

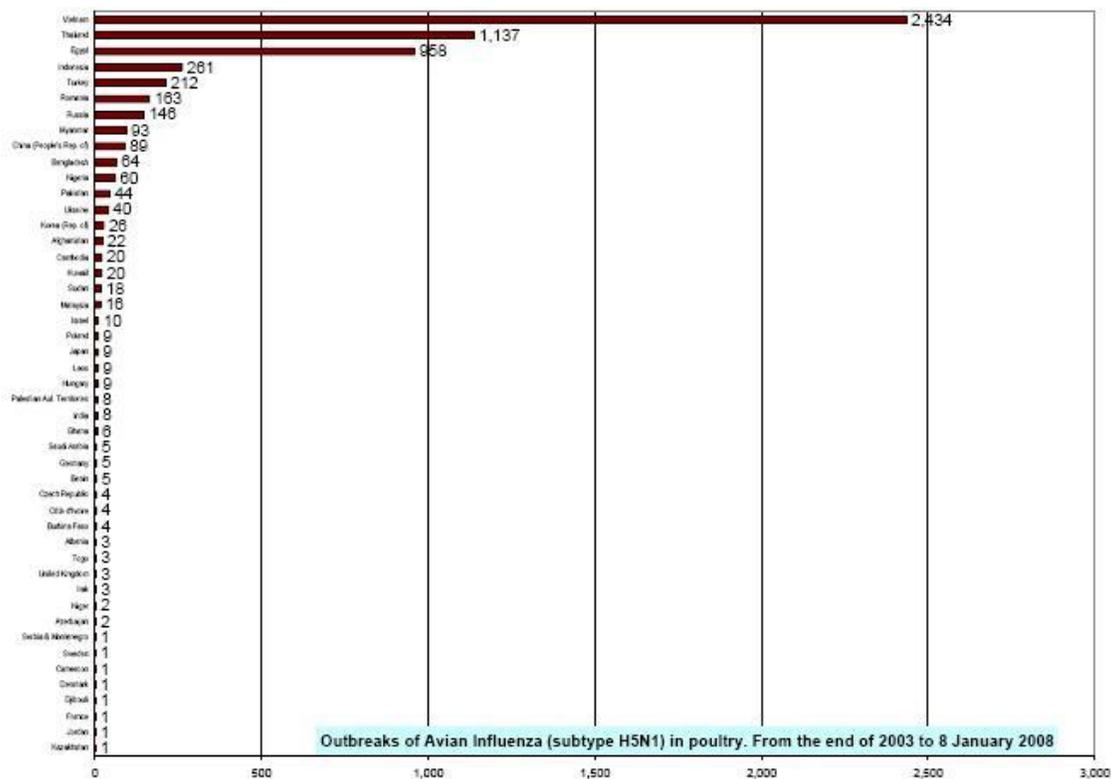
## Avian Influenza Outbreaks in Poultry & Other Animals



In December 2003 - February 2004, widespread outbreaks of highly pathogenic influenza A (H5N1) in poultry were reported in Cambodia, China, Taiwan, Hong Kong SAR, Malaysia, Indonesia, Japan, Laos, South Korea, Thailand, and Vietnam. The spread of a highly pathogenic form of avian influenza in poultry to so many countries in such a short period of time was unprecedented. Since those initial reports, avian influenza A (H5N1) outbreaks in both domestic poultry and wild birds, with associated human cases, continue to be reported in a growing number of countries. The likely vector of spread is migratory wild birds, which may harbor many strains of avian influenza and remain healthy-appearing. Over the summer of 2005 the influenza A (H5N1) virus was identified in wild birds in Mongolia. Last spring in 2005, the virus killed several thousand birds in the Qinghai Lake wildlife refuge in north-central China, which borders Mongolia on the south. This preceded the identification several months later of influenza A (H5N1) in domestic poultry in Siberian Russia and Kazakhstan. Since late 2005, avian influenza (H5N1) infection has continued to spread rapidly to other regions of the world. In October 2005, the World Organization for Animal Health (OIE) confirmed the presence of highly pathogenic avian influenza H5N1 in domestic poultry in several countries in Central and Eastern Europe, accompanied by reports of large poultry outbreaks and associated human cases in Turkey. In the first few months of 2006, avian influenza (H5N1) infection has been confirmed in both poultry and wild bird populations in Western Europe, the Middle East, Northern Africa, SubSaharan Africa, Pakistan and India. The situation in these recently affected countries varies greatly, ranging from widespread poultry outbreaks in some to detection of the virus in only a small number of wild birds in others. Accurate assessment of the extent of H5N1 outbreaks in many of these countries is hampered by limited resources and infrastructure to perform surveillance, including laboratory confirmation.

To date, more than 150 million domestic poultry have either died from the disease or have been culled (killed) in efforts to contain the outbreaks. While Japan and South Korea appear to have instituted effective control measures in their outbreaks, which were primarily limited to commercial poultry farms, outbreaks may recur at any time. The remaining areas are considered to have either active avian influenza A (H5N1) outbreaks or sporadic surveillance and control measures making them at high risk for avian influenza outbreaks. For an updated listing of countries with H5N1 poultry outbreaks, visit the [World Organization of Animal Health \(OIE\) webpage on Avian Influenza \(Type H5\) in Animals](#) and click on ?GRAPH? at the top of the page.

## Outbreaks of Highly Pathogenic Avian Influenza (type H5) - as of 01/08/08.



Besides domestic poultry (e.g. chickens, ducks, turkeys, geese and quail), influenza A (H5N1) has been confirmed in other animals including pigs and wild and domestic cats. Experimental infection of housecats in the Netherlands and isolation of H5N1 viruses from infected tigers and leopards in Thailand suggest that cats can both host and transmit the infection. The presence of the virus in pigs is of concern because pigs can be co-infected with both avian influenza and human influenza viruses and could serve as a "mixing vehicle." If a pig were infected with both viruses at the same time, the viruses could reassort and produce a new virus that might then be able to infect humans and spread from person to person, but it would have surface proteins (hemagglutinin and/or neuraminidase) not previously seen in influenza viruses that infect humans. More worrisome, ducks infected with H5N1 can shed virus for longer periods of time without showing any symptoms of illness. These findings have serious implications for the expanding role of ducks, wild birds, and other unrecognized animal vectors to transmit disease to human populations. It also highlights how difficult it is to completely eliminate H5N1 avian influenza virus in these wild animal populations, and the region as a whole.