

CRS Insights

Highly Pathogenic Avian Influenza: Ongoing Outbreak

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A major disease outbreak is affecting the U.S. poultry industry. As of May 15, 2015, the U.S. Department of Agriculture's (USDA) Animal and Plant Health Inspection Service (APHIS) reported [168 cases of highly pathogenic avian influenza \(HPAI\)](#) in 15 states, resulting in the infection of nearly 36.9 million turkeys, chickens (egg-laying hens), and other poultry (see [Table 1](#)). The vast majority of the outbreaks have been caused by HPAI strains known as the H5N2 and H5N8 strains, which are both virulent and deadly for domestic poultry. No commercial broiler operations have been infected. According to the [Center for Disease Control](#), no infections in humans have been associated with the ongoing HPAI outbreaks.

HPAI outbreaks in the United States previously occurred in 1924, 1983, and 2004. The current outbreak is the largest to date. The 1924 and 2004 outbreaks were small and quickly contained. The outbreak in 1983 resulted in 17 million birds being euthanized in the U.S. northeast. Outbreaks of low pathogenic avian influenza (LPAI) are more frequent, but result in minor illness in poultry. LPAI outbreaks are quickly contained and eradicated because some strains are potentially able to mutate into the more severe HPAI.

Table 1. HPAI Cases in the United States in 2014-2015

As of May 15, 2015

State	Cases	Species Infected	# of Infected Birds
Arkansas	1	turkey	40,020
California	2	chicken, turkey	247,300
Idaho	1	mixed poultry	30
Indiana	1	mixed poultry	N/A
Iowa	49	chicken, turkey, duck	26,606,500
Kansas	1	mixed poultry	10
Minnesota	81	turkey, chicken, mixed poultry	4,310,160
Missouri	3	turkey, mixed poultry	29,470
Montana	1	mixed poultry	40
Nebraska	2	chicken	3,300,000
North Dakota	2	turkey, mixed poultry	111,500
Oregon	2	mixed poultry	200
South Dakota	8	chicken, turkey	426,500
Washington	5	mixed poultry	6,710
Wisconsin	9	turkey, chicken, mixed poultry	1,833,633
Total	168		36,912,073

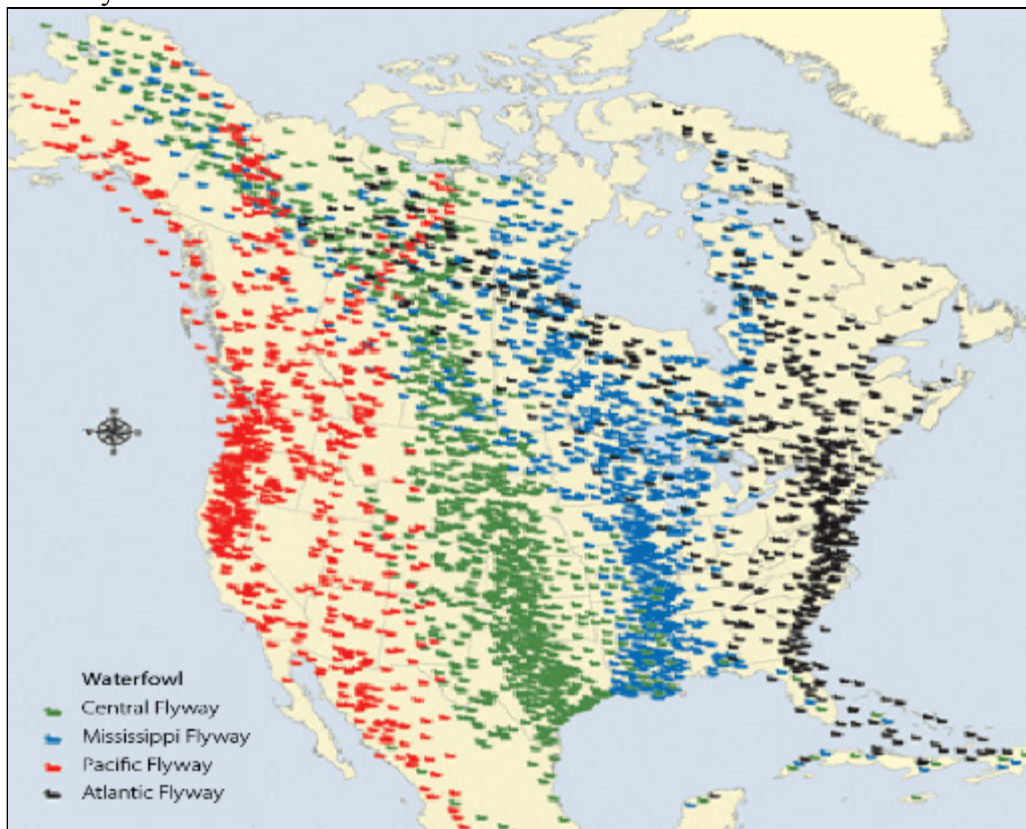
Source: USDA, APHIS. Data from December 2014 through May 15, 2015.

Notes: N/A is not available. Mixed poultry outbreaks are usually from backyard flocks. Chicken (egg-laying hens) and turkey outbreaks are on commercial operations.

The current HPAI outbreak was first discovered in December 2014 in the Pacific Northwest in backyard flocks and two California commercial turkey and chicken flocks. HPAI was transmitted by wild birds migrating through the Pacific flyway. HPAI continued to spread through the winter as wild birds migrated through the Central and Mississippi flyways (see [Figure 1](#)). The virus has continued to spread along the Mississippi and Central flyways, infecting flocks of egg-laying hens in Iowa and turkeys in Minnesota, with outbreaks in several other states. USDA expects [HPAI cases to decline as warmer weather](#) kills the virus, but HPAI could reemerge as migratory birds fly south in the winter.

Figure 1. North American Flyways for Waterfowl

Pathways for Avian Influenza



Source: U.S. Fish and Wildlife Service.

To help contain and eradicate diseases affecting U.S. livestock, the [Animal Health Protection Act](#) (7 U.S.C. §8301 et seq.) authorizes USDA to take extraordinary measures, such as seizing, restricting movement, or euthanizing animals. In general, USDA works with state animal health officials through [five steps to handle HPAI](#): (1) quarantine the outbreak area; (2) euthanize affected birds; (3) monitor the area through testing of wild and domestic birds; (4) disinfect the affected operations; and (5) test to confirm the area is AI-free and can be repopulated with birds.

Once laboratory tests indicate a [presumptive positive](#) for HPAI, USDA compensates producers for birds that must be euthanized, for the disposition of birds, and for infected materials that must also be destroyed. Producers are not compensated for birds that die prior to the confirmation of HPAI. Payment is based on the "fair market" value as determined by USDA appraisers.

The annual appropriation for APHIS avian health has been about \$52 million in recent years. However, in case of an animal health emergency, USDA has the [authority](#) to request additional funds as necessary, and the Office of Management and Budget (OMB) may make an apportionment to provide money to contain and eradicate an animal disease. The Senate and House Agriculture Committees, [in a letter to OMB](#), expressed concern about adequate funding and encouraged USDA to pursue whatever funding is necessary. To date, USDA has received additional funds for HPAI of nearly \$400 million from its [Commodity Credit Corporation](#).

The ongoing HPAI outbreaks are likely to impact domestic production and prices, as well as U.S. exports of poultry meat and eggs. So far, 8% of [U.S. egg-laying hen inventory](#) has been euthanized because of HPAI, and in Iowa, the largest egg-producing state, 44% of the laying flock has been culled. The turkey cull has been 5.9 million birds, mostly in Minnesota, equal to about 2% of U.S. [turkeys raised](#) in 2014, and equal to 9% of turkeys raised in Minnesota. On May 12, 2015, USDA reduced its [turkey meat and egg production projections](#) for 2015 because of HPAI. Reportedly, [prices have risen](#) for eggs and turkey. Preliminary estimates by livestock analysts of [losses due to HPAI in Minnesota and Iowa](#) have reached \$1 billion so far, accounting for turkey and egg losses, as well as the impacts on other industries, such as feed and trucking.

In 2014, the United States exported over 4 million metric tons of poultry meat, valued at \$5.5 billion, to global markets (see [Table 2](#)). Since the first outbreaks in December 2014, trading partners have imposed bans on the import of U.S. poultry products. China, Russia, and South Korea, 3 of the top 10 destinations for U.S. poultry in 2014, have banned all imports of U.S. poultry. Most other markets have imposed regional bans, i.e., bans on shipments from states or parts of states experiencing outbreaks. Based on World Organization for Animal Health (OIE) [avian influenza guidelines](#), regional, or compartmental, bans are acceptable for handling concerns with disease and effects on trade.

Table 2. Top 10 Poultry Meat Export Markets in 2014

	\$ million	Current Bans on U.S. Poultry due to HPAI
Mexico	1,282	Regional
Canada	589	Regional
Hong Kong	521	Regional
China	315	Total
Angola	264	*
Russia	150	Total
Cuba	148	Regional
Taiwan	143	Regional
South Korea	113	Total
Guatemala	104	Regional
Top 10 Total	3,630	
All Poultry Meat Exports	5,500	

Sources: Foreign Agricultural Service, USDA, Global Agricultural Trade System Online. Ban information is from the Export Library, Food Safety and Inspection Service, USDA. *Information on Angola is not included in the Export Library.

<http://www.fsis.usda.gov/wps/portal/fsis/topics/international-affairs/exporting-products/export-library-requirements-by-country>.