



**STATE OF TENNESSEE  
DEPARTMENT OF HEALTH  
CORDELL HULL BUILDING  
425 5<sup>TH</sup> AVENUE NORTH  
NASHVILLE, TENNESSEE, 37247**

The following information is intended to help answer general questions about avian influenza (“bird flu”) and birds. A chart has been prepared in collaboration with the United States Department of Agriculture-Wildlife Services and Veterinary Services offices, Tennessee Department of Agriculture, Tennessee Wildlife Resources Agency, and United States Fish and Wildlife Services office to guide various agencies when answering public inquiries about dead birds (Figure). Information about pandemic influenza and pandemic preparedness is available in a separate document.

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**1. What is avian influenza or “bird flu”?**

Avian influenza or “bird flu” refers to contagious viral diseases that primarily infect birds. Although avian influenza viruses usually infect birds, they can sometimes infect humans having very close contact with infected poultry. “Bird flu” is a term being used to refer to the current H5N1 avian influenza.

**2. Is avian influenza the same as pandemic influenza?**

No. Avian influenza is normally a disease of domestic poultry; occasionally humans having close contact with chickens or ducks have been infected. Pandemic influenza is a term used to describe a new kind of human influenza virus that causes illness in many people around the world and is

easily transmitted from person to person. Pandemic influenza viruses can develop from avian influenza viruses; however, currently no pandemic influenza virus exists.

### **3. Which viruses cause avian influenza?**

Avian influenza is caused by influenza A viruses. Influenza A viruses have 16 H subtypes and 9 N subtypes. Some viruses of the H5 and H7 subtypes are known to cause more severe disease in poultry. Since mid-2003, a H5N1 influenza virus has circulated widely in birds in Southeast Asia and has now spread across Asia into Europe and Africa.

### **4. What is special about the current outbreaks in poultry?**

The current outbreaks of H5N1 avian influenza in poultry are the largest we have documented. The disease has affected several countries simultaneously, resulting in the death or destruction of many birds. Control of the disease in poultry is expected to take several years.

### **5. Which countries have been affected by outbreaks in poultry?**

From mid-December 2003 through early February 2004, poultry outbreaks caused by the H5N1 virus were reported in eight Asian nations (listed in order of reporting): the Republic of Korea, Viet Nam, Japan, Thailand, Cambodia, Lao People's Democratic Republic, Indonesia, and China.

In early August 2004, Malaysia reported its first outbreak of H5N1 in poultry. Russia reported its first H5N1 outbreak in poultry in late July 2005, followed by reports of disease in adjacent parts of Kazakhstan in early August. Mongolia reported the detection of H5N1 in dead migratory birds. Since October 2005, H5N1 has been confirmed in poultry multiple European and African countries.

### **6. Is the virus in the United States?**

The virus is not in the United States.

### **7. What are the implications for human health?**

The widespread persistence of H5N1 in poultry populations poses two main risks for human health. The first is the risk of direct infection when the virus passes from poultry to humans, resulting in very severe disease. Unlike normal seasonal influenza, where infection causes only mild respiratory symptoms in most people, the disease caused by H5N1 appears to be more severe. A second risk is if the virus changes into a form that can be transmitted from person to person. Such a change might result in large numbers of human influenza cases (an epidemic or pandemic).

### **8. Where have human cases occurred?**

In the current outbreak, as of May 12, 2006, laboratory-confirmed human cases have been reported in the following countries: Cambodia, China, Indonesia, Thailand, Vietnam, Azerbaijan, Turkey, Iraq, Djibouti and Egypt.

### **9. How do people become infected?**

Direct contact with infected poultry or surfaces and objects contaminated by poultry feces is presently considered the main route of human infection. Most human cases have occurred in rural areas where many households keep small poultry flocks. Because infected birds shed virus in their saliva, respiratory (nasal and oral) secretions, and feces, opportunities for exposure to infected droppings or to environments contaminated by the virus are abundant under such conditions.

Because many households in Asia depend on poultry for income and food, many families sell or slaughter and consume birds when signs of illness appear in a flock. This practice has proved difficult to change. Exposure is considered most likely during slaughter, defeathering, butchering, and preparation of poultry for cooking.

#### **10. Does the virus spread easily from birds to humans?**

The virus does not spread easily from infected birds to humans. In many areas where H5N1 poultry outbreaks have occurred, people live in close contact with poultry. Relatively few human cases have been confirmed. It is not presently understood why some people, and not others, become infected following similar exposures to infected poultry.

#### **11. What are the signs of “bird flu” in domestic poultry (e.g. turkeys and chickens)?**

There are two forms of illness:

The mild form causes signs (low pathogenic avian influenza or **LPAI**) such as sneezing and coughing, ruffled feathers, and a drop in egg production. These signs might go undetected.

The severe form (highly pathogenic avian influenza or **HPAI**) spreads rapidly through poultry flocks causing sudden death of poultry. This form can kill almost 100% of birds in an infected flock. Signs of the severe form may include depression, weakness, loss of appetite, a drop in egg production, soft-shelled or misshapen eggs, nervous signs, swelling and blue discoloration of combs and wattles due to poor circulation, coughing, sneezing, nasal discharge, and diarrhea.

#### **12. What should poultry producers and bird owners do if their birds appear to have signs of “bird flu” (sudden death or illness in a large number of birds)?**

If domestic poultry or other birds exhibit signs of avian influenza, producers should consult veterinary professionals and notify Federal or State animal health officials as they normally would. In Tennessee, producers and bird owners should contact the **Tennessee Department of Agriculture (615-837-5125)**.

#### **13. What are the signs of “bird flu” in wild birds?**

Wild birds, especially migratory waterfowl (geese, ducks) and shore birds generally do not become ill as a result of infection with avian influenza. Some reports from Asia indicate that the H5N1 virus has caused illness and death in wild birds.

#### **14. What should be done with dead wild birds that are found? (See Figure)**

Between May 1 and October 31 each year, dead crows or blue jays may be reported to county health departments for West Nile Virus surveillance and testing.

As part of a national surveillance program for “Bird flu”, individual dead song birds without a known cause of death can be reported to **USDA-Wildlife Services (1-866-4USDAWS)**. If the cause of death is obvious (eg flew into window, killed by an animal, trauma, hit by car etc), simply dispose of the bird; there is no need to report it. Use disposable plastic gloves or a bag to pick up the dead bird, place the bird in a bag, seal the bag, and place it in the outdoor trash. Wash your hands immediately afterwards.

**USDA- Wildlife Services (1-866-4USDAWS)** is also receiving reports regarding any dead shorebirds, waterfowl, and groups (more than four) of dead songbirds as part of a national surveillance system for “Bird flu”.

### **15. Do migratory birds spread highly pathogenic avian influenza viruses like H5N1?**

Migratory wild waterfowl are known to be a natural reservoir of influenza A viruses. Although migratory birds are capable of spreading influenza viruses including H5N1, the role of bird migration is not well understood.

### **16. Are persons, like duck hunters, at risk in handling migratory waterfowl?**

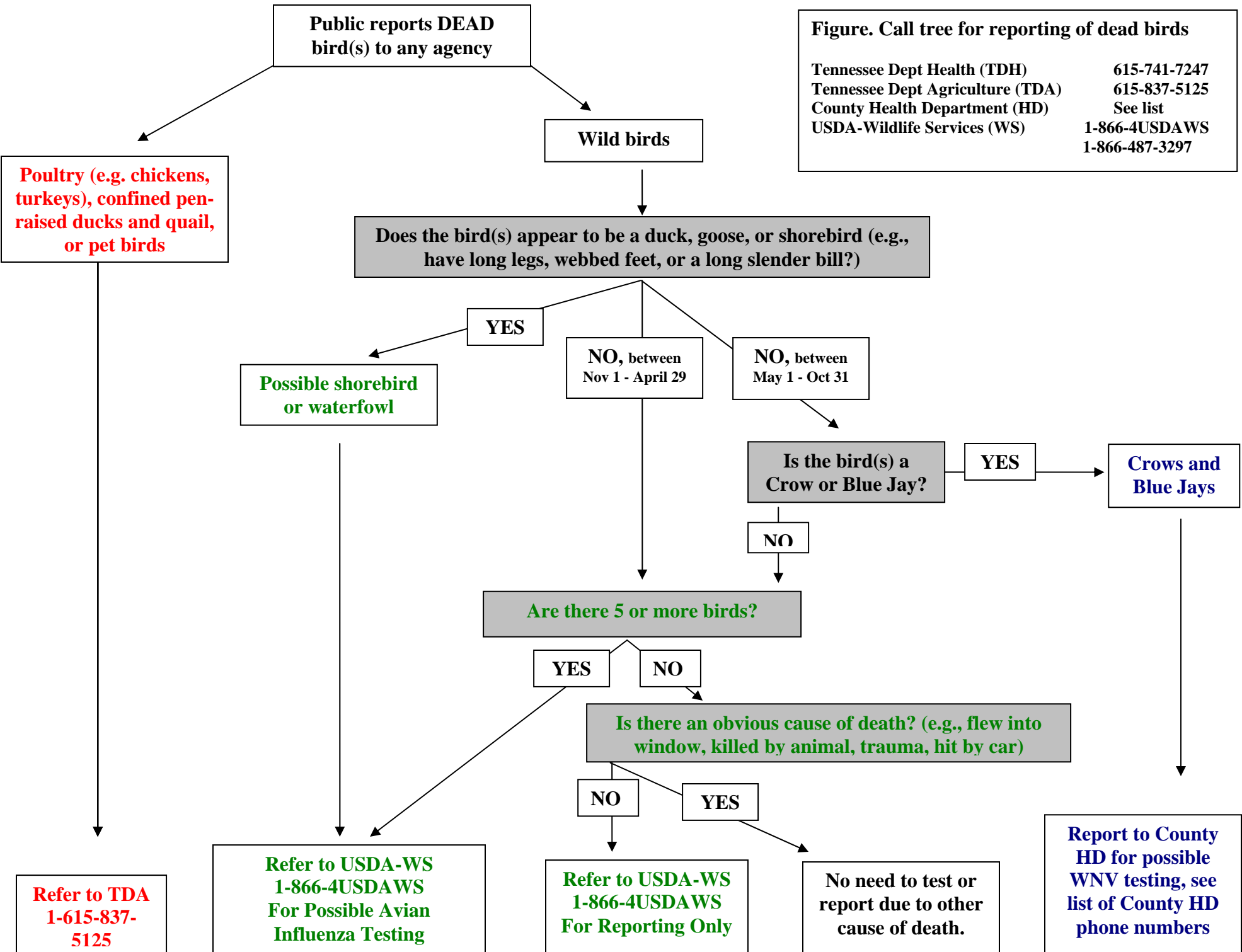
Transmission from wild birds to humans has not been documented and there is no indication that North American waterfowl are infected with H5N1 avian influenza. Waterfowl hunters should follow normal precautions. For example, do not handle or eat sick game. Wear rubber or disposable latex gloves while handling and cleaning game and thoroughly wash hands and all knives, equipment and surfaces that come in contact with game. Use appropriate hygiene and cook meat as a normal preventive measure against foodborne illness.

### **17. Is it safe to eat poultry and poultry products?**

Avian influenza is not transmitted through properly cooked food. To date, no evidence indicates transmission following the consumption of properly cooked poultry or poultry products.

### **Additional Resources:**

U.S. Department of Health & Human Services	<a href="http://www.pandemicflu.gov/">http://www.pandemicflu.gov/</a>
World Health Organization	<a href="http://www.who.int/en/">http://www.who.int/en/</a>
Southeastern Wildlife Disease Study	<a href="http://www.uga.edu/scwds/index2.htm">http://www.uga.edu/scwds/index2.htm</a>
U.S. Geological Survey	<a href="http://www.nwhc.usgs.gov">http://www.nwhc.usgs.gov</a>
Centers for Disease Control and Prevention	<a href="http://www.cdc.gov/flu/avian">http://www.cdc.gov/flu/avian</a>
U.S. Department of Agriculture	<a href="http://www.usda.gov/wps/portal/usdahome">http://www.usda.gov/wps/portal/usdahome</a>
U.S. Poultry and Egg Association	<a href="http://www.poultryegg.org/AvianInf/avian.html">http://www.poultryegg.org/AvianInf/avian.html</a>



**Figure. Call tree for reporting of dead birds**

Tennessee Dept Health (TDH)	615-741-7247
Tennessee Dept Agriculture (TDA)	615-837-5125
County Health Department (HD)	See list
USDA-Wildlife Services (WS)	1-866-4USDAWS
	1-866-487-3297

Tennessee County Health Departments for forwarding calls regarding testing of Crows and Blue Jays for West Nile Virus only:

COUNTY	PHONE	COUNTY	PHONE
Anderson County	(865) 425-8000	Lauderdale County	(731) 635-9711
Bedford County	(931) 684-3426	Lawrence County	(931) 762-9406
Benton County	(731) 584-4944	Lewis County	(931) 796-2204
Bledsoe County	(423) 447-2149	Lincoln County	(931) 433-3231
Blount County	(865 ) 983-4582	Loudon County	(865) 458-2662 (865) 458-2514
Bradley County	(423) 728-7020	Macon County	(615) 666-2142
Campbell County	(423) 562-8351	Madison County	(731) 423-3020
Cannon County	(615) 563-4243	Marion County	(423) 942-2238
Cannon County	(615) 563-4243	Marshall County	(931) 359-1551
Carroll County	(731) 986-1990	Maury County	(931) 388-5757
Carter County	(423) 543-2521	McMinn County	(423) 745-7431
Cheatham County	(615) 792-4318	McNairy County	(731) 645-3474
Chester County	(731) 989-7108	Meigs County	(423) 334-5185
Claiborne County	(423) 626-4291	Monroe County	(423) 442-3993
Clay County	(931) 243-2651	Montgomery County	(931) 648-5747
Cocke County	(423) 623-8733	Montgomery County	(931) 551-8777
Coffee County	(931) 723-5134	Moore County	(931) 759-4251
Coffee County	(931) 455-9369	Morgan County	(423) 346-6272
Crockett County	(731) 696-2505	Obion County	(731) 885-8722
Cumberland County	(931) 484-6196	Overton County	(931) 823-6260
Davidson County	(615) 340-5622	Perry County	(931) 589-2138
Decatur County	(731) 852-2461	Pickett County	(931) 864-3178
DeKalb County	(615) 597-7599	Polk County	(423) 496-3275
Dickson County	(615) 446-2839	Polk County	(423) 338-4533
Dyer County	(731) 285-7311	Putnam County	(931) 528-2531
Fayette County	(901) 465-5243	Rhea County	(423) 775-7819
Fentress County	(931) 879-9936	Roane County	(865) 354-1220
Franklin County	(931) 967-3826	Robertson County	(615) 384-0208
Gibson County	(731) 855-7601	Rutherford County	(615) 898-7785
Gibson County	(731) 686-9240	Rutherford County	(615) 355-6175
Gibson County	(731) 784-5491	Scott County	(423) 663-2445
Giles County	(931) 363-5506	Sequatchie County	(423) 949-3619
Grainger County	(865) 828-5247	Sevier County	(865) 453-1032 (865) 637-6853
Greene County	(423) 798-1749	Shelby County	(901) 544-7583
Grundy County	(931) 692-3641	Smith County	(615) 735-0242
Hamblen County	(423) 586-6431	Stewart County	(931) 232-5329
Hamilton County	(423) 209-8000	Sullivan County	(423) 279-2776
Hancock County	(423) 733-2228	Sullivan County	(423) 224-1600
Hardeman County	(731) 658-5291	Sumner County	(615) 206-1100
Hardin County	(731) 925-2557	Sumner County	(615) 824-0552
Hawkins County, CH	(423) 357-5341	Tipton County	(901) 476-0235
Hawkins County, Rogs	(423) 272-7641	Trousdale County	(615) 374-2112
Haywood County	(731) 772-0463	Unicoi County	(423) 743-9103
Henderson County	(731) 968-8148	Union County	(865) 992-3867
Henry County	(731) 642-4025	Van Buren County	(931) 946-2438
Hickman County	(931) 729-3516	Warren County	(931) 473-8468
Houston County	(931) 289-3463	Washington County	(423) 975-2200
Humphreys County	(931) 296-2231	Wayne County	(931) 722-3292
Jackson County	(931) 268-0218	Weakley County	(731) 364-2210
Jefferson County	(865) 397-3930	White County	(931) 836-2201
Johnson County	(423) 727-9731	Williamson County	(615) 794-1542
Knox County	(865) 215-5300	Williamson Co(Fairview)	(615) 799-2389
Lake County	(731) 253-9954	Wilson County	(615) 444-5325