

Avian flu will cripple American Poultry farming

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What is the Avian Flu?

- Avian (bird) influenza (flu)
- Occurs naturally among birds
- Birds carry the viruses in their intestines
- Avian Flu is very contagious among birds and can make some domesticated birds, including chickens, ducks, and turkeys, very sick and even kill them.

What is the Avian Flu?

- In domestic poultry there are two main forms of this disease.
 1. Low pathogenic: may go undetected and usually causes only mild symptoms (like ruffled feathers and a drop in egg production)
 2. Highly pathogenic: this form spreads more rapidly through flocks of poultry. It may cause disease that affects multiple internal organs and effects mortality rates.

How Avian Flu Affects Humans

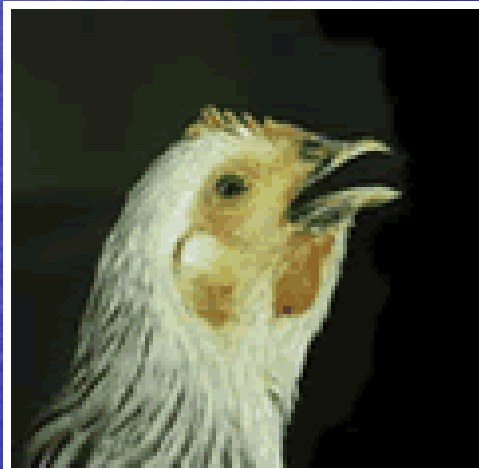
- The risk of catching bird flu is generally low for most people, because the viruses do not usually infect humans.
- Most cases of bird flu infection in humans have resulted from contact with secretions or excretions from infected poultry.
- Symptoms in humans ranged from typical human flu-like symptoms: fever, cough, sore throat, and muscle aches to eye infections, pneumonia, severe respiratory diseases.

How Avian Flu Affects Poultry

- Low pathogenic virus is responsible for most avian flu outbreaks in poultry.
- Chickens will produce little to no eggs and the flock will experience low mortality rates.
- The highly pathogenic virus causes an outbreaks, between 90% and 100% of poultry can die from infection.

Effects on poultry

- Clinical signs of Avian Influenza include swelling of the head, respiratory distress such as excessive coughing and sneezing (left), decreased food consumption, and purple discoloration of the wattles, combs and legs (right).



Outbreaks all over the world

- Since 1997, more than 16 outbreaks of the high pathogenic virus have occurred among poultry in the United States.
- Ongoing outbreak in Asia, estimated that around 20-25 million birds have been killed
- Netherlands, Republic of Korea, Hong Kong, Japan, South Korea, Belgium, Germany, Australia, Pakistan, Italy, Chile, and Mexico.

Spread of the Avian Flu



How does the Avian Flu spread?

- Waterfowl act as hosts for influenza viruses by carrying it in their intestines and shedding it
- Shed virus in saliva, nasal secretions, and feces
- Susceptible birds can become infected when they have contact with contaminated nasal, respiratory, or feces from infected birds. Fecal-to-oral transmission is the most common mode of spread between birds

Spread of Avian Influenza Viruses among Birds

- Also through contact with surfaces (such as dirt or cages) or materials (such as water or feed) that have been contaminated with virus. People, vehicles, other objects such as cages can spread the virus from one farm to another
- Wild birds that are host to the virus do not get sick, but they can spread influenza to other birds
- Infection with certain avian influenza A viruses (for example, some H5 and H7 strains) can cause widespread disease and death among some species of domesticated birds

A disease of birds, not humans

- The virus was first found in birds in China in 1996. It moved into people for the first time in Hong Kong a year later and now has turned up in 39 countries
- Since December 2003, at least 175 people have been infected, and 95 have died, most of them after having close contact with infected chickens but not wild birds. Scientists say the virus hasn't developed the ability to spread easily from person to person. If that happens, it could start a pandemic

Spread of Avian Influenza Viruses among Birds

- When highly pathogenic influenza H5 or H7 viruses cause outbreaks, between 90% and 100% of poultry can die from infection.
- Health officials carefully monitor outbreaks in domestic birds for several reasons:
 - the potential for low pathogenic H5 and H7 viruses to evolve into highly pathogenic forms
 - the potential for rapid spread and significant illness and death among poultry during outbreaks of highly pathogenic avian influenza
 - the economic impact and trade restrictions from a highly pathogenic avian influenza outbreak.
 - the possibility that avian influenza could be transmitted to humans
- When outbreaks occur, quarantine and depopulation (or culling) and surveillance around affected flocks is the preferred control and eradication option

What is the Government doing to stop the spreading?

- YANGON, Myanmar (AP): The U.S. has provided Myanmar with \$600,000 worth of equipment for bird flu prevention after fresh outbreaks of the deadly H5N1 virus were discovered on poultry farms
 - the aid will be used to strengthen emergency preparations for highly pathogenic avian influenza
- 75,000 to 100,000 birds were tested for the virus, that's a jump from the 12,000 birds tested since 1996
- \$26 million National Institutes of Health (NIH) contract to establish new flu/bird flu Center of Excellence
 - The NIH will focus on basic research and surveillance studies
- U.S. Announces New Bird Flu Program
 - The U.S. Agency for International Development has announced a three-year, \$35.8 million contract for a program designed to limit the impact of bird flu around the globe

Poultry industry on guard

- The USDA has banned importation of live birds or bird products from countries where the virus has spread
- Birds that are legally brought into the country are tested for H5N1 and other bugs, and they're held in quarantine for 30 days
- Experts warn that illegal trade in birds and the smuggling of wild birds or fighting cocks could provide an entry

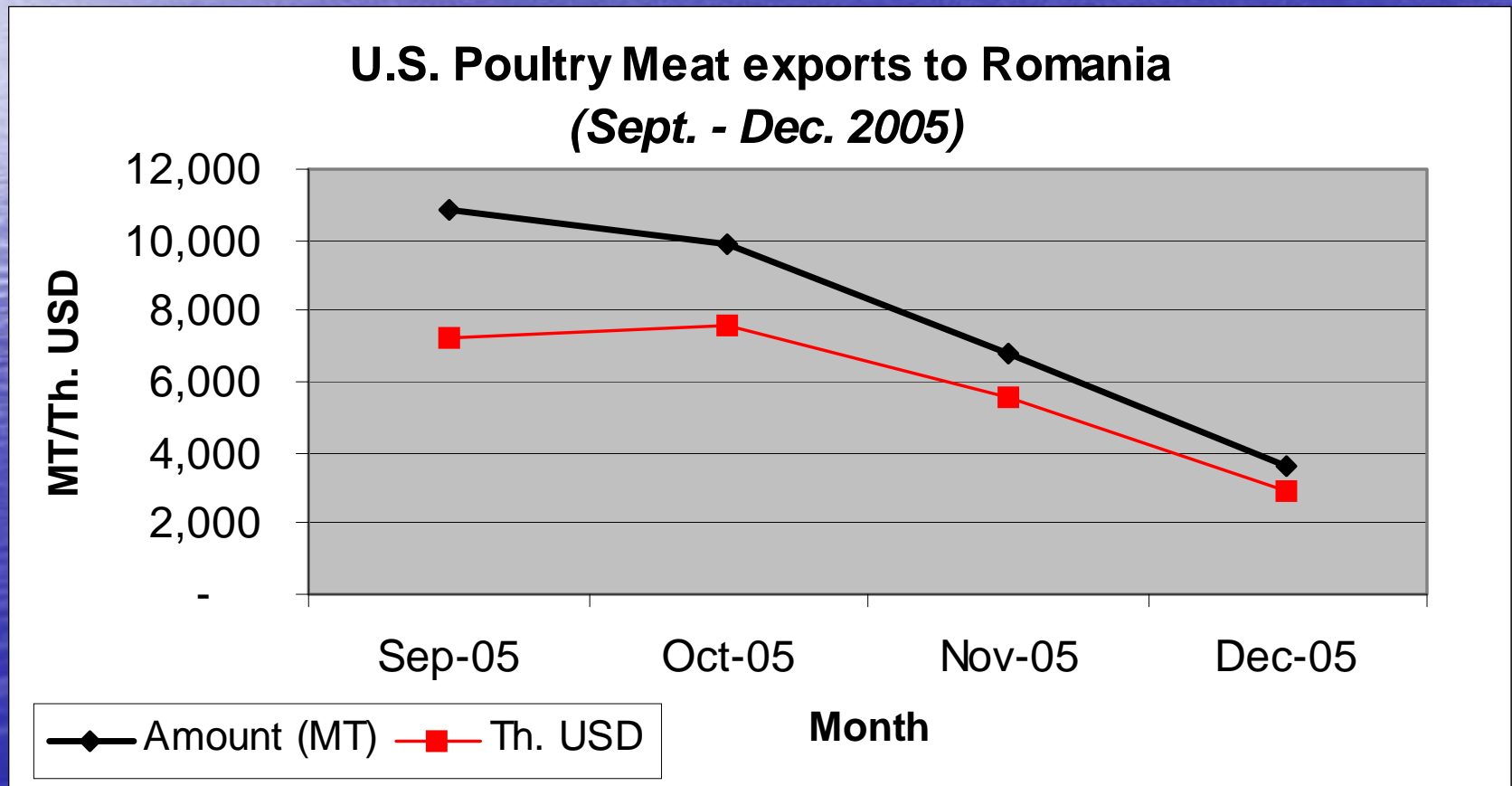


BBC News Link

- http://news.bbc.co.uk/1/shared/spl/hi/world/05/bird_flu_map/html/1.stm



- From an average amount of 8,000 MT/month in the first eight months of 2005, the U.S. poultry exports dropped in December to 3,500 MT/month (56% drop)



Sources

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- 2. USDA – <http://www.USDA.gov>
- 3. "With avian flu spreading, U.S. to expand its testing."
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- 4. "Transmission of Influenza A Viruses Between Animals and People"
http://www.fao.org/ag/againfo/subjects/en/health/diseases-cards/special_avian.html
- 5. "\$26 million NIH contract to establish new flu/bird flu Center of Excellence." <http://www.spiritindia.com/health-care-news-articles-8024.html>. ©2002-2007 SpiritIndia.com
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Avian flu: Effects on American Poultry Farming



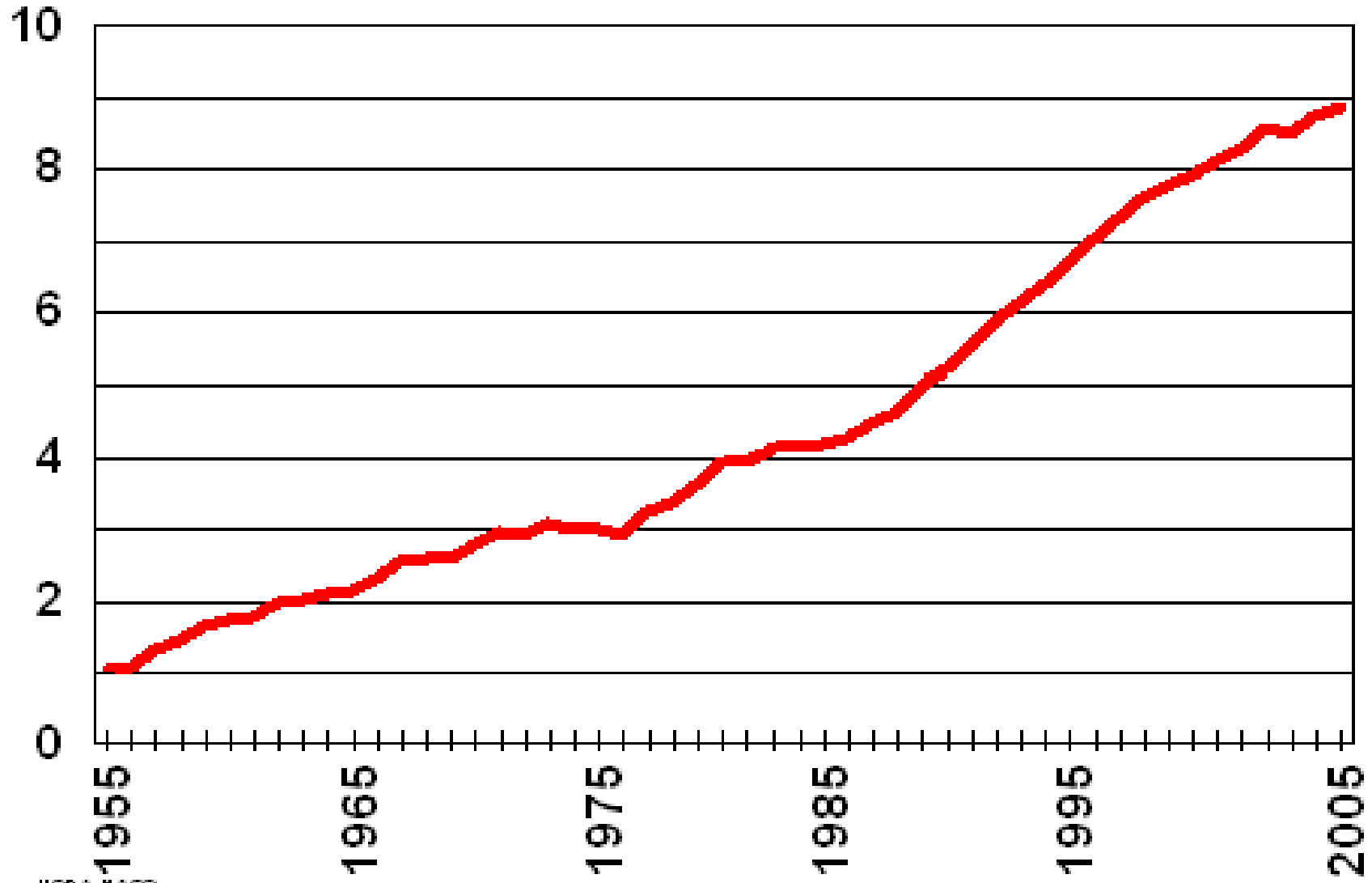
Scale of U.S. poultry farming

- Close to 9 billion head of Poultry were raised in the U.S. in 2005.
 - Makes up approximately 20% of farm products sold annually
- Most poultry farms are commercial farms that can have thousands of birds being raised on them at one time.



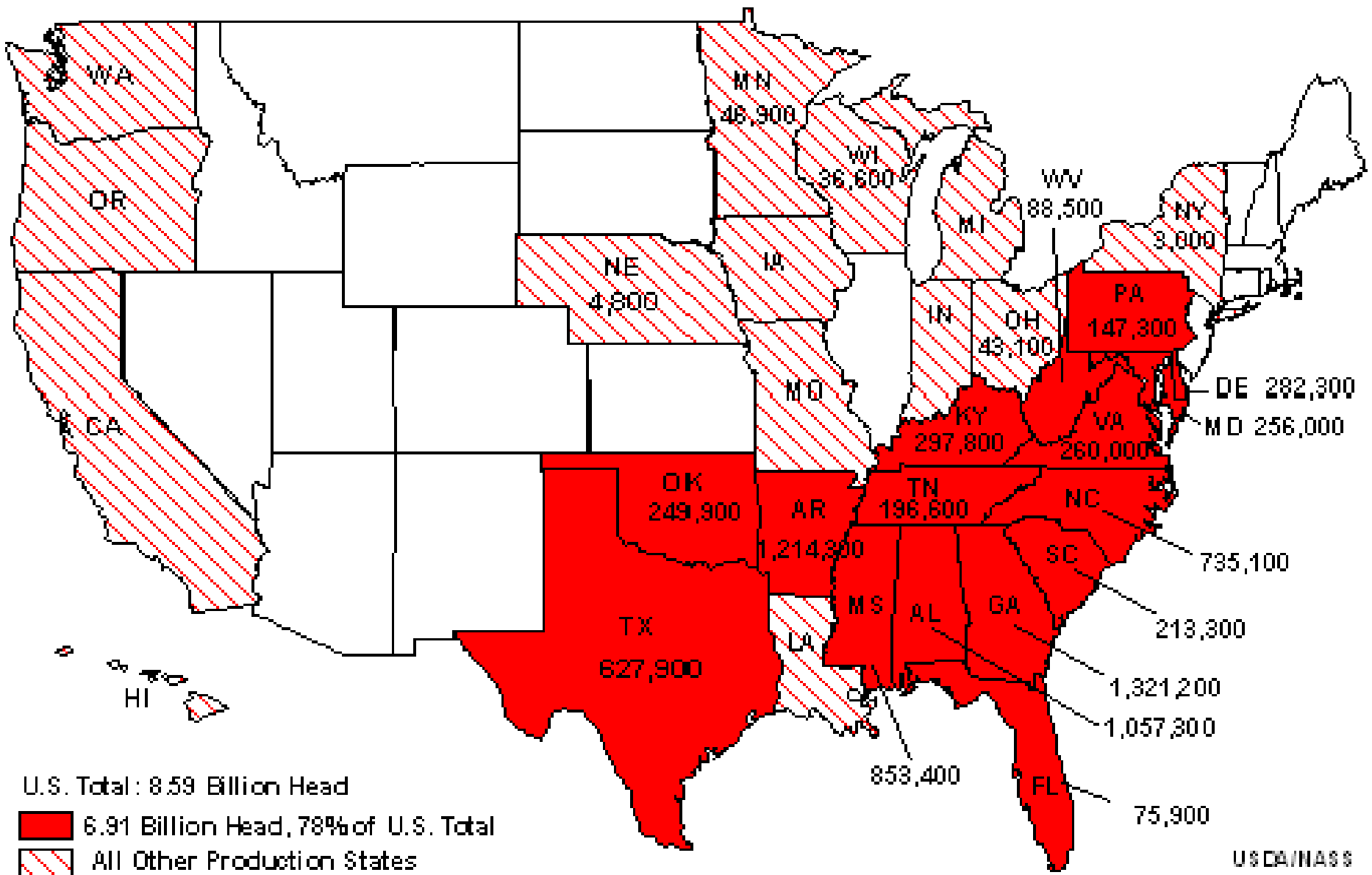
U.S. Broiler Production 1955-2005

Billion Head



BROILER PRODUCTION BY STATES

NUMBER RAISED (000), 2005



U.S. Total: 8.59 Billion Head

6.91 Billion Head, 78% of U.S. Total

All Other Production States

Table 2-3: Bird size and amount slaughtered, 1960-98

Year	Liveweight per bird		Number of birds slaughtered		
	Broilers	Turkeys	Broilers	Mature hens	Turkeys
	<i>Average pounds</i>		<i>Million birds</i>		
1960	3.36	15.06	1,534	110	71
1963	3.47	16.13	1,835	129	82
1966	3.49	16.63	2,242	151	103
1969	3.60	17.84	2,516	154	95
1972	3.73	18.17	2,936	186	121
1975	3.76	17.75	2,922	176	119
1978	3.89	18.87	3,516	191	132
1981	4.01	19.07	4,076	202	166
1984	4.17	19.80	4,273	187	164
1987	4.29	20.31	4,971	198	231
1990	4.37	21.25	5,841	181	271
1992	4.51	21.71	6,425	177	281
1994	4.63	22.70	7,072	168	279
1996	4.78	23.65	7,546	154	292
1998	4.86	24.63	7,838	170	273

Susceptibility of U.S. Poultry farming to avian flu

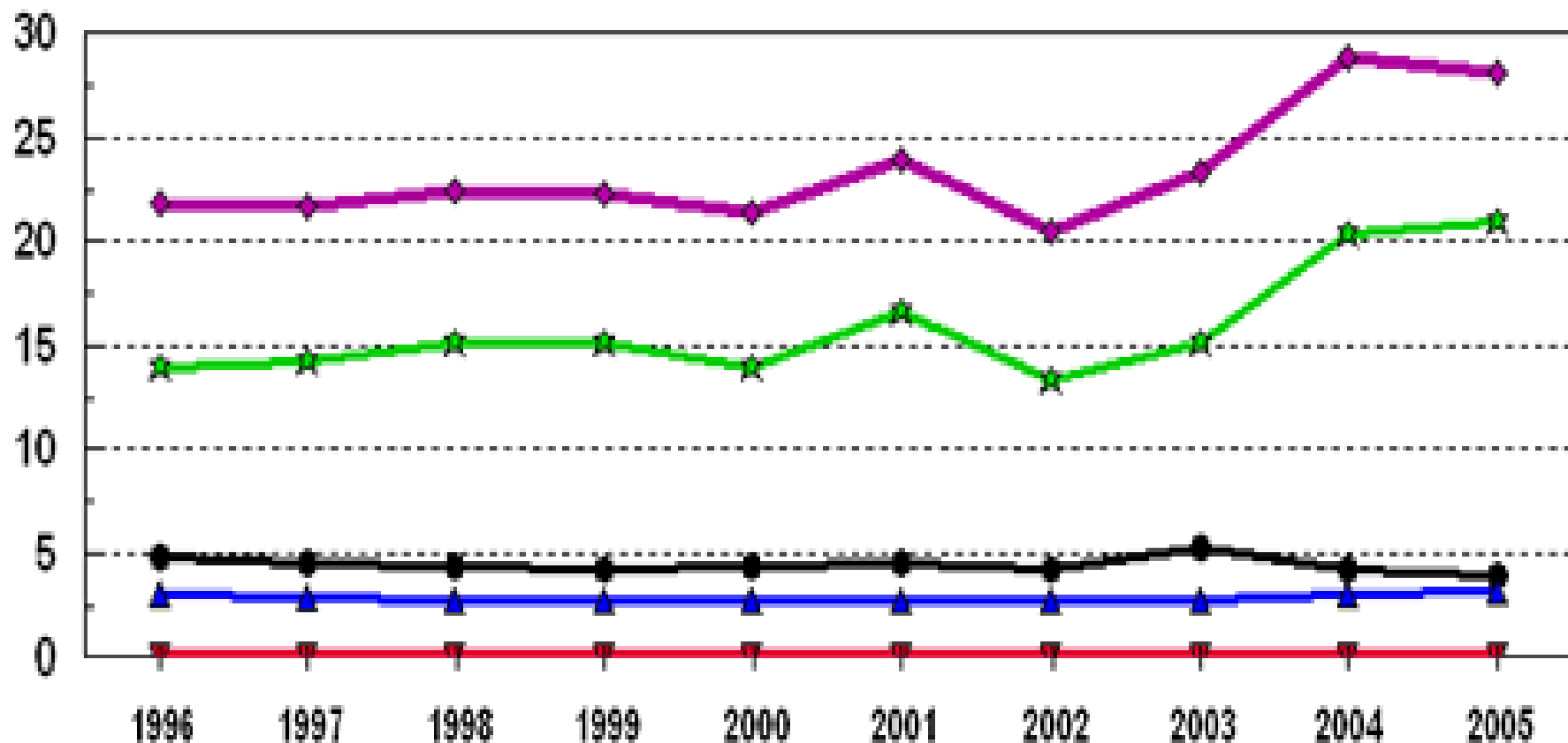
- Since American poultry farming is done on such an industrial scale it makes it particularly susceptible to Avian Flu.
 - The policy for avian flu is to cull the entire flock if even a single bird tests positive.
 - Due to the high concentrations of birds raised in one area, millions of birds would have to be destroyed if avian flu is detected in industrial poultry farms.

Economic susceptibility to avian flu

- In 2005, 30 billion dollars was grossed in the American Poultry industry.
- The poultry industry would be crippled by the presence of avian flu.
 - Large numbers of poultry
 - Heavy concentrations of poultry

Value of Production: Broilers, Eggs, Turkeys, Chickens, and Total, United States, 1996-2005

Billion Dollars



USDA-NASS
04-2006

★ Broilers ● Eggs ▲ Turkeys ▼ Chickens ◆ Total

Impacts on U.S. Economy

- The U.S. gross domestic product could drop by nearly 6 percent, a \$683 billion loss.
 - This would be a big hit to the American Economy
- Also an outbreak would severely impact areas that majority of revenue is from tourism.

Prevention of infection on poultry farms:

- Rigorous testing of flocks for infection.
 - On both sick birds and random tests.
- Use of Biosecurity on poultry farms:
 - Restrict access to your property and your birds.
 - Keep everything clean.
 - Be careful where you go, so that you don't bring Avian Influenza home to your birds.
 - Do not borrow or share items with your neighbor or anybody else.
 - Immediately report infections to Department of Agriculture



Recent Avian Flu Outbreaks in the U.S.

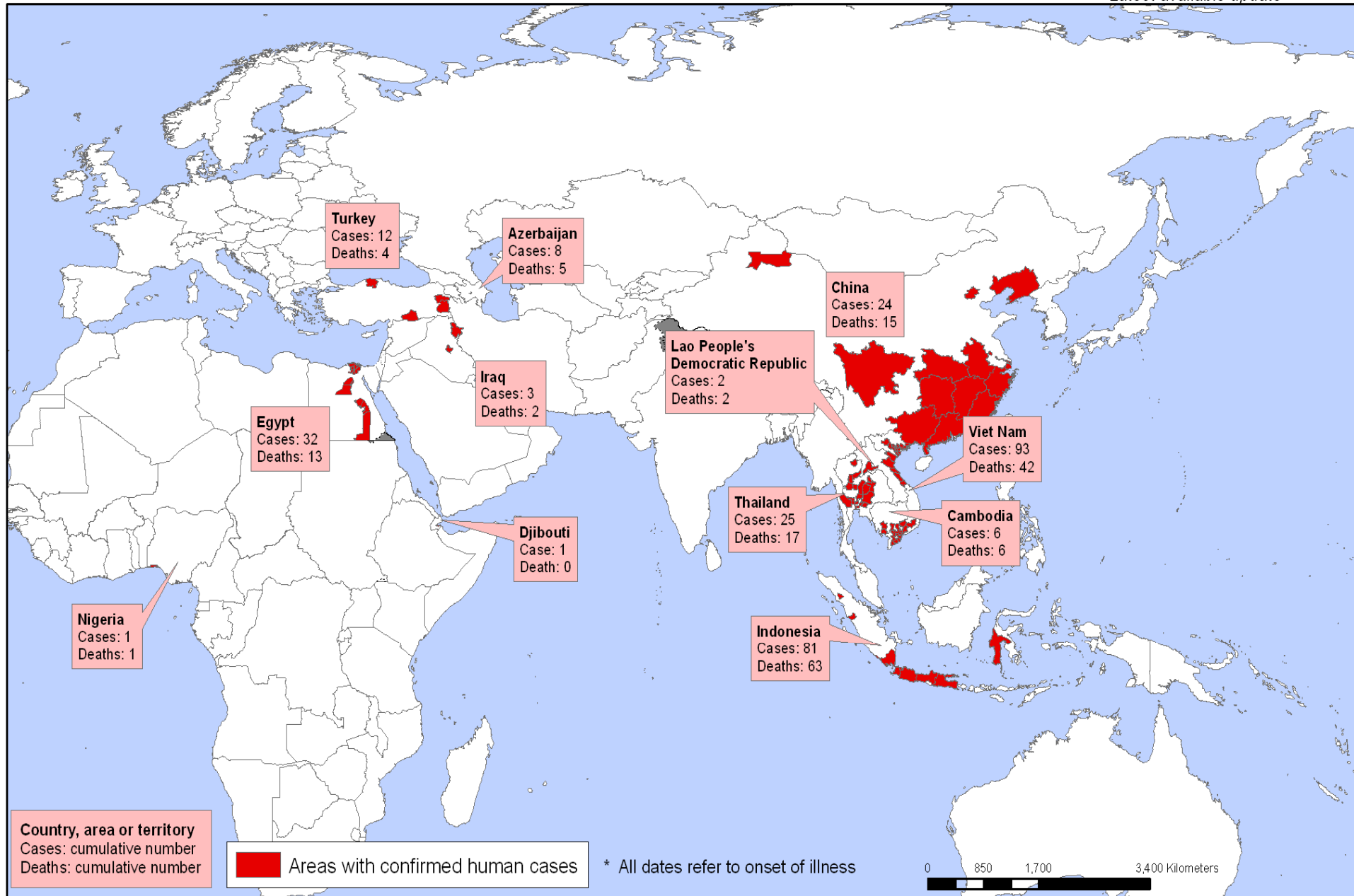
- **2003: H7N2 in New York:**
 - A patient checked into a New York hospital with respiratory problems, recovered a few weeks later.
- **2004: H5N2 in Texas:**
 - flock of 7,000 chickens in south-central Texas were infected, all were culled.
- **2004: H7N2 in Delaware, New Jersey, and Maryland:**
 - 2 chicken farms in Delaware and four live bird markets in New Jersey tested positive.
- **2007: Low pathogenic strain in West Virginia:**
 - Approximately 25,000 turkeys were depopulated and all poultry operations within a 6-mile radius of the affected farm will be closely monitored.

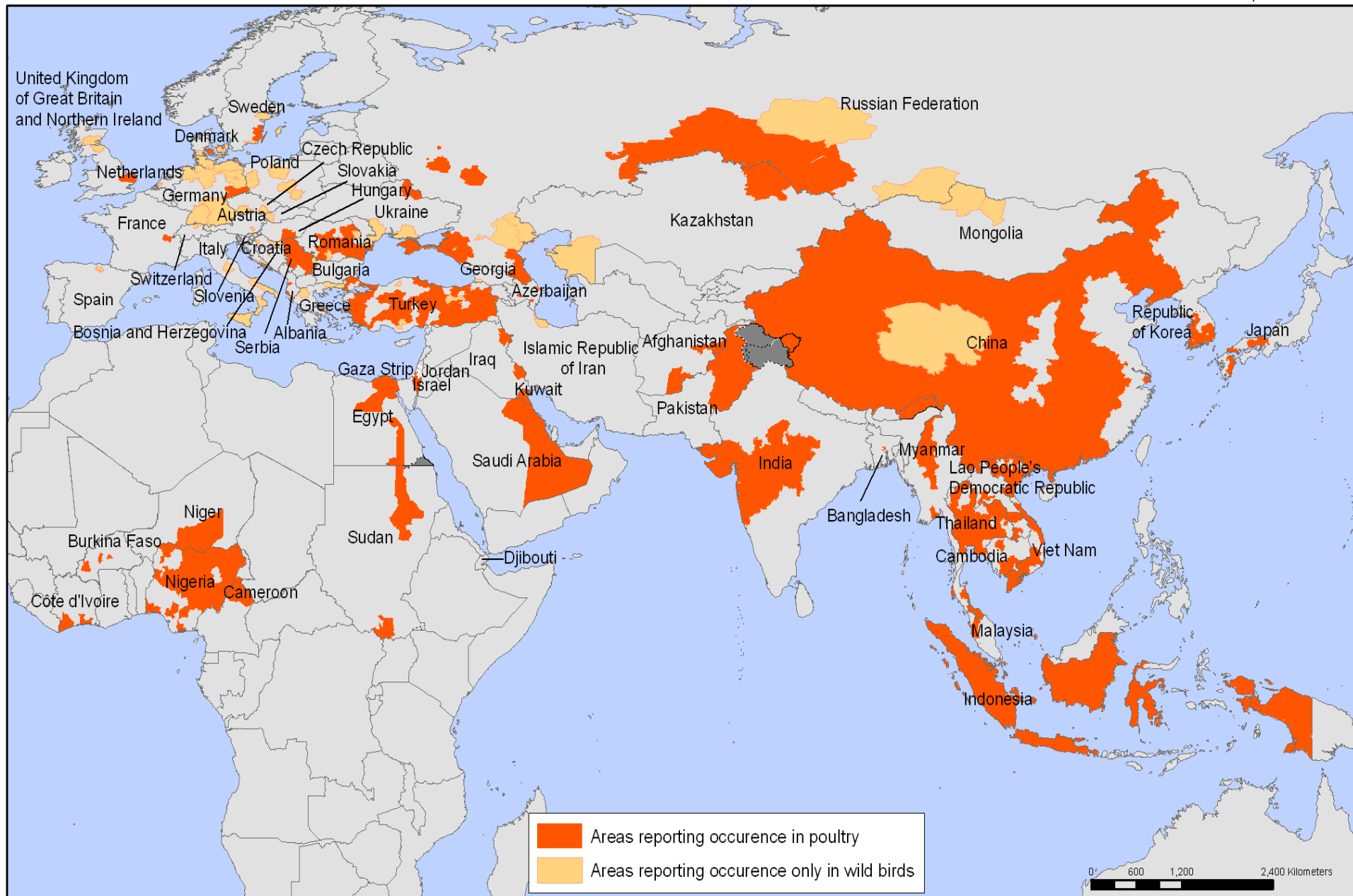
Global cases of H5N1 Avian Flu: the past four years

- Human cases since 2003
- Cases in wild birds and poultry since 2003

Areas with confirmed human cases of H5N1 avian influenza since 2003 *

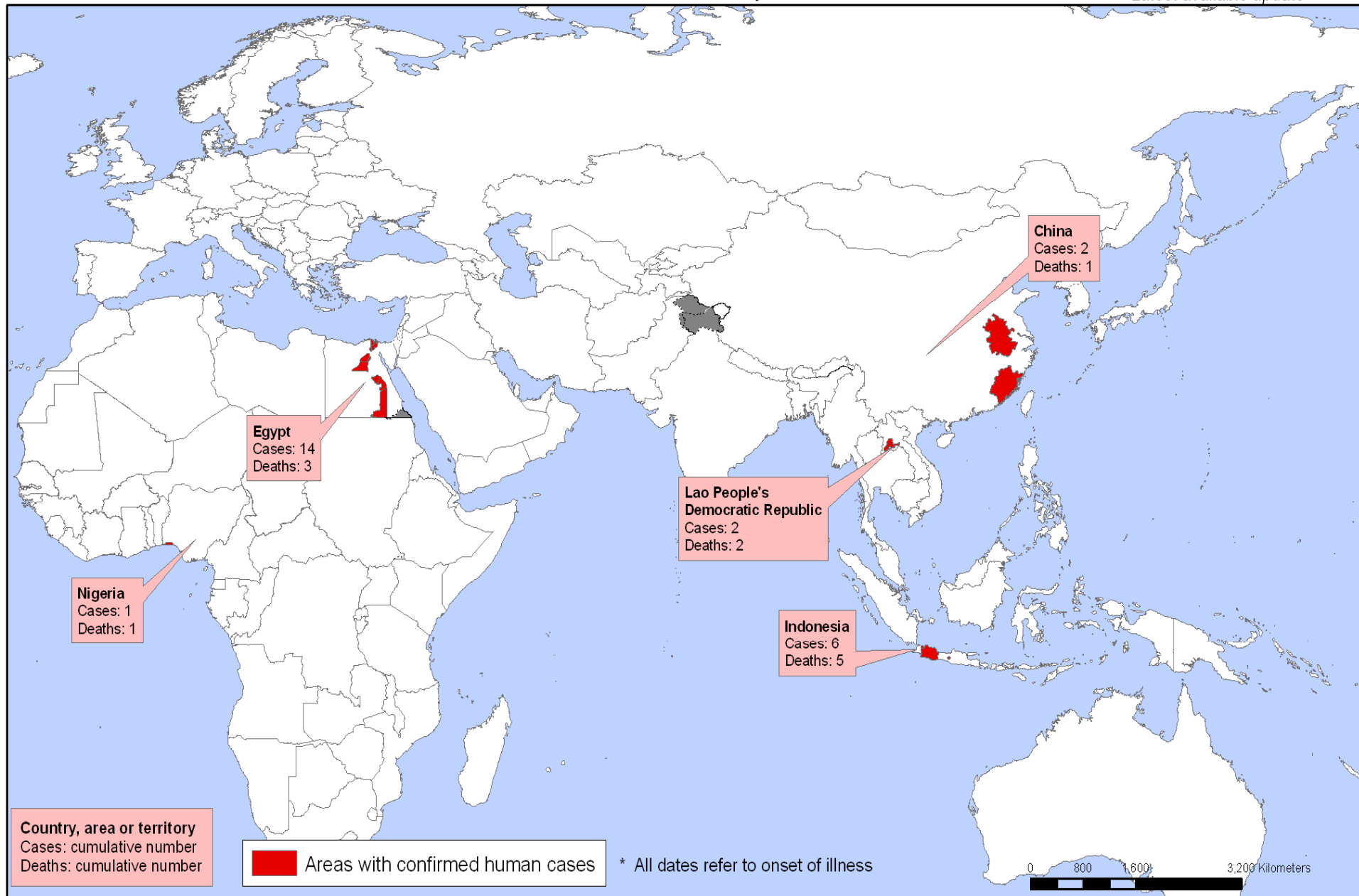
Status as of 02 April 2007
Latest available update

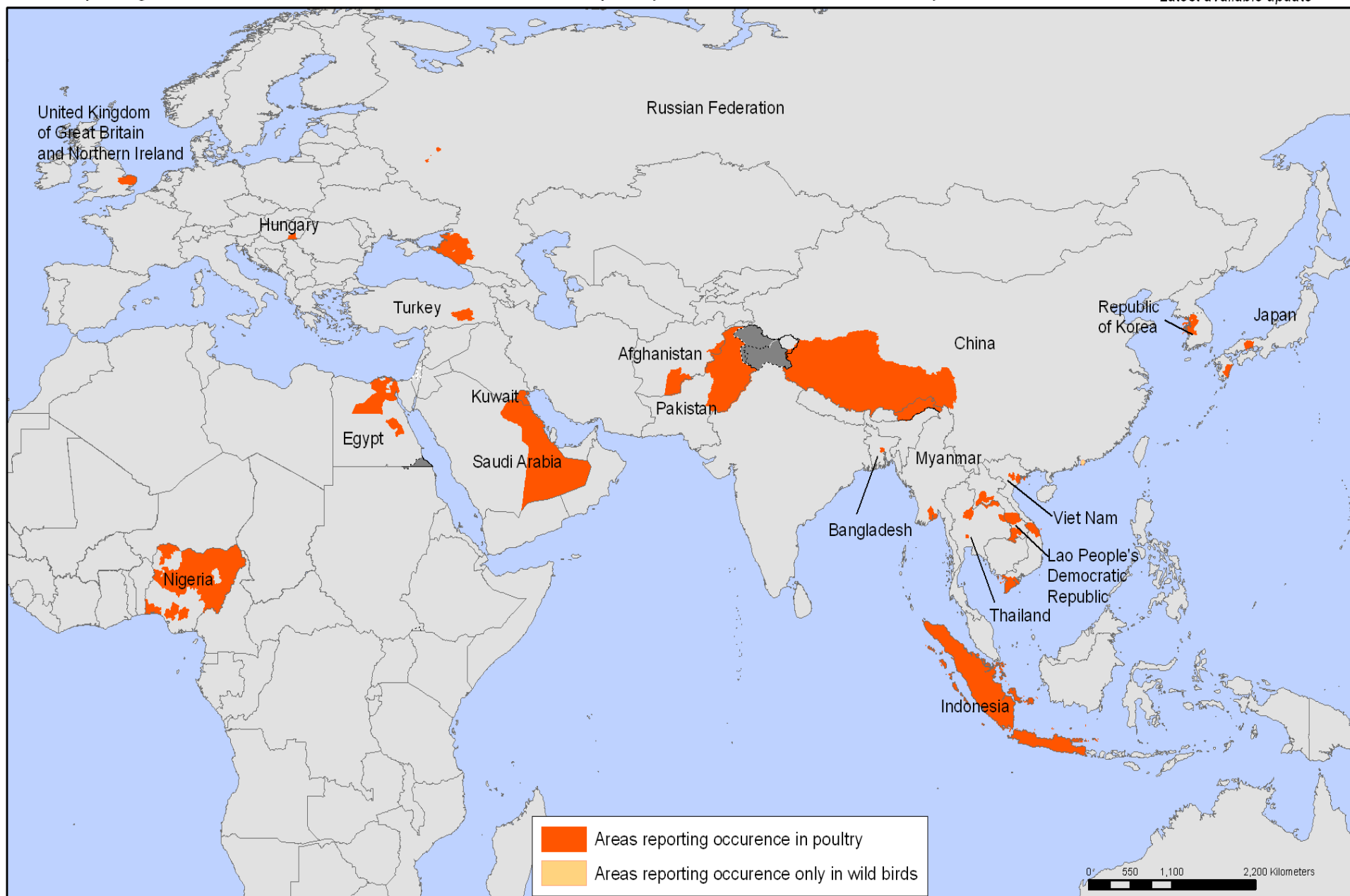




Global cases of H5N1 Avian Flu: Currently

- Human cases since January 1, 2007
- Cases in poultry and wild birds since January 1, 2007





The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted lines on maps represent approximate border lines for which there may not yet be full agreement.

Data Source: World Organisation for Animal Health (OIE) and national governments
Map Production: Public Health Mapping and GIS
Communicable Diseases (CDS) World Health Organization

Sources

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