

Movement Control during an Animal Disease Outbreak Response

*Cross Border Livestock Health Conference
2011*

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Outline

- Why Movement Control?
- Movement Control Terminology
- Some Movement Control Issues/Requirements

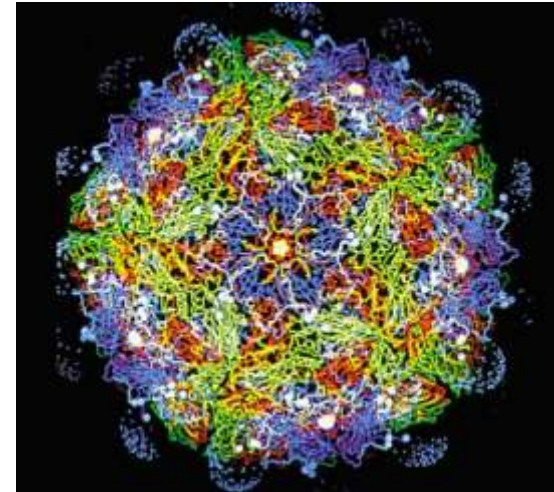
- Why is Movement Control important for managing an outbreak of Foot and Mouth Disease?

Principles of FMD Control

Adapted from presentation by Dr. Francine Lord, Canadian Food Inspection Agency

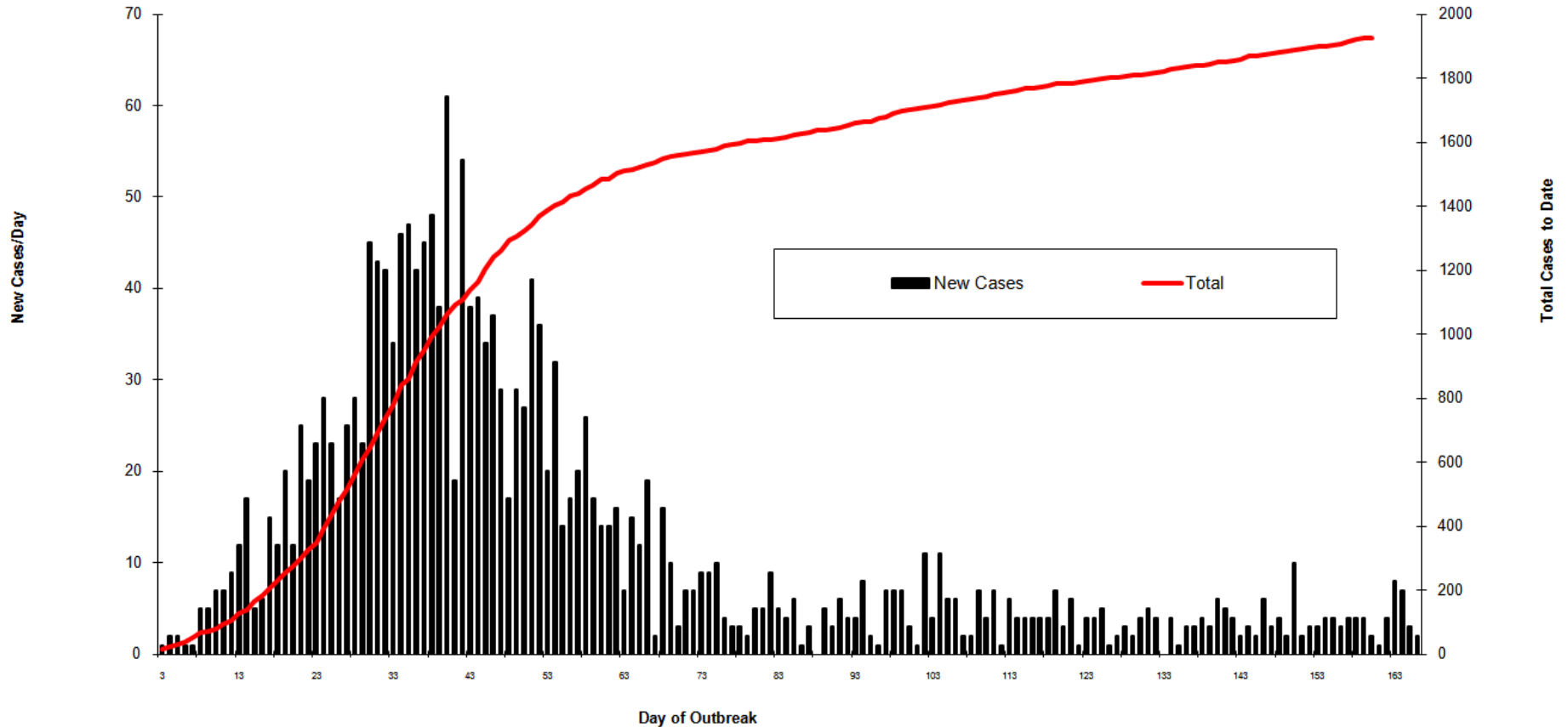
- Basic principles of an effective FMD response are:

- Prevent contact between susceptible animals and the disease agent. (movement controls) *It is estimated that in the 2001 UK outbreak, instituting movement controls 2 days earlier would have cut the epidemic in half.*
- Stop production of the disease agent by the affected animals (stamping out) *Public reaction against killing healthy animals is rising.*
- Increase the resistance of susceptible animals (Vaccination) *Becoming more widely accepted.*

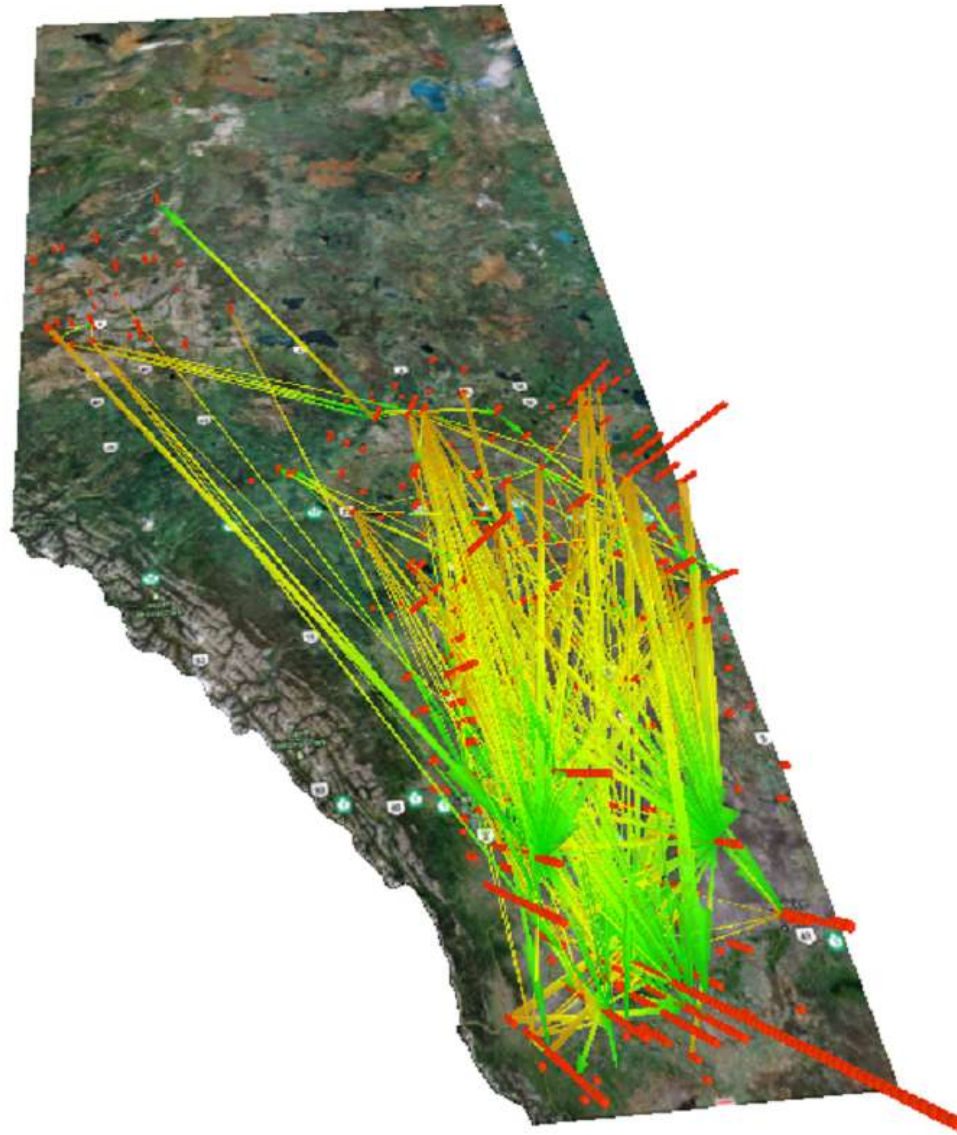


Why Movement Control?

UK Epidemic Curve FMD

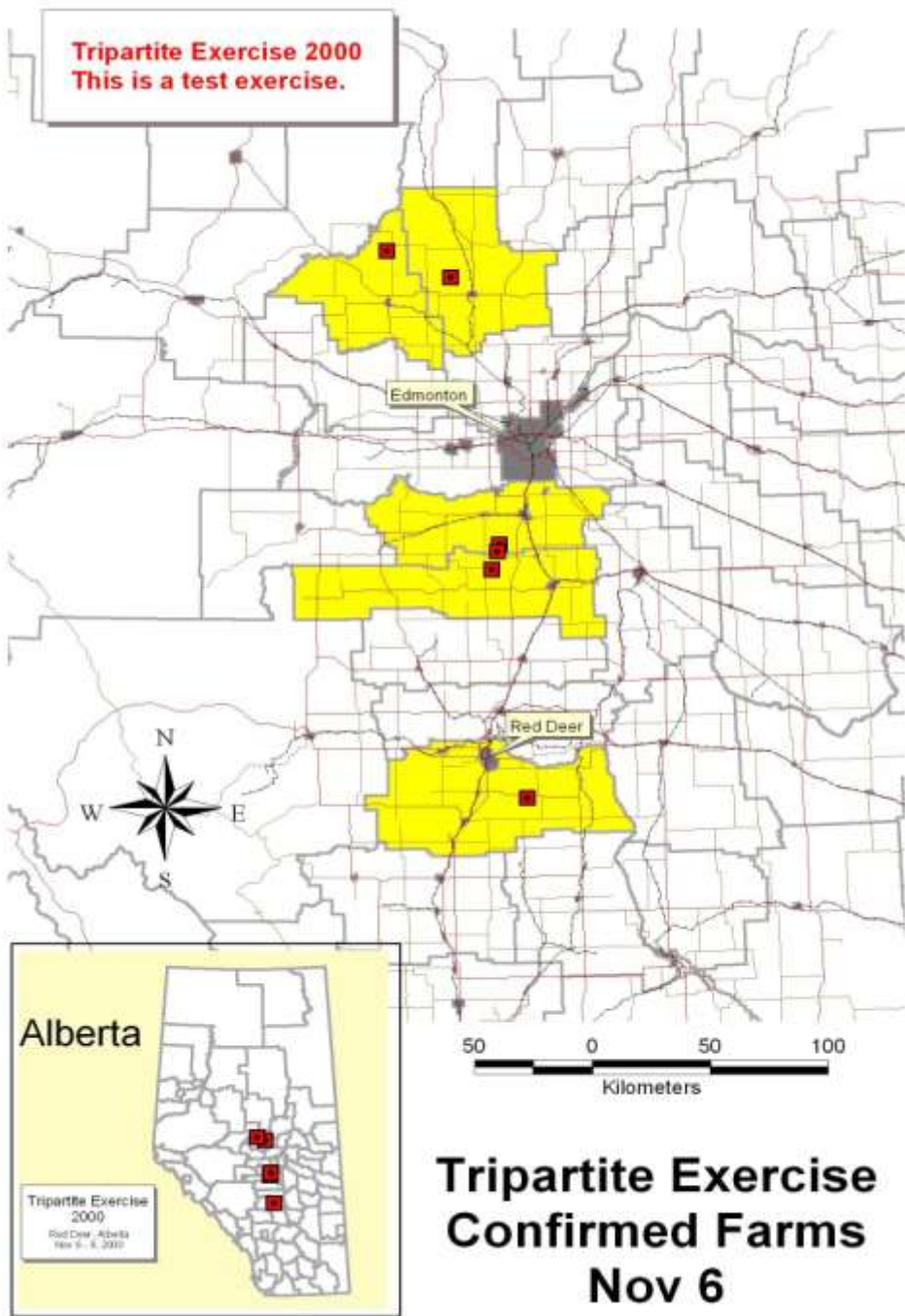


Amount of Movement in Beef Industry – 1 Week in Alberta - 2007



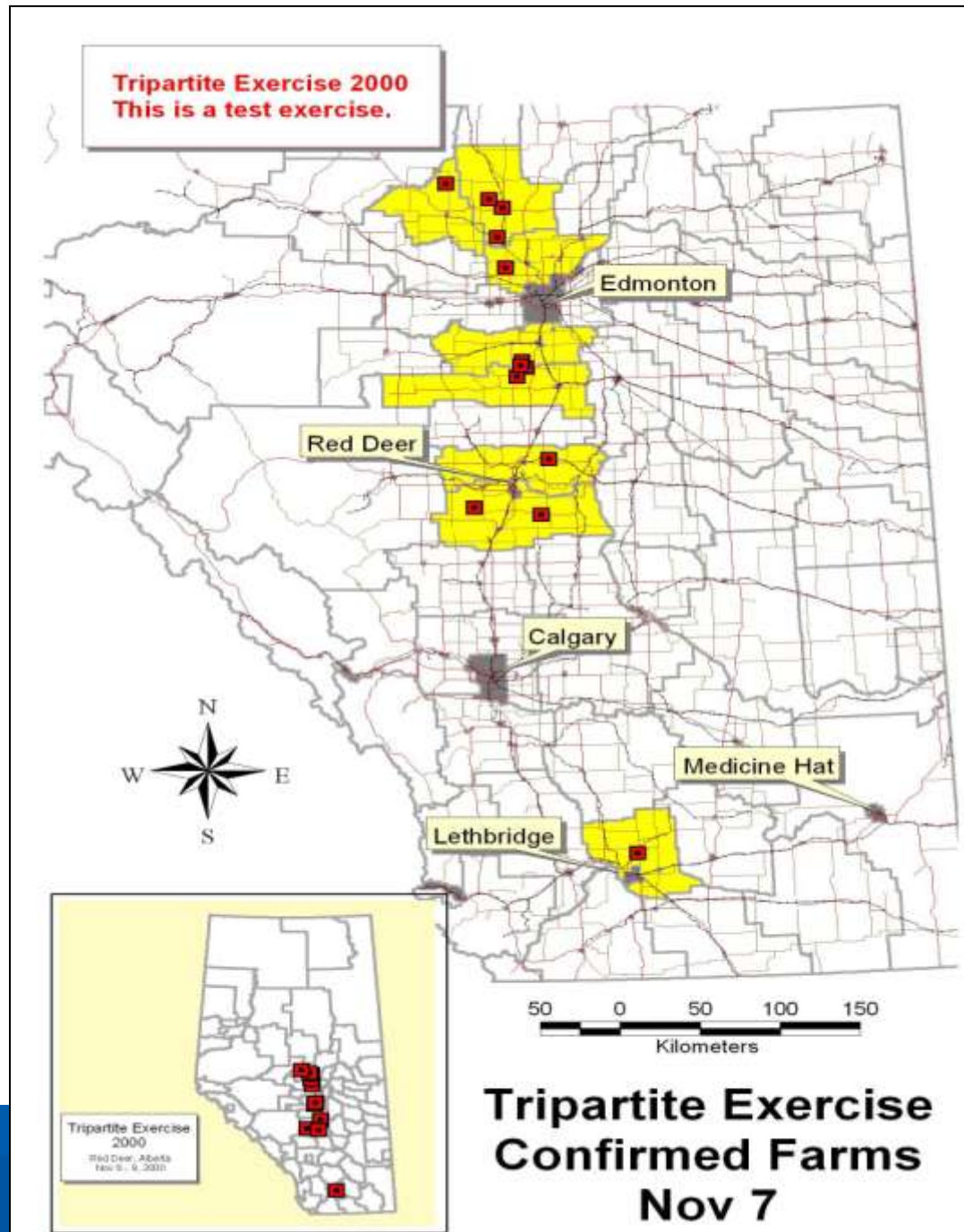
FMD Spread Scenarios

- With no movement controls implemented
- Using NADSM prediction



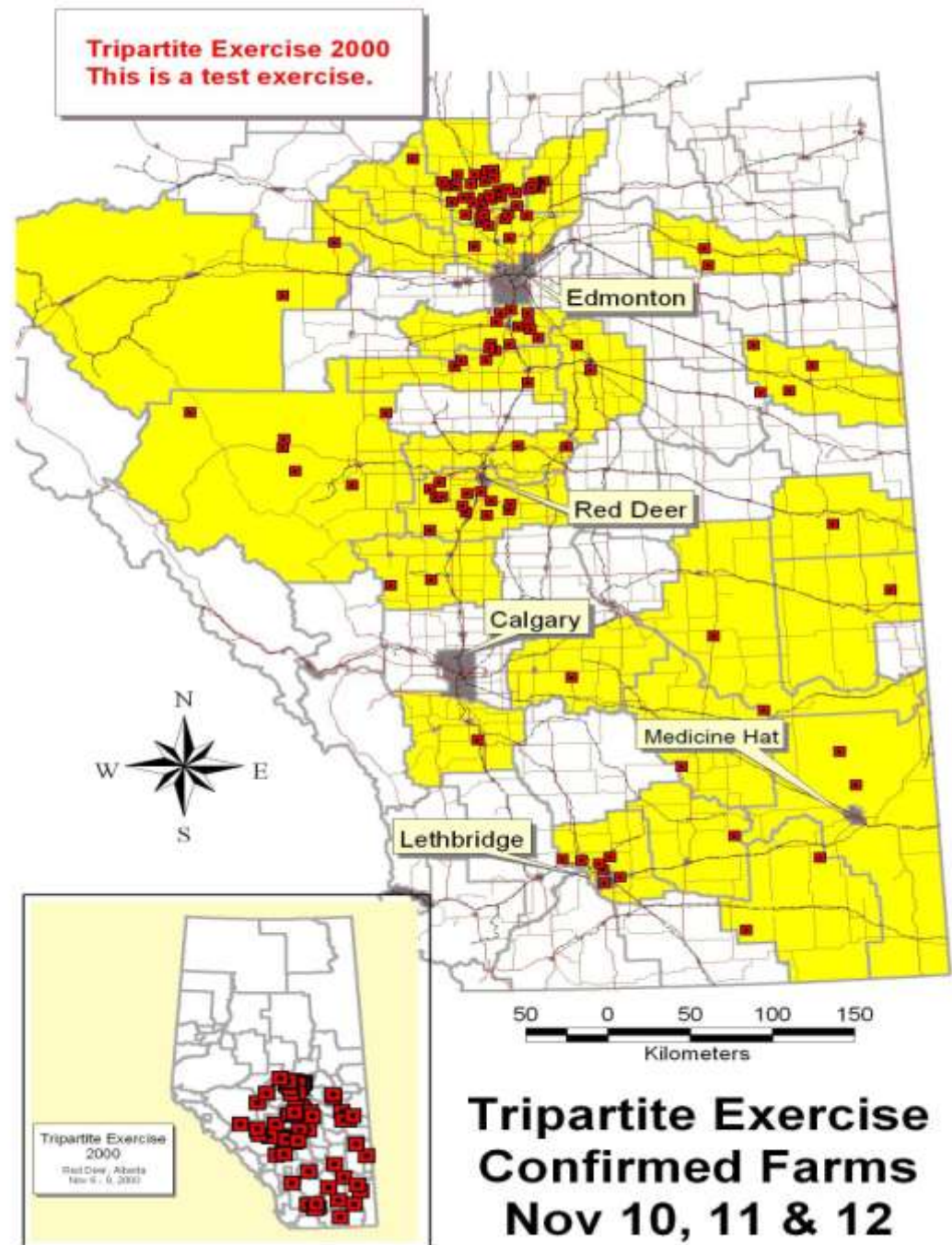
FMD Spread Scenario

- Day 2



FMD Spread Scenario

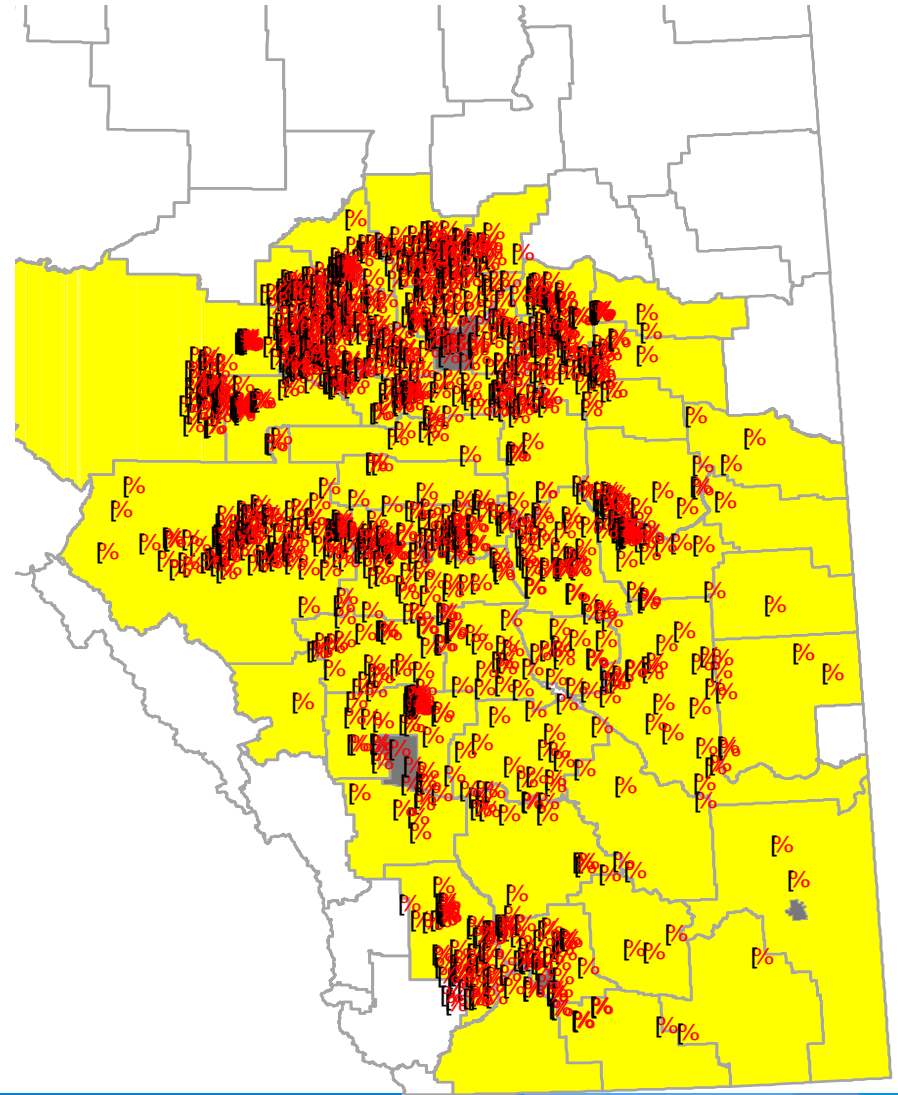
- Day 5 - 7



FMD Spread Scenario

Day 40

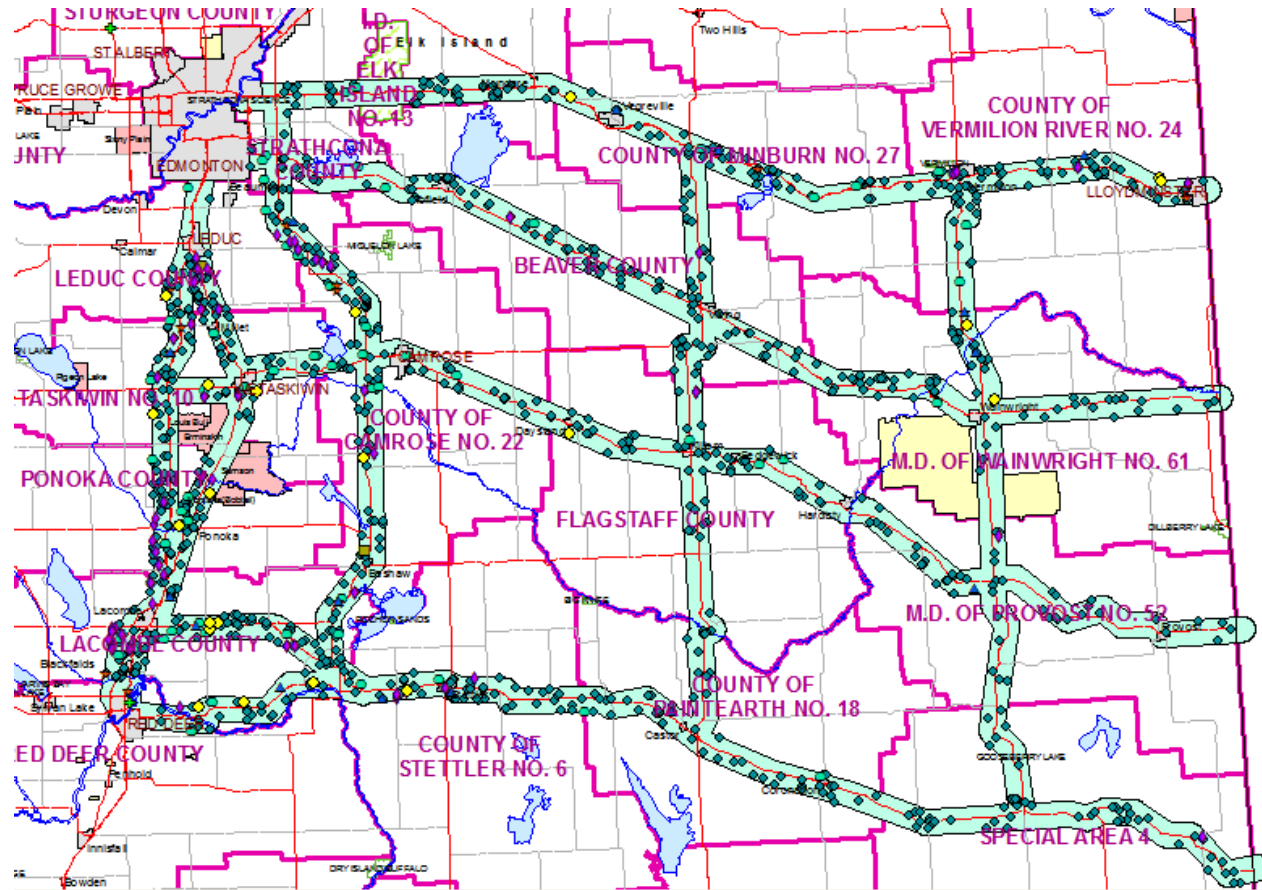
- 1214 confirmed sites
- 697,197 animals



Animals enroute – What is the risk?

FMD Susceptible Species Farm Locations Along Potential Truck Routes.

- Swine Farms in 3K Buffer 25 Farms
- ✕ Dairy Farms in 3k Buffer 65 Farms
- # Bison Farms in 3K Buffer 17 Farms
-) Deer Farms in 3K Buffer 2 Farms
- ▲ Elk Farms in 3K Buffer 14 Farms
- % Sheep Farms in 3K Buffer 77 Farms
- Beef Farms in 3K Buffer 1379 Farms
- ⊖ Federal Plants
- ▭ Primary Highway Routes with 3K Buffer



Why Movement Control? - Examples

2010 – FMD Outbreak in Japan

Control Area 115 km x 50 km

292 cases - 34,678 cattle, 152,755 swine, 8 goats, 8 sheep and 42 buffalo destroyed

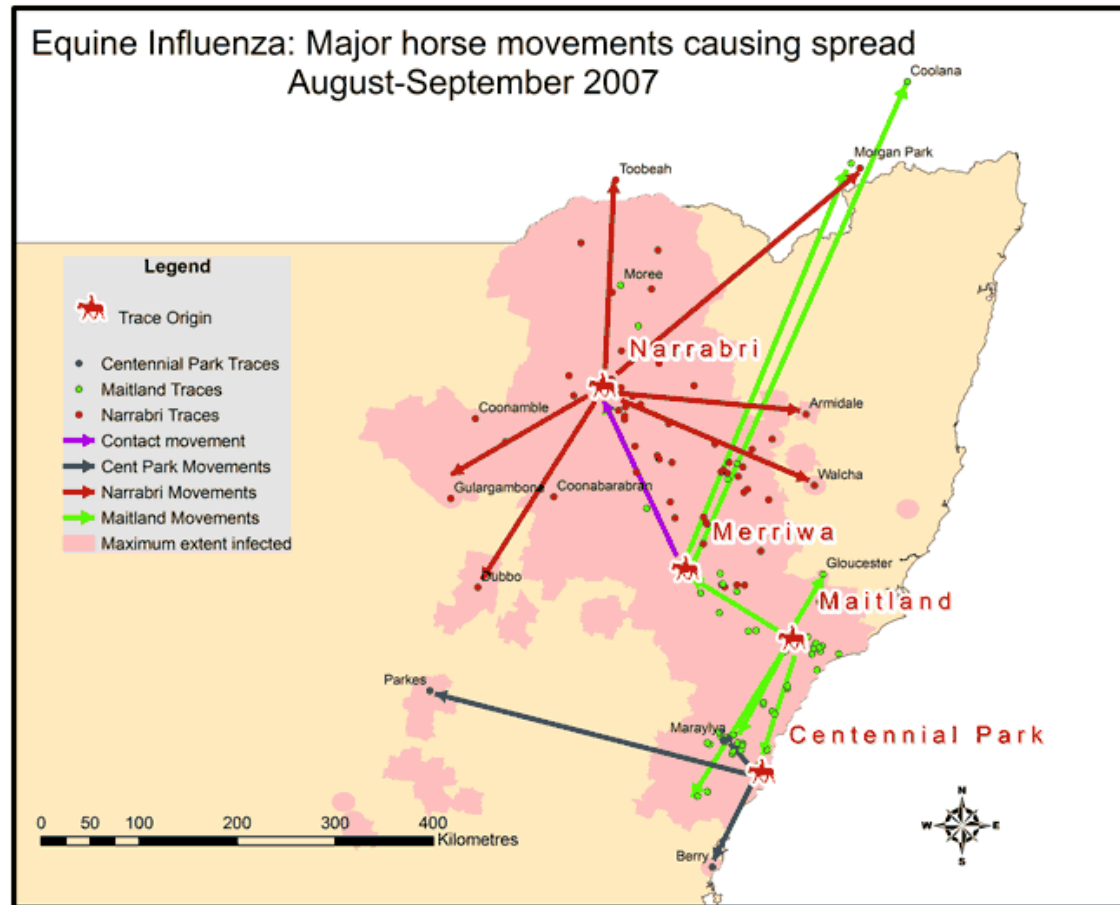
Japan: Foot-and-Mouth Disease

As of June 18th, 2010



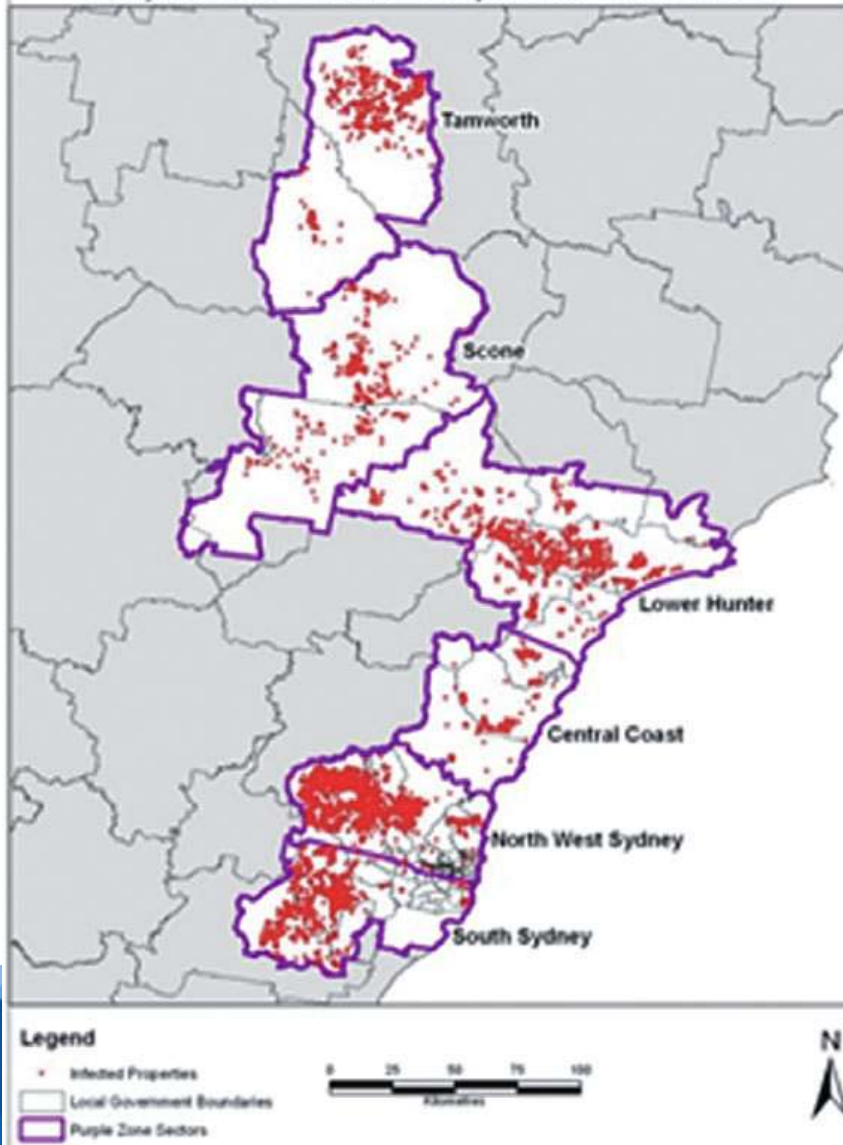
Examples of Movement Control

- Australian equine Influenza
 - Aug 24, 2007
- Full movement control
 - Immediate state wide stop movement for horses (New South Wales)



Australia Equine Influenza Outbreak

Purple Zone Infected Properties - 01/11/2007



- 2 weeks after initial outbreak, areas of New South Wales were zoned according to the risk of infection:
 - 'purple' – Special Restricted areas
 - 'red' zones were infected areas
 - 'amber' zones were buffer areas around infected areas
 - 'green' zones were areas that were not infected
- Movements then allowed based upon the zone designation
- Australian Veterinary Journal Volume 89, Suppl. 1, July 2011
 - G Wilson, K Cooper, J Williams, S Eastwood and C Peake
 - H Scott-Orr

Keys to Success – Response to Australian Equine Influenza Outbreak

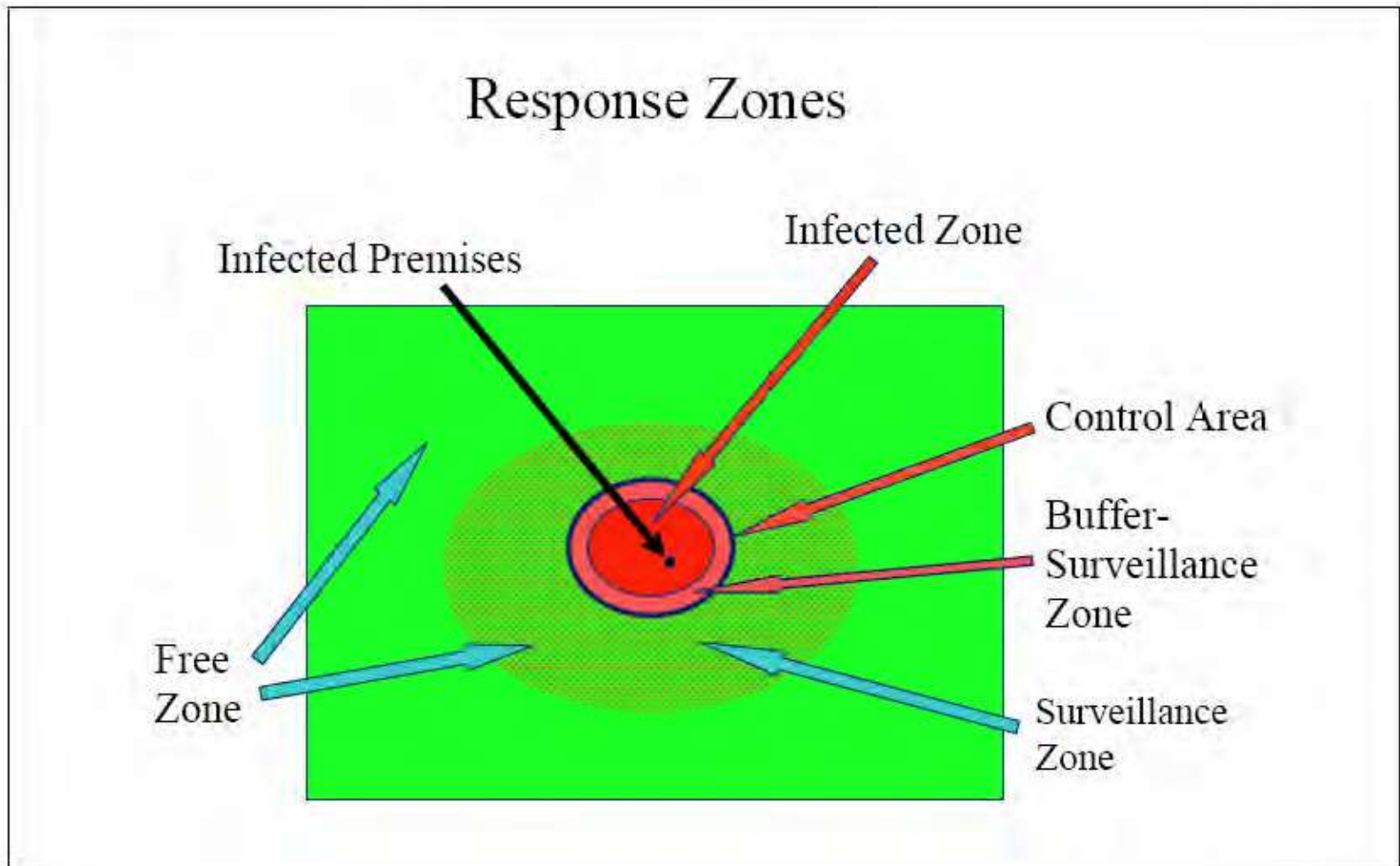
- Success in the control of EI due to a rapid response, based on thorough, well rehearsed plan (AUSVETPLAN). Cooperation from industry and all sectors. Key factors include the following:
 - Lock down of horse movement
 - Quarantine of infected premises
 - Zoning on the basis of risk
 - Buffer zones and vaccination
- New rapid laboratory tests enabled detection of infected animals using blood tests. Also possible to distinguish infected from vaccinated horses. Rapid laboratory testing was critical in the initial confirmation of the EI outbreak and in surveillance throughout the control program.
- <http://www.dpi.nsw.gov.au/agriculture/livestock/horses/health/general/influenza/summary-of-the-200708-ei-outbreak>

Movement Control Terminology

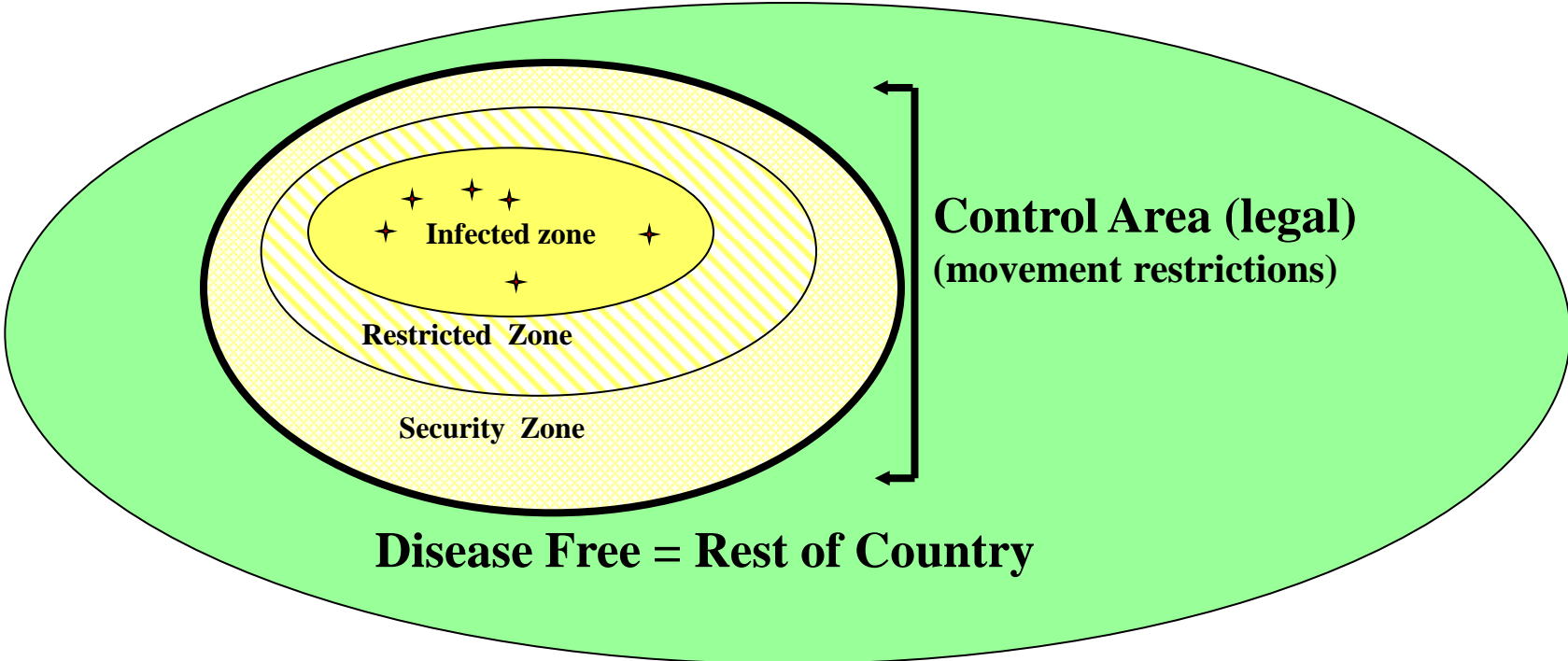
Terminology

	United States	Canada
Infected Premise (US) Infected Place (Can)	Boundary of Property	Boundary of property
Infected Zone	10 km from boundary	3 km from boundary
Restricted Zone		10 km from boundary
Buffer/Surveillance Zone (US) Security Zone (Can)	Min 10km from boundary of Infected zone.	Between restricted zone and control area boundary
Control Area	Size is defined by a number of risk factors after a FAD has been confirmed	Defined by spread, movement, barriers, etc
OIE – Infected Zone	means a zone in which a disease has been diagnosed.	
OIE - Containment Zone	means a defined zone around and including suspected or infected establishments, taking into account the epidemiological factors and results of investigations, where control measures to prevent the spread of the infection are applied.	
OIE - Protection Zone	means a zone established to protect the health status of animals in a free country or free zone, from those in a country or zone of a different animal health status, using measures based on the epidemiology of the disease under consideration to prevent spread of the causative pathogenic agent into a free country or free zone. These measures may include, but are not limited to, vaccination, movement control and an intensified degree of surveillance.	
OIE - Free Zone	a zone in which the absence of the disease under consideration has been demonstrated	

US Movement Control Terminology



Canada Movement Control Terminology



Movement Control Planning, Issues and Requirements

What does Movement Control include?

- Initially,
 - Quarantine of infected and suspect premises
 - Stop Movement of all susceptible animals and animal products
- After initial standstill
 - Risk assessment/Classification system
 - What is/should be allowed to move?
 - Permit system
 - How do you share permits with other jurisdictions?
 - Bio-security protocols
 - At checkpoints and border crossings
 - Enforcement/checkpoints
 - Who is doing enforcement at checkpoints? Animal Health staff, Law enforcement?
 - What if an infected shipment found at checkpoint?
 - Cleaning and Disinfection points/stations

Communications

- One of the keys to effective movement control.
- Consider what you will say to different groups:
 - Producer industry
 - Processing industry
 - Transportation Companies
 - Other government departments/other jurisdictions
 - The public
- When do you send information out?

Enforcement

- Does your legislation/regulation/policy give you the authority to stop, redirect, or detain shipments of animals?
 - Can you use animal health legislation?
 - Can you use transportation legislation?
 - What if the driver refuses?
- If you are planning to stop/seize the shipment what do you do about the animals and their welfare?
- Oct 2009 – Kansas – Oklahoma field exercise on movement control

Animal Welfare Considerations

- Animals in transit?
- High through-put industries (Swine/feedlots)?
- On-farm when there is no where to go?
- Other situations?

Economics – Continuity of Business

Impact of controls on industry(s)

- Consider the impact on:
 - Producers
 - Processors
 - Transportation
- Welfare and the economic need to “Get back into Business”

Questions?

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