Wildlife Services
Protecting People Protecting Agriculture Protecting Wildlife

USDA/APHIS
WILDLIFE SERVICES
National Wildlife Disease Program
WILDLIFE DISEASE SURVEILLANCE AND EMERGENCY RESPONSE SYSTEM

Michael P. Milleson - Wildlife Disease Biologist
USDA/APHIS/WS-Florida
office 352.377.5556 - Michael.P.Milleson@aphis.usda.gov

Safeguarding the health of animals, humans, and ecosystems

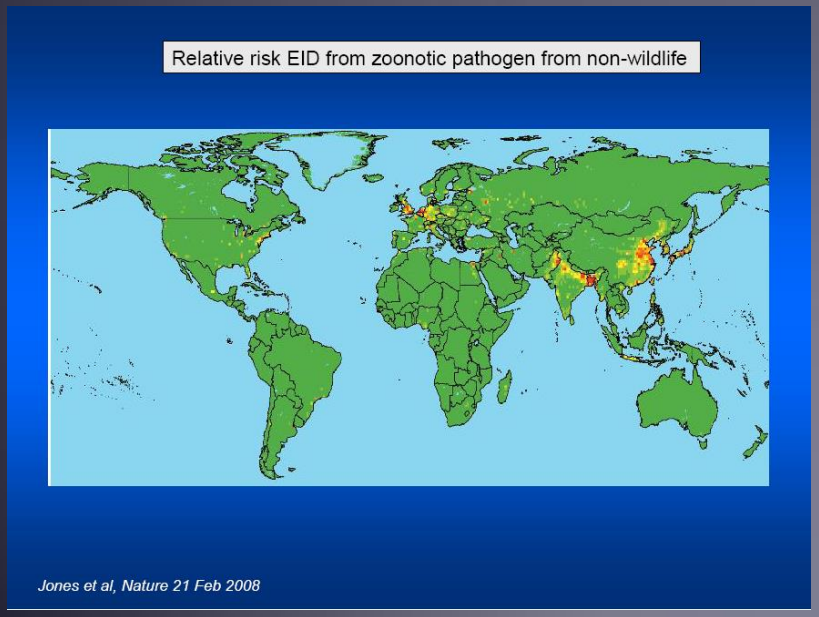
Outline

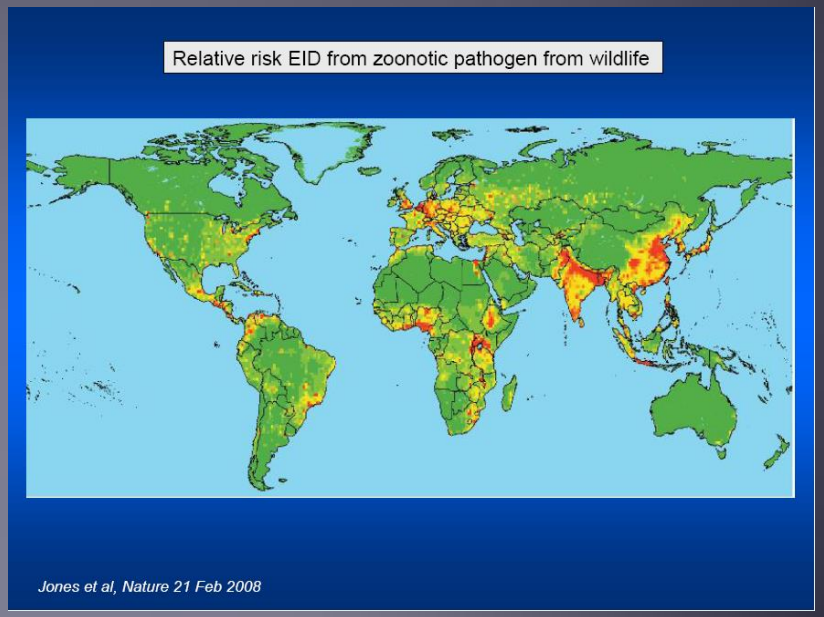
- USDA/APHIS/WS National Wildlife Disease Program Overview
- HPAI surveillance in Florida
- Feral swine disease surveillance in Florida
- Future Challenges

Importance of Wildlife

Over 70 % of human pathogens originate from animals !

Most of them originate in wildlife





USDA/APHIS Wildlife Services National Wildlife Disease Program

APHIS Programs Work Together for National Animal Health

Wildlife Services

- human-wildlife conflict
  - Zoonotic diseases

photo by Doug Wean

Veterinary Services

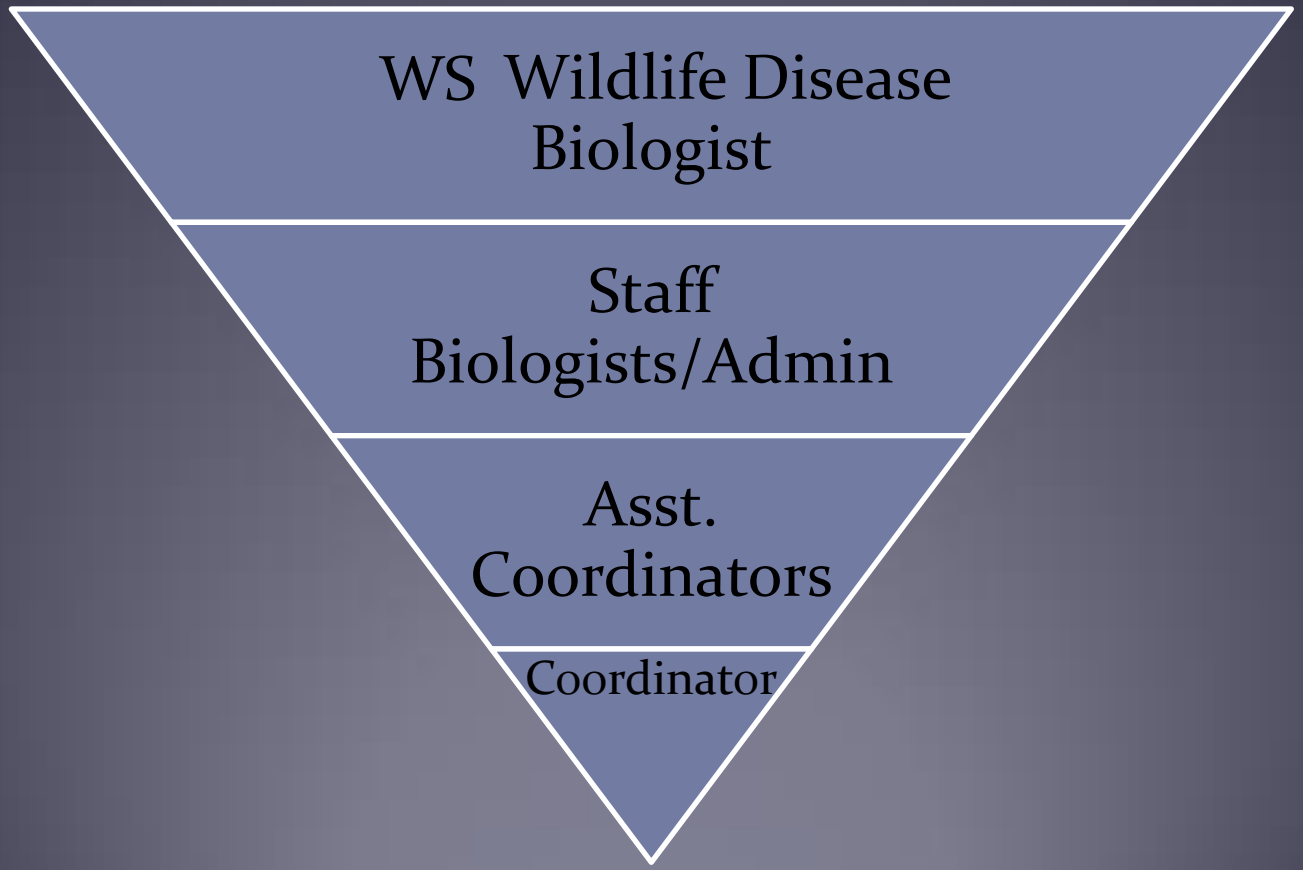
- Domestic Animals

USDA/APHIS/WS National Wildlife Disease Program

Goal

- To facilitate development and implementation of a nationally coordinated wildlife disease surveillance and emergency response system for the purpose of safeguarding
  - Wildlife populations
  - Agriculture
  - Human health and safety

USDA/APHIS/WS
National Wildlife Disease Program

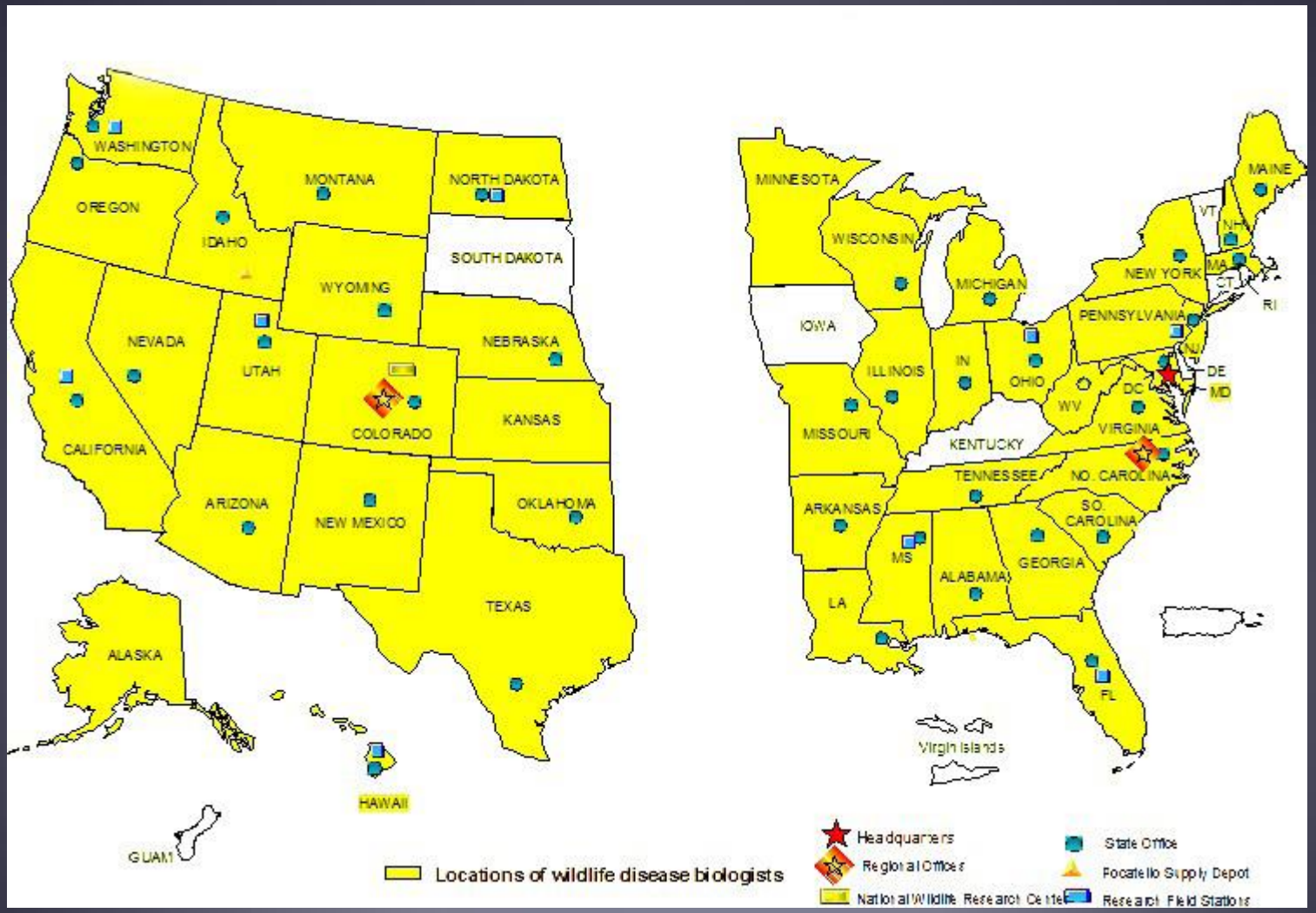


USDA/APHIS/WS National Wildlife Disease Program

Wildlife Disease Biologist

- **Liaison with:**
  - **Veterinary Services**
  - **State Natural Resources, Agriculture, and Health**
  - **Other State, Tribal, and Federal agencies**
- **Assist these agencies in accomplishing disease surveillance and control objectives**
- **Conduct National level disease surveillance programs**
- **Respond to disease outbreaks and other emergencies**

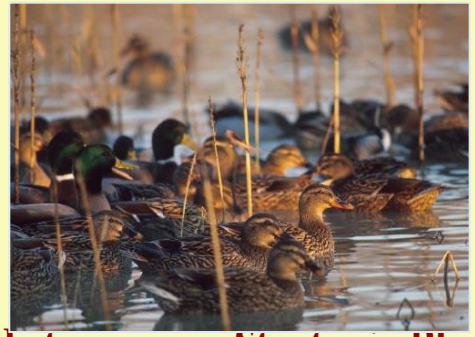
Locations of Wildlife Disease Biologists



NWDP Services Provided

- Coordinate and Implement Wildlife Disease Programs
  - Monitoring and Surveillance Systems
  - Emergency Response Systems
- Work at diverse geographic scales
  - Local
  - Regional
  - National
  - Continental

An Early Detection System for Highly Pathogenic Avian Influenza in Wild Migratory Birds



U.S. Interagency Strategic Plan

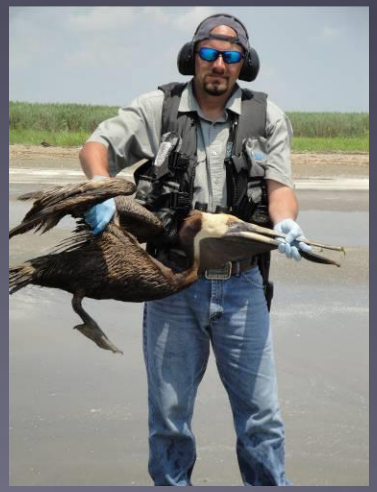
NWDP Services Provided

Examples of Monitoring and Surveillance Activities

- Plague
- HPAI
- Chronic wasting disease
- E. Coli O157
- Classical swine fever
- West Nile virus
- Japanese Encephalitis
- Leptospirosis
- Trichinella
- Tularemia
- Brucella suis
- Bovine tuberculosis
- Rabies
- Pseudorabies
- EHD/Blue Tongue
- FMD
- Toxoplasmosis
- Swine Influenza

Emergency Response Services

- Requires:
  - dedicated personnel and equipment,
  - training,
  - interagency communication and cooperation
  - flexibility



Emergency Response Services

- Activities
  - **Oil Spills**
    - Deepwater Horizon
    - Enbridge Pipeline
    - Bayou Perot
    - Delaware River
    - New Orleans
  - **Natural Disasters**
    - Katrina, Rita, Emily, Ivan, Gustad, etc.
    - Iowa Floods
    - Thailand Tsunami
  - **Diseases**
    - SD Plague
    - CA E. coli O157
    - Newcastle
    - Bovine TB
    - LPAI/HPAI
    - CWD
    - Rabies

HPAI surveillance in wild birds

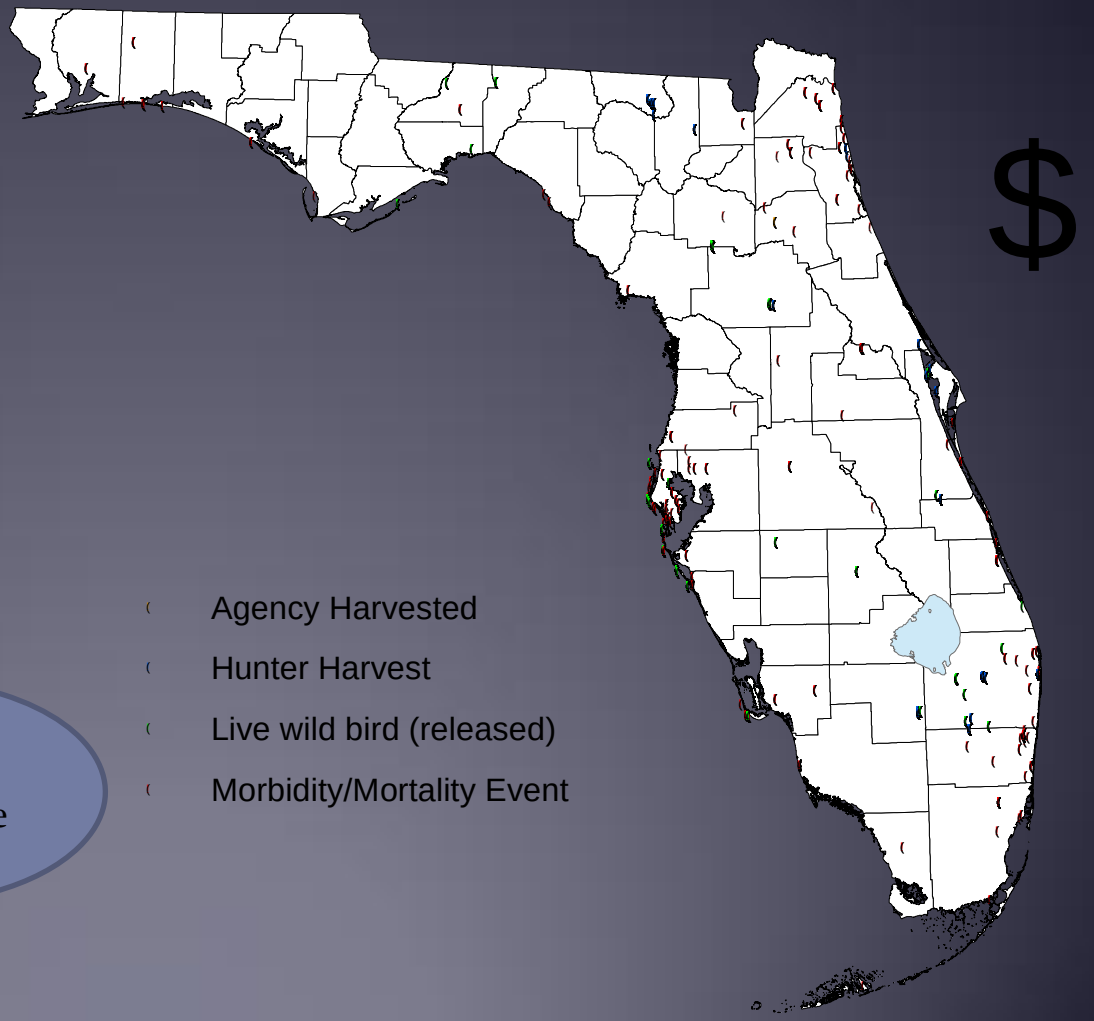
Interagency Effort

Morbidity Mortality
Hunter killed
Live Wild birds
Agency Take

HPAI surveillance in wild birds

2006-2010
5,047 samples

No HPAI



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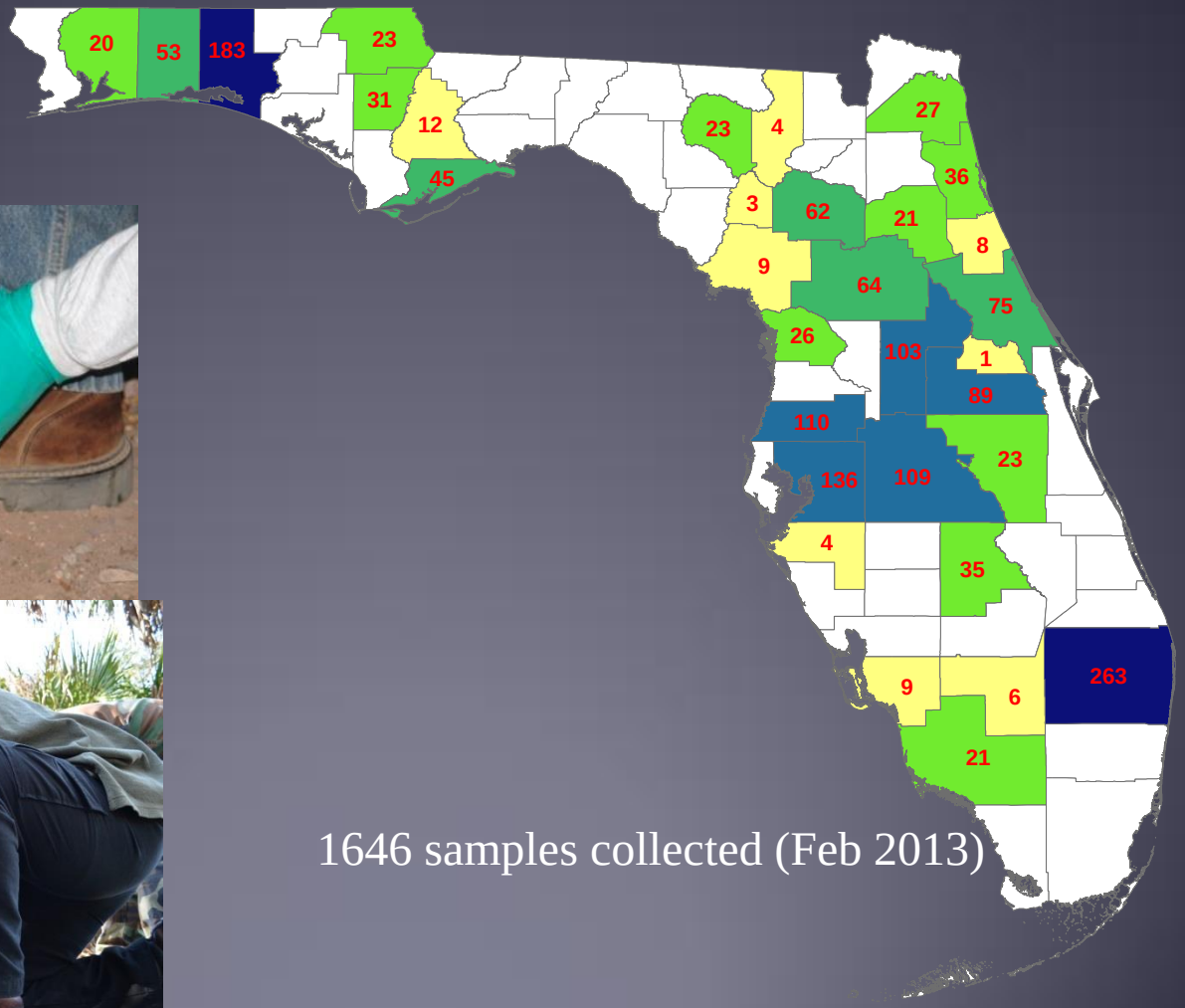
- Agency Harvested
- Hunter Harvest
- Live wild bird (released)
- Morbidity/Mortality Event

Feral Swine Disease Surveillance in Florida

- WS has been collecting surveillance and monitoring of various diseases in feral swine in Florida since 2007.
- Primary sources of funding for this monitoring CSF, SIV
- Other diseases covered: SB, PRV, ASF, FMD, Toxo, Trich, SIV, HEV, PRRS, PCV2, Lepto

Sample collection 2007-present



1646 samples collected (Feb 2013)

Future Challenges

- Minimal Disease Surveillance in Wildlife
  - Critical in One Health approach to protecting humans and animals
    - Requires investment infrastructure
      - Field biologists and support staff
      - Diagnostic support for wildlife
      - Research Support for modeling and Risk Assessments
  - Data historically limited in geographic and temporal scales
    - Requires Nationally coordinated networks
      - HPAI Wild Bird Early Detection System
      - Sylvatic Plague and Tularemia Monitoring System
      - Feral Swine Comprehensive Disease Surveillance System

Future Challenges

- Much more interdisciplinary integration needed
  - Avoid duplication
  - Build on various partners Strengths
- Constantly Re-inventing the Wheel
  - Surveillance networks need to be flexible
    - Capable of sampling multiple species
    - Capable of sampling for multiple pathogens
  - Often dismantled when perception of risk decreases
    - HPAI

Wildlife Services
Protecting People Protecting Agriculture Protecting Wildlife

"One Health"

Merging Animal Health and Public Health