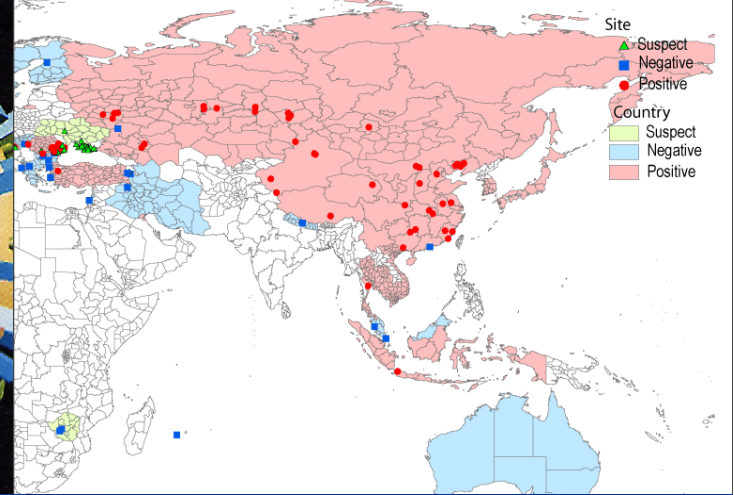
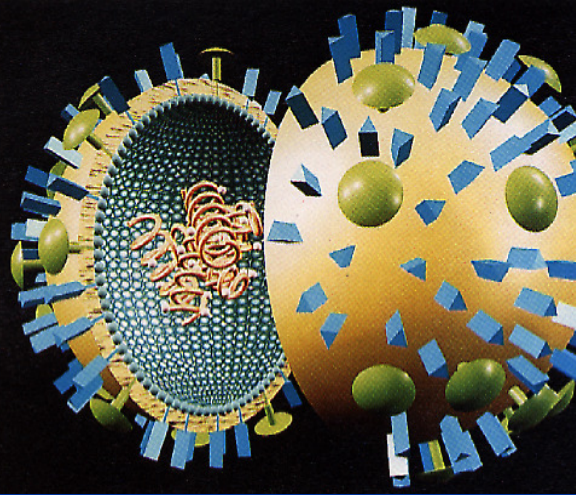


# Avian Influenza



## *Potential impacts on vector control*

**Ben Sun, DVM, MPVM  
California Department of Health Services**

# Overview

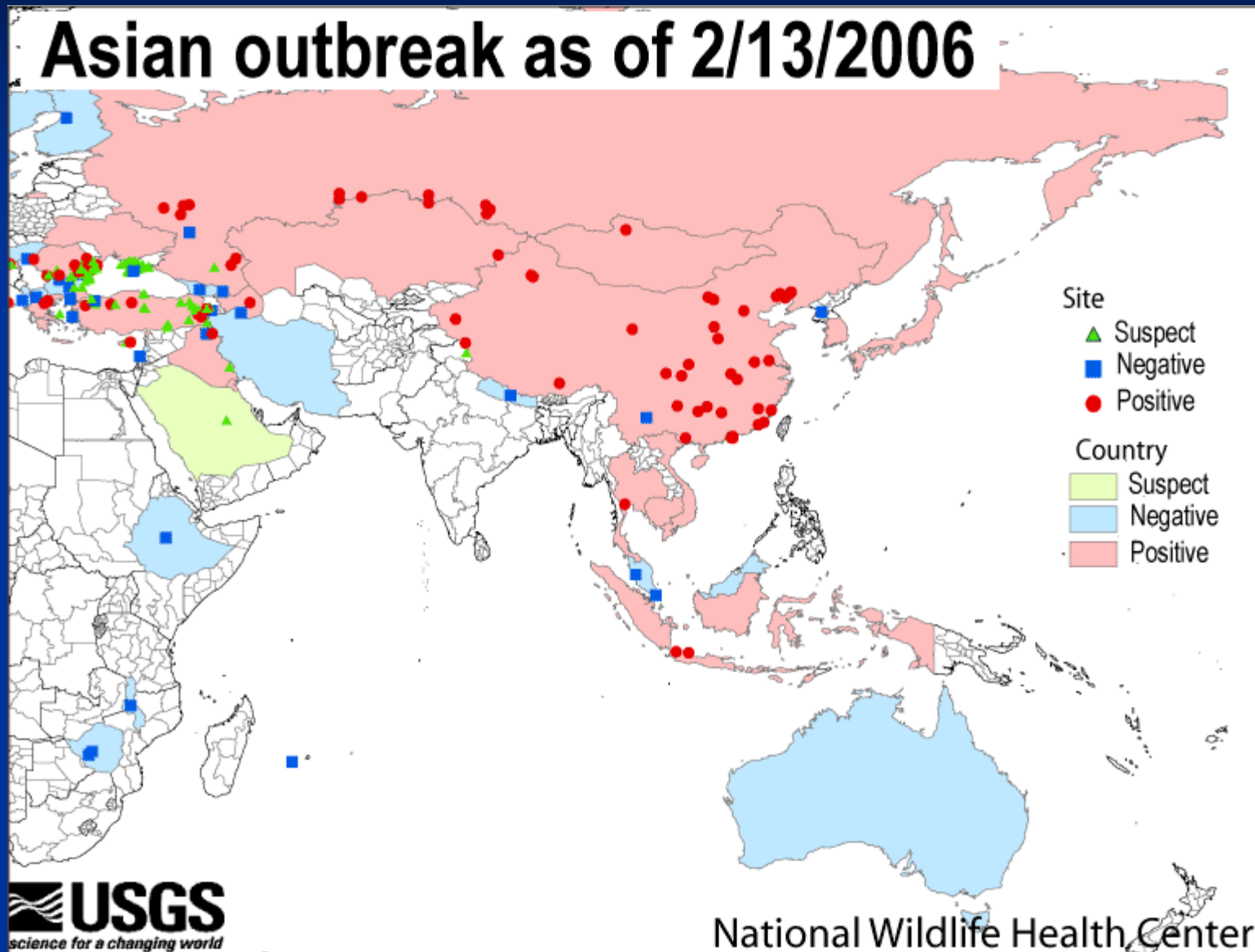
- Global AI update
- Potential impacts on vector control
- Challenges



# Introduction

- Rapid spread of high path avian influenza Asian H5N1 subtype
  - 30 affected countries
  - 15 new countries since Feb 1, 2006
- Highest risk still close contact with backyard poultry
- Recent transmission to wild birds

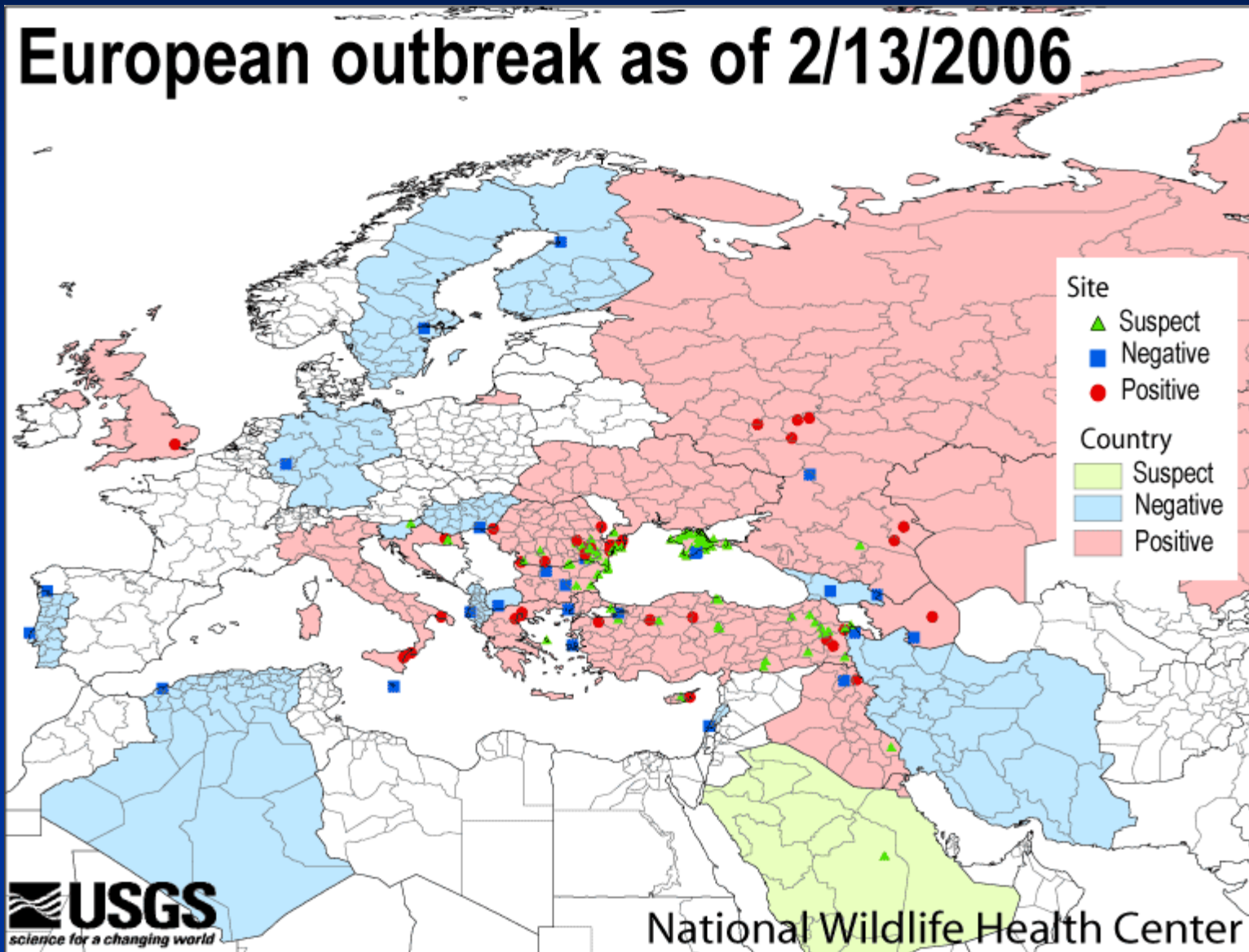
# Asian HPAI Epizootics



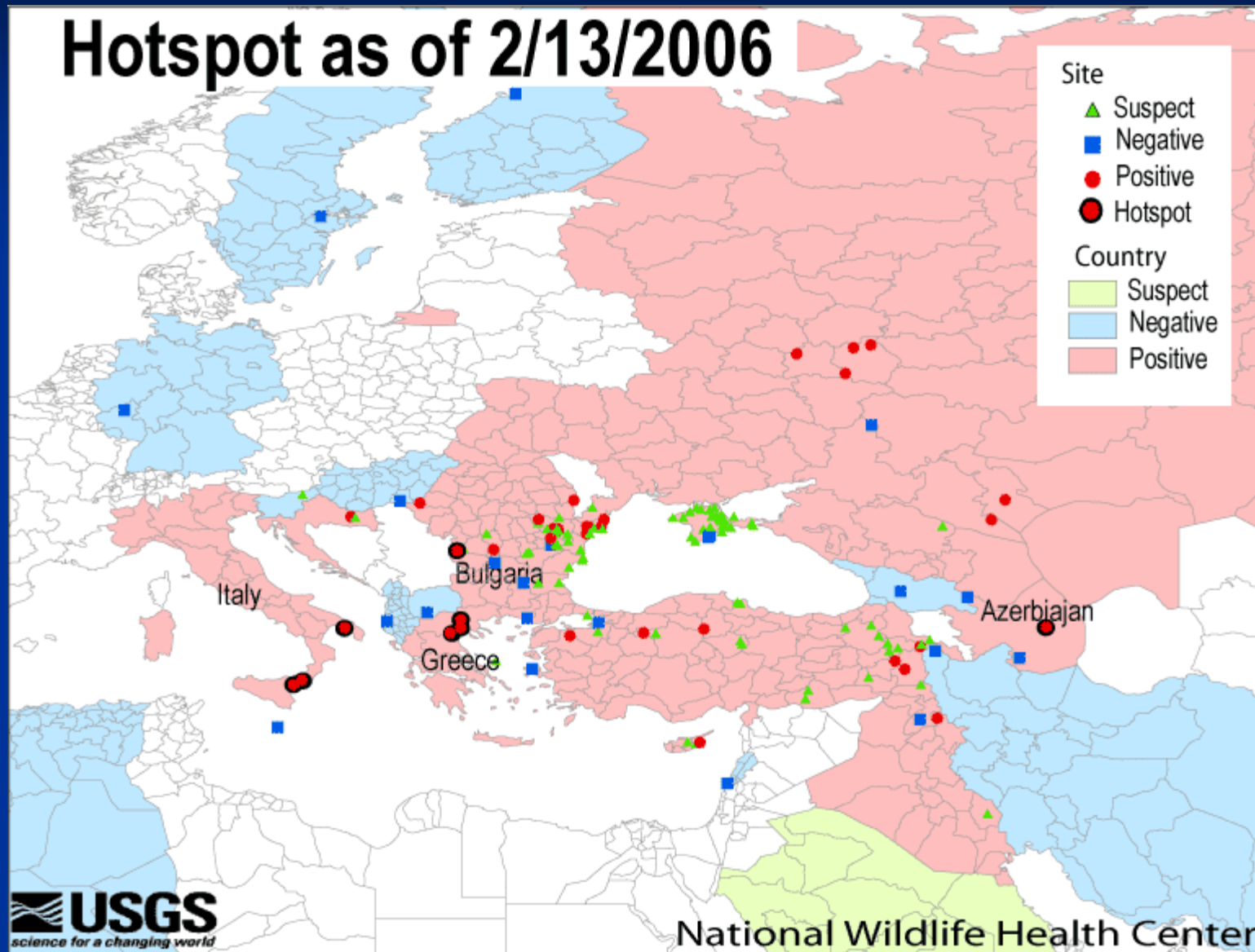


# Europe HPAI Epizootics

## European outbreak as of 2/13/2006

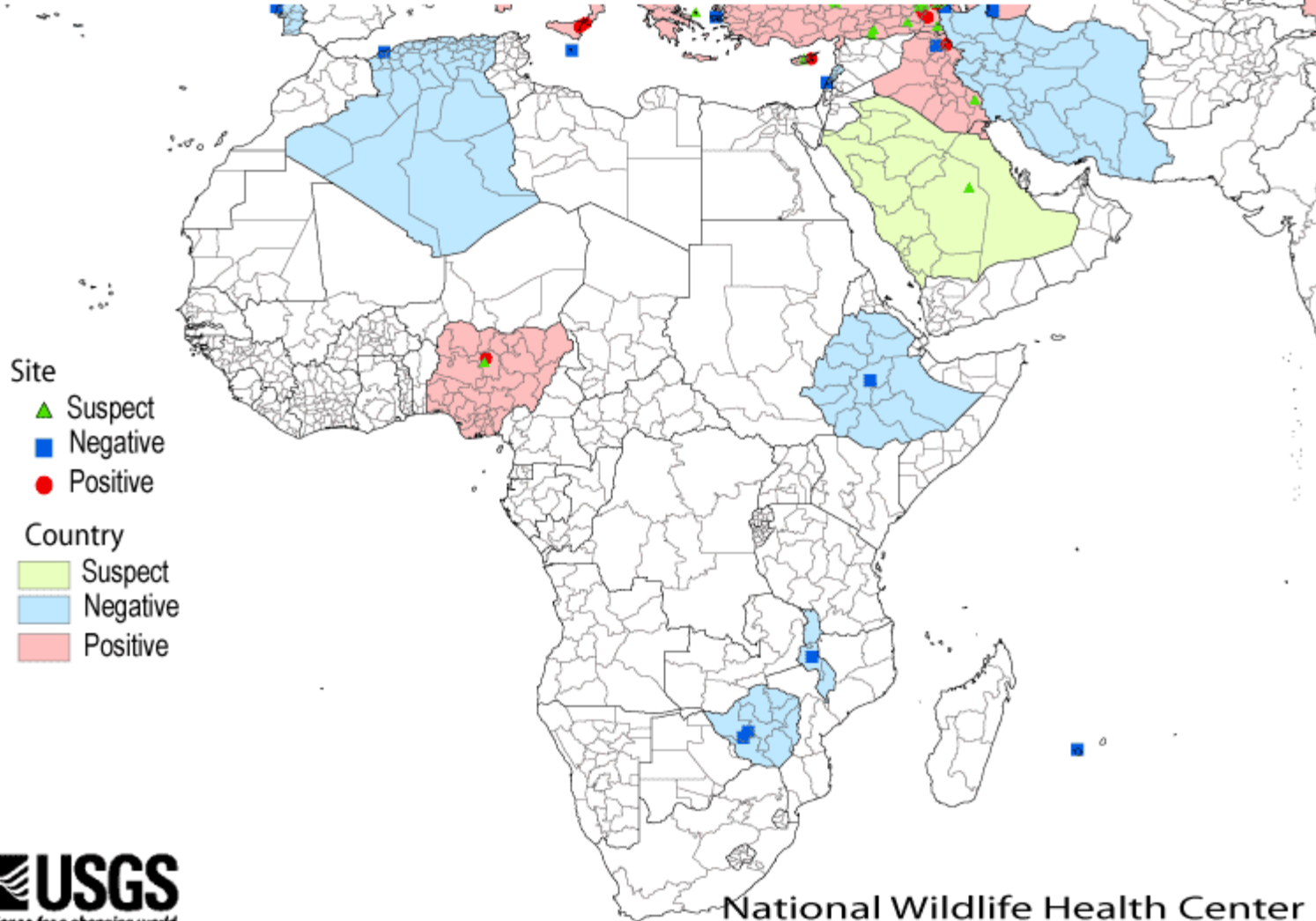


# Europe HPAI Epizootics



# Africa HPAI Epizootics

## African outbreak as of 2/13/2006



# Human H5N1 Update: 2003 – Feb. 20, 2006

## Cumulative Number of Confirmed Human Cases of Avian Influenza A/(H5N1) Reported to WHO

20 February 2006

Country	2003		2004		2005		2006		Total	
	cases	deaths	cases	deaths	cases	deaths	cases	deaths	cases	deaths
Cambodia	0	0	0	0	4	4	0	0	4	4
China	0	0	0	0	8	5	4	3	12	8
Indonesia	0	0	0	0	17	11	9	8	26	19
Iraq	0	0	0	0	0	0	1	1	1	1
Thailand	0	0	17	12	5	2	0	0	22	14
Turkey	0	0	0	0	0	0	12	4	12	4
Viet Nam	3	3	29	20	61	19	0	0	93	42
Total	3	3	46	32	95	41	26	16	170	92

Total number of cases includes number of deaths.  
WHO reports only laboratory-confirmed cases.



# Role of Wild Birds

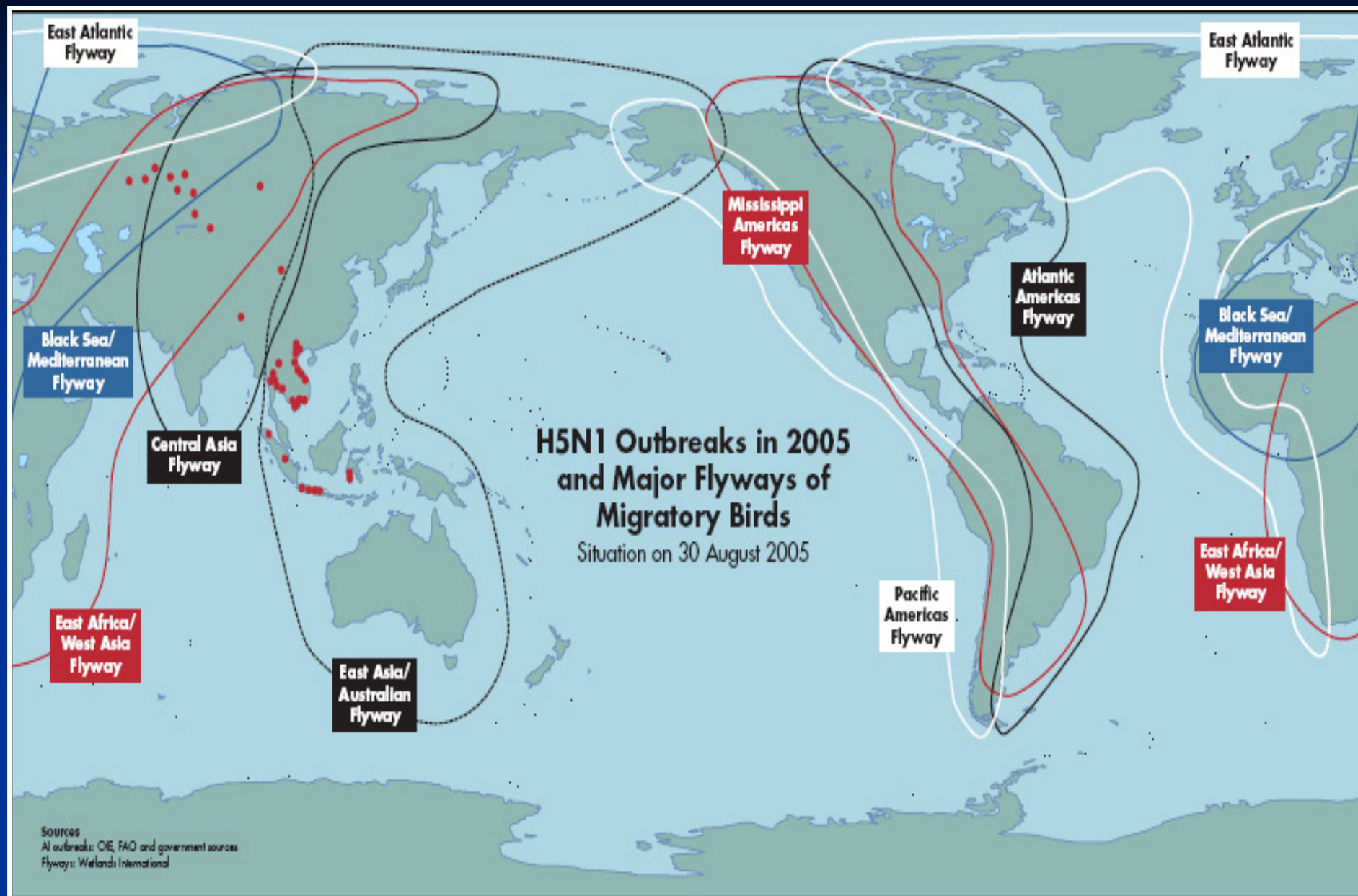
- Reservoirs for LPAI
- Recent data indicate several wild bird species can become ill and die due to H5N1
- Increasing role as a possible reservoir for H5N1 in past year
- Geographic spread of virus (Africa, Europe) – still primarily via poultry
- No human cases related to wild birds
- Early H5N1 detection in Europe



# Wild Bird Surveillance

- Focused on early detection
- 5 surveillance strategies
  - Mortality events, live birds, hunter killed, sentinels, environment
- Enhancing wild bird surveillance in U.S. this spring/summer (more on Friday)
- Increased chance of detection in 2006



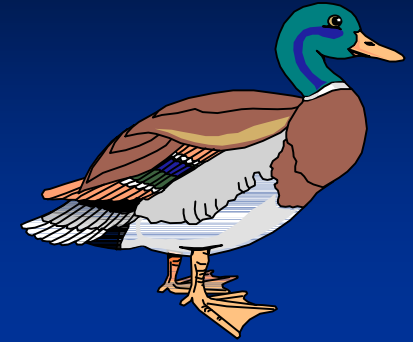


# Initial Detection in U.S.

- Impacts to all of U.S. and N. America
- Potential impacts to vector control
  - WNV surveillance – dead bird reporting
  - Sentinel chickens
  - Occupational safety

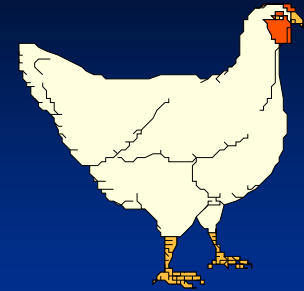


# Potential Impacts to Vector Control



- Dead bird WNV surveillance program
  - Public inquiries for AI testing
  - Dead bird reporting volume
  - Dead bird lab submissions
  - Safety concerns if AI detected in local area
  - In-house testing (VecTest kits, etc.)
- Develop scripts/protocols to route calls
- Focus on strategic species / season
- Dead birds may not be in suitable condition for AI testing
- Train and prepare staff - dead bird handling, lab testing

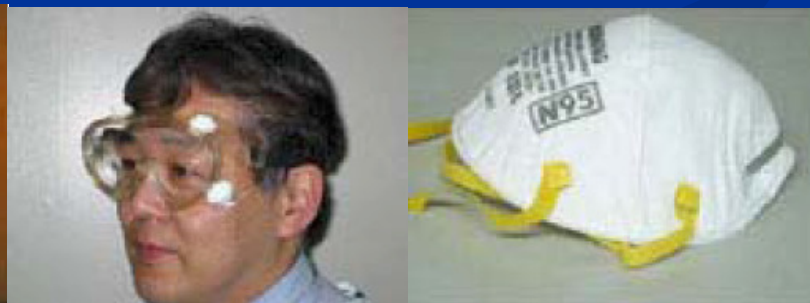
# Potential Impacts to Vector Control



- Sentinel chicken surveillance
  - Quarantine may affect bird movement
  - Possible transmission to chickens
  - Safety concerns for workers
  - May be requested to test for AI if local outbreak
- Train staff on disease recognition/reporting
- Develop plans for lab testing if necessary
- Biosecurity measures

# Potential Impacts to Vector Control

- Occupational health and safety
  - Dead bird / Sentinel chicken handling
  - Environmental exposures
- Review CDC, NIOSH, USGS recommendations
- Develop plans if local AI outbreak
- Train staff



# Challenges

- Numerous AI entry routes to U.S.
- Current H5N1 strain persisting
- Increased concern for role of wild birds and impacts to other programs
- Lack of control methods for wild birds



# Conclusions

- Global spread of H5N1
- Detection / epizootic of H5N1 in U.S. will have impact on local vector control programs
- Anticipating and planning for H5N1 will minimize impacts to vector surveillance and control programs



[bsun@dhs.ca.gov](mailto:bsun@dhs.ca.gov); 916-552-9740



[bsun@dhs.ca.gov](mailto:bsun@dhs.ca.gov); 916-552-9740