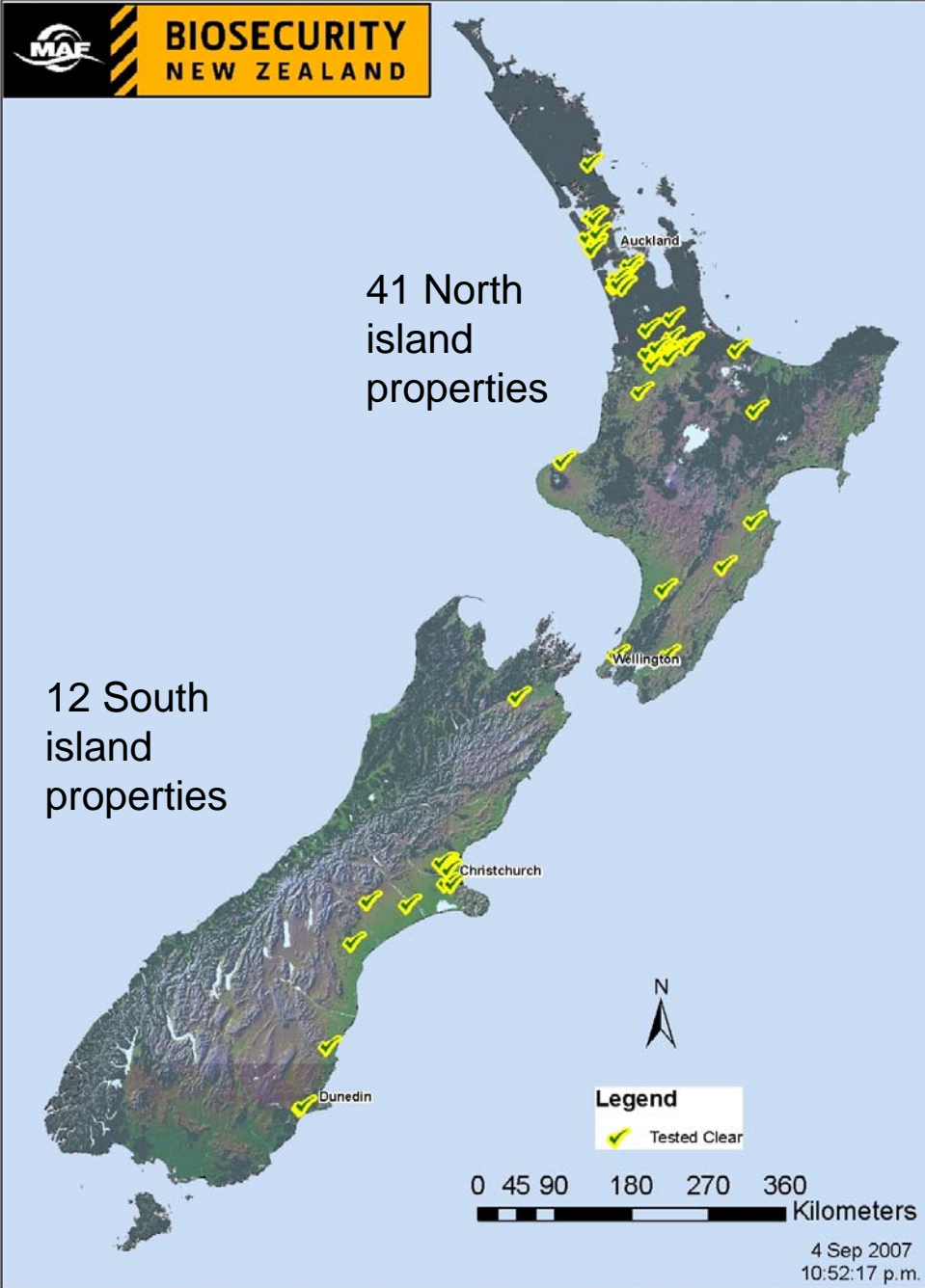


3. Operations – casing and tracing



- Casing data was obtained from multiple sources: MAFBNZ import group, trans-Tasman import companies, breed societies
- Horse owners were asked to provide details on:
 - Disease status of imported horses and in-contacts
 - Voluntarily quarantine these horses from other horses
 - Horse owners were extremely compliant
 - In retrospect complete biosecurity was unlikely to be achieved as it is impossible to convey the nuances of biosecurity in a phone conversation
 - Provide details on Australian source farms





South Island movements of horses from the upper half of the North Island is likely to result in many “contacts” occurring

3. Operations – risk management



The three risk levels were defined:

1. high risk: imported horses, or 'in-contact' horses, with respiratory signs;
2. medium risk: healthy horses imported from Australia in the previous 10 days i.e. between 15 and 25 August;
3. low risk: healthy horses imported from Australia 10 to 20 days previous i.e. between 1 and 14 August.



3. Operations – surveillance

Testing procedure and visit priority was governed by risk:

- High and medium risk:
 - clinical examination of horses
 - Vaccination history
 - collection of nasal swabs RRT-PCR for influenza A,+/- virus isolation
 - Serology (HI test)
- low risk:
 - Clinical examination and vaccination history
 - HI test only



3. Operations – case definition



- Suspect case:
 - imported or in-contact equids demonstrating clinical signs consistent with EI (Description provided to field veterinarians included persistent cough with fever 40-41°C)
 - or horses with nasal swabs positive to EI using RRT-PCR
- Positive case:
 - positive to conventional PCR with confirmatory sequencing
 - or positive by VI
 - or having a fourfold rise in HI titre over a 2-3 week period



4. Results



Consignments

- 16 consignments (mean 6 horses), involving 96 horses, were imported (55 high risk period, 41 low risk period)
 - 85 horses were of Australian origin
 - 11 horses were transiting through Australia



4. Results – clinical examination



- None of the 131 imported horses, in-contacts and report cases presented with signs consistent with EI



4. Results – PCR



- 86 high and medium risk horses were negative by PCR
- Within each consignment the sensitivity of PCR to detect EIV could be as low as 68% and still have confidence in absence of virus
 - assuming a 95% confidence and a consignment prevalence of 50% in mean six horses per consignment



4. Results – HI



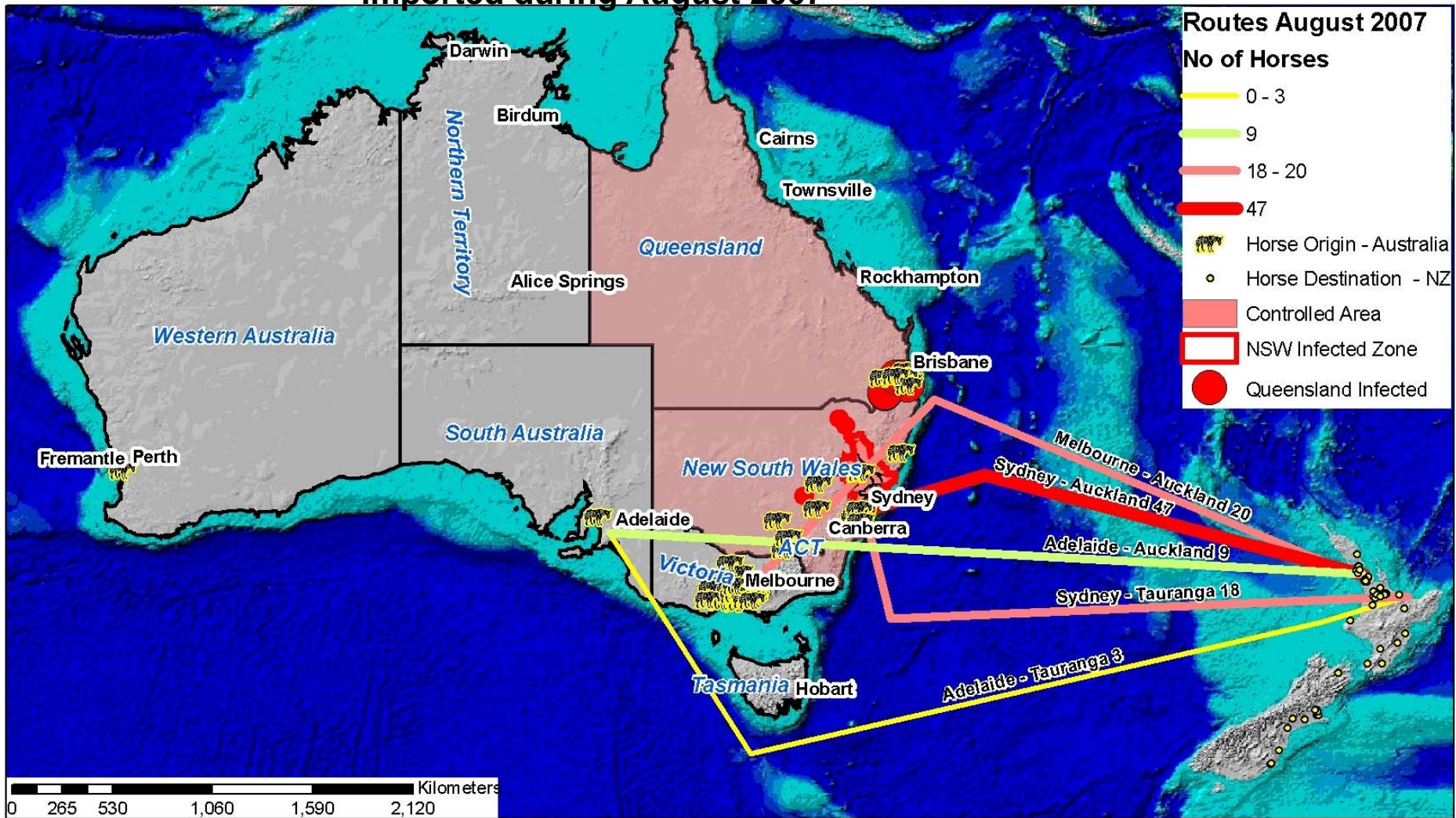
- 131 horses were tested by HI
 - 116 negative to type 2
 - 13 positive to type 1 and 2
 - 1 positive to type 2 only
 - 1 positive to type 1 only



4. Results – HI test interpretation

- It was necessary to determine whether an EI titre was due to EIV exposure or from vaccination
 - presence of EIV RNA in nasal swabs (all negative).
 - titres to both HI subtypes (all but 2)
 - vaccination status of the HI positive horses (all sero-positive horses had a history of vaccination);
 - prevalence of HI positive horses in the same import consignment and on the NZ destination property (No clustering by consignment, 7 with sero-positives);
 - presence of respiratory disease consistent with EI (None);
 - prevalence of respiratory disease in the import consignment, and in imported and non-imported horses on the New Zealand destination property (low prevalence);
 - the Australian origin of imported horses in relation to known EI infected properties (not suggestive but data probably not reliable in early phase of response);

The Australian origins and New Zealand destinations of horses imported during August 2007



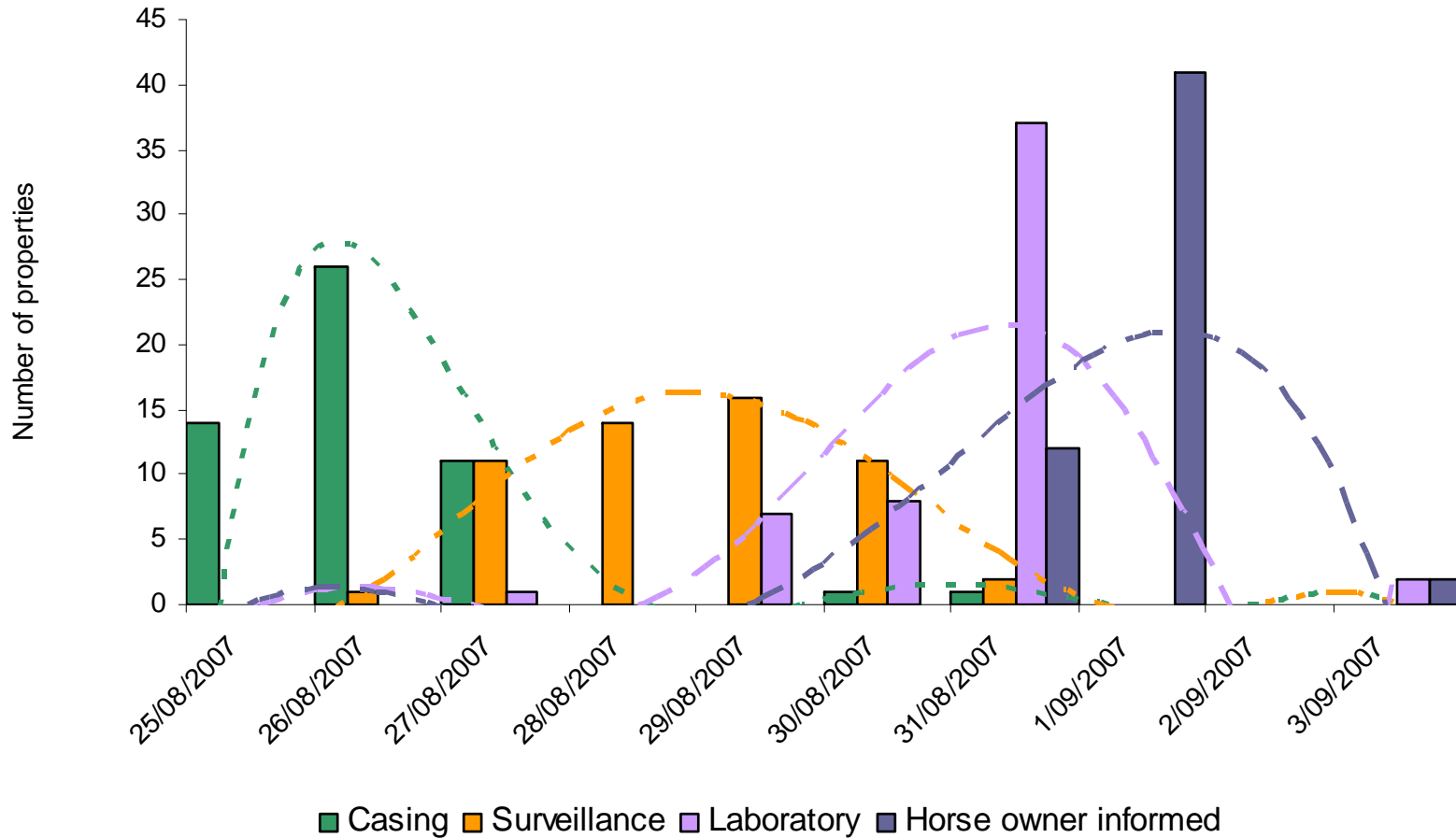
Equine Influenza Surveillance

Australia to New Zealand routes

4 September 2007



The cascade of operational activity carried out between 25 August and 3 September 2007, as part of MAFBNZ equine influenza response



5. Summary




- EIV was not introduced by Australian imports
 - No respiratory disease consistent with EI
 - No EIV detected by PCR
- Information coming out early in a response may not necessarily be that accurate and so a liberal interpretation of data is required
 - 8 August 2007 was initially identified as the start of the risk period but then determined to be 5 days earlier
 - The precaution of checking all August imports proved will founded
- Immediate voluntary quarantine of imported horses and prioritising visits based on risk allowed efficient processing of horses while mitigating some potential spread



5. Summary



- Despite our best efforts casing, sampling, and laboratory testing was slow and it is likely that rampant clinical disease would have become apparent before test results showing disease/EIV was present
 - The decision not to instigate a movement ban on horse movements was a big call. If EIV were present it is doubtful that steps taken would have been sufficient to prevent an epidemic
 - The Australian response has lead to initiation of a number of preparatory projects as part of response planning.
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Thank you