

Project for Small Groups

Wildlife Pathogen and Disease Surveillance



Dr. Scott McBurney

Wildlife Pathologist, Canadian Cooperative Wildlife Health Centre

Training Workshop for OIE National Focal Points for Wildlife

Arusha, Tanzania

March 16 – 19, 2010

GOAL OF EXERCISE FOR GENERAL SURVEILLANCE

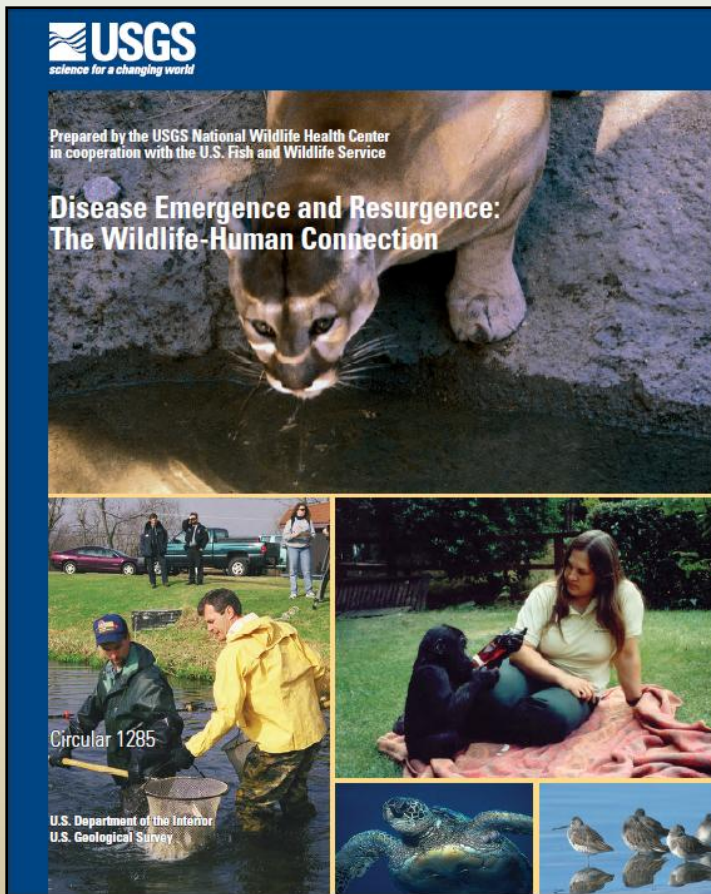
GOAL: Develop a General (Scanning) Surveillance Programme for Diseases of All Wild and Free-ranging (Not Captive) Terrestrial Vertebrate Animals (i.e., Mammals, Birds, Reptiles and Amphibians) in Your Country.

OBJECTIVES OF THIS GENERAL SURVEILLANCE PROGRAMME ARE:

- a. To detect mortality and sickness in wild animal populations;**
- b. To determine what pathogens and diseases are present in wild animals;**
- c. Early detection of new pathogens and diseases in wild animals, including possible indicators of environmental bioterrorism or other biosecurity threats;**
- d. To gather the information required to report on the presence of pathogens and diseases in wild animals to the OIE; and**
- e. To provide information about pathogens and diseases in wild animals to your OIE delegate and others who are responsible for wildlife management, agriculture and public health.**

BIOTERRORISM AND BIOSECURITY

http://www.nwhc.usgs.gov/publications/disease_emergence/



Chapter 6

Biowarfare, Bioterrorism, and Animal Diseases as Bioweapons

“BW [biological warfare] is a special weapon, with implications for civility of life that set it apart from many other kinds of violence.”

“...the intentional release of an infectious particle, be it a virus or bacterium, from the confines of a laboratory or medical practice must be formally condemned as an irresponsible threat against the whole human community.” (Lederberg)¹



BIOTERRORISM AND BIOSECURITY

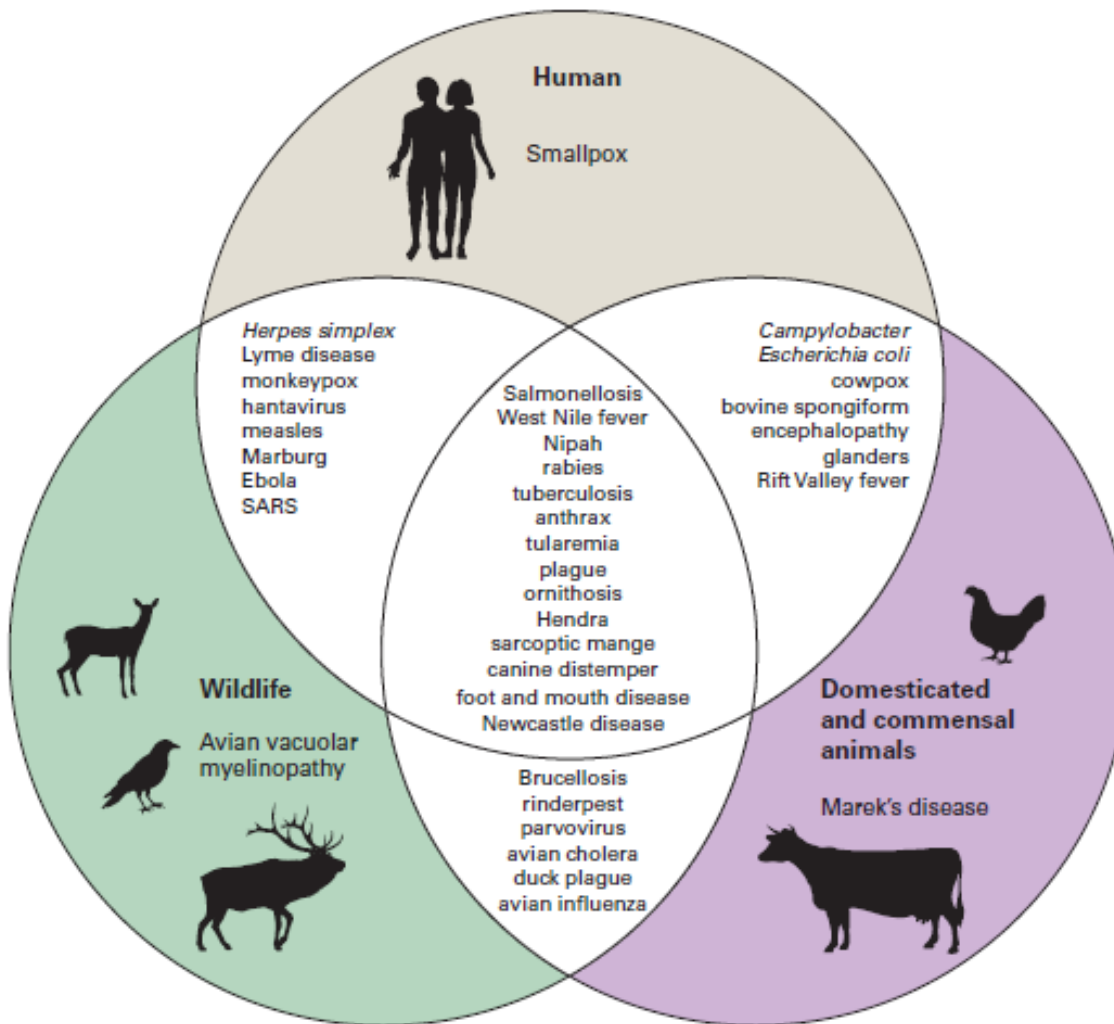


Figure 6.1 Examples of linkages between important infectious diseases of wildlife, domestic animals, and humans. (Modified from Dudley and Woodford⁴¹).

5 out of 6 disease pathogens identified by US Government as Category A Bioweapons are pathogenic to wildlife, can be spread by wildlife and may affect wildlife populations.

These include:

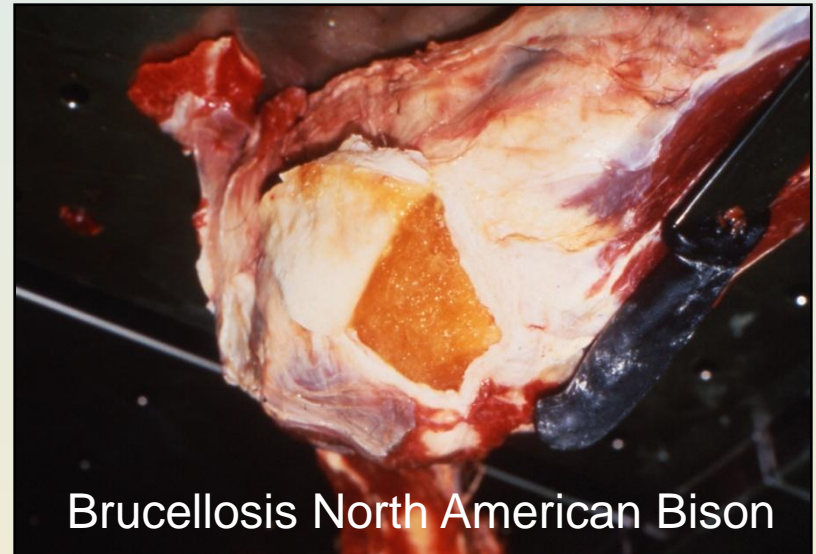
1. Anthrax.
2. Plague.
3. Viral Hemorrhagic Fevers (e.g., Ebola, Marburg, Lassa Fever and Bolivian/Argentine Hemorrhagic Fever).
4. Botulism.
5. Tularemia.

The intentional or accidental introduction of these infectious agents to the environment could easily show up in wildlife 1st, potentially well before an outbreak is identified in humans or domestic animals.

BIOTERRORISM AND BIOSECURITY

Biosecurity:

- To some extent depends on which diseases are considered endemic in your country.
- Other potentially devastating biosecurity threats include diseases like brucellosis, tuberculosis, foot and mouth disease, avian cholera, Q fever, foodborne/waterborne illnesses (e.g., salmonellosis and cryptosporidiosis) and avian influenza, again all pathogenic to certain species of wildlife.



BIOTERRORISM AND BIOSECURITY

BOTTOM LINE:

- If a country has a robust and effective **General (Scanning) Wildlife Health Surveillance Programme**, it is the first line defense for detection of bioterrorism activities and biosecurity problems.

SURVEILLANCE: FOUR ACTIVITIES



PATHOGEN SURVEILLANCE

GENERAL (SCANNING) SURVEILLANCE PROJECT

What you will do: (see Instructions in handout)

1. You will outline how each component of a general surveillance program could be organized in your country.
2. You will compare your outline with those of the others in your group to determine how the organization of various components of surveillance may be similar or different among the countries represented in your group.
3. You will choose one person in your group to make a 7 minute presentation of to all of the seminar participants about the programs you have designed and the ways they are similar or different.

Procedure:

1. Appoint a discussion leader.
2. Appoint someone to take notes of the discussion.
3. Ensure everyone has an equal chance to speak.



GENERAL (SCANNING) AND TARGETED SURVEILLANCE PROJECT

Reporting:

One person from the group should be prepared to give a 7-minute summary of how the General (Scanning) and Targeted Surveillance programmes would be organized in the countries participating in your Group. Emphasize the main aspects that are the same among countries and the main aspects that are different among the countries.

Schedule:

1. Work in Small Groups on Wednesday, 17 March from 1500h to 1800h.
2. Presentations to all participants on Friday, 19 March from 0930h to 1050h.

