

Surveillance:

Overview



Surveillance

Surveillance involves the ongoing, systematic collection, analysis and interpretation of health-related data. Information gathered will be essential for the planning, implementation, and evaluation of actions necessary for disease prevention and control.

Role of Surveillance

- Estimate location and distribution
- Detect infected animals/premises
- Monitor changes
- Facilitate response planning
- Evaluate outbreak control strategies
- Prove location is free of the disease

What You Will Need To Know

- **Target disease**
 - Organism
 - Animal only or zoonotic
 - Level of PPE
 - Biosecurity
 - Incubation period
 - Trace back
 - Trace forward
 - Transmission route
 - Trace additional cases
 - How pathogen spreads (e.g., animal, fomites, vectors)
- **Type of data needed**
 - Visual Inspection
 - Diagnostic testing
 - Survey - Review records
- **Sample parameters**
 - Susceptible animals, including wildlife
 - Population size
 - Sampling method
 - Sample size
 - Sampling frequency
 - Sampling unit (e.g., individual, pooled)

Case Definition

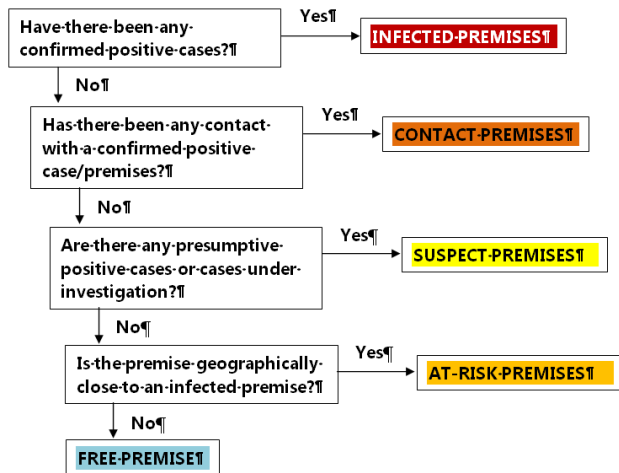
- Set of uniform criteria used to define what information or cases will be included (or not included) in the collection.

Case Classification

- **Negative Case**
 - No clinical signs
 - No positive lab results
- **Suspect Case**
 - Has clinical signs
 - No confirmed lab result
- **Presumptive Positive Case**
 - Has clinical signs
 - Has a positive lab result
- **Confirmed Positive Case**
 - Agent has been isolated and identified

Premises Classification

- **Infected Premises:** A presumptive positive or confirmed positive case exists
- **Contact Premises:** Susceptible animals exposed directly or indirectly to animals, animal products, fomites, people or aerosol from an IP
- **Suspect Premises:** Susceptible animals under investigation for clinical signs compatible to case definition
- **At-Risk Premises:** Susceptible animals but none have clinical signs compatible with disease
- **Free Premises:** No contact with infected premises and no suspect case



Contact Tracing

- **Trace-backs**
 - Tracing origin of animals brought onto infected premises
- **Trace-forwards**
 - Tracing locations of animals that have left infected premises and might be infected
- Complete contact tracing will include
 - Animals
 - Vehicles
 - People
 - Food products
 - Animal products
- Take into account modes of transmission

Biosecurity and Safety

- **Biosecurity:**
 - Prevent spread
- **Safety**
 - Zoonotic disease
- **Personal Protective Equipment**
 - Coveralls, boots, gloves
 - Zoonoses: masks or respirators
 - Sample collection: goggles or face shield
- **Cleaning and Disinfection**

Public Interaction

- **Access to private premises**
 - Owners may react differently
- **Guidelines**
 - Travel in teams
 - Cell phones are necessary
 - Introduce yourself and purpose
 - Avoid confrontation
 - Leave if safety concerns exist

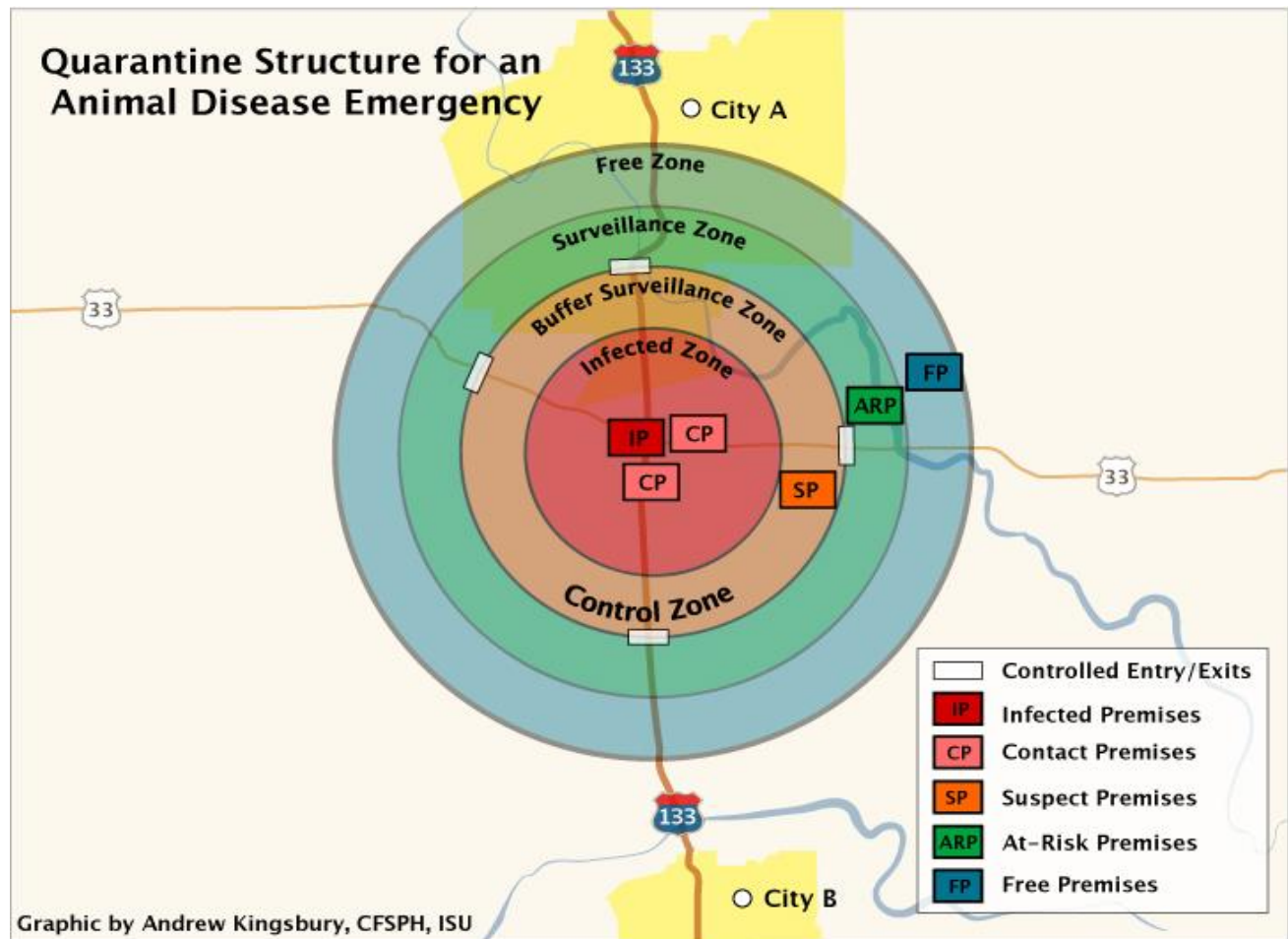
Additional Resources

- USDA Resources for Conducting Animal Health Surveillance
 - Surveillance and Data Standards
 - Guidelines for Developing Animal Health Surveillance Plans

<http://www.aphis.usda.gov/vs/nahss/resources.htm>
- Animal Disease Surveillance Survey Systems, MD Salman Editor. 2003. Blackwell Publishing, Ames

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Adapted from: USDA National Animal Health Emergency Management System. Quarantine and Movement Control, 2003.