



**LOW PATHOGENIC "NORTH AMERICAN" H5N1 AVIAN INFLUENZA STRAIN IN WILD BIRDS  
PRESUMPTIVE AND CONFIRMED TEST RESULTS**



DATE SAMPLE COLLECTED	COUNTY, STATE	WILD BIRD SPECIES SAMPLED	SAMPLE STRATEGY <sup>1</sup>	COLLECTING ENTITY	NATIONAL VETERINARY SERVICES LABORATORIES PRESUMPTIVE POSITIVE TEST RESULTS			NATIONAL VERERINARY SERVICES LABORATORIES CONFIRMATION TEST RESULTS	
					POSITIVE <sup>2</sup> H5	POSITIVE N1	INITIAL GENETIC SEQUENCING <sup>3</sup>	VIRUS ISOLATION <sup>4</sup>	PATHOGENICITY <sup>5</sup>
12/29/08	Goshen County, WY	Canada goose	Hunter killed	USDA	Yes	Yes	Not related to HPAI H5N1; Suspected LPAI	Testing underway	Testing underway
12/11/08	Barton County, KS	Mallard	Hunter killed	Kansas Dept. of Wildlife & Parks	Yes	Yes	Not related to HPAI H5N1; Suspected LPAI	H6N1	Not applicable
11/21/08	Wabasha County, MN	Mallard	Hunter killed	MN Dept of Natural Resources	Yes	Yes	Not related to HPAI H5N1; Suspected LPAI	Testing underway	Testing underway
11/12/08	Clark County, WA	Northern Shoveler	Hunter killed	USDA	Yes	Yes	Not related to HPAI H5N1; Suspected LPAI	Testing underway	Testing underway
11/6/08	Columbia County, OR	American Wigeon	Hunter killed	USDA	Yes	Yes	Not related to HPAI H5N1; Suspected LPAI	Testing underway	Testing underway
11/4/08	Stoddard County, MO	Northern pintail	Hunter killed	MO Dept. of Conservation	Yes	Yes	No readable sequence; suspected LPAI	Testing underway	Testing underway
11/3/08	Saline County, MO	Mallard	Hunter killed	USFWS	Yes	Yes	Not related to HPAI H5N1; Suspected LPAI	H6N2	Not applicable
11/1/08	Butte County, CA	Northern pintail	Hunter killed	CA Dept. of Fish and Game	Yes	Yes	Not related to HPAI H5N1; Suspected LPAI	No virus isolated	Not applicable
10/26/08	Mason County, IL	Northern pintail	Hunter killed	IL Dept of Natural Resources/USDA	Yes	Yes	Not related to HPAI H5N1; Suspected LPAI	Testing underway	Testing underway
10/26/08	Saint Clair County, MI	Northern Northern pintail	Hunter killed	MI Dept of Natural Resources	Yes	Yes	Not related to HPAI H5N1; Suspected LPAI	Testing underway	Testing underway
10/25/08	Grundy County, IL	Mallard	Hunter killed	USDA	Yes	Yes	Not related to HPAI H5N1; Suspected LPAI	Testing underway	Testing underway
10/19/08	Carroll County, IL	American Green-winged teal	Hunter killed	USDA	Yes	Yes	No readable sequence; suspected LPAI	Testing underway	Testing underway
9/29/08	Saginaw County, MI	Mallard	Live birds	USFWS	Yes	Yes	Not related to HPAI H5N1; Suspected LPAI	No virus isolated	Not applicable
9/20/08	Butler County, IA	Mallard	Hunter killed	USDA	Yes	Yes	Not related to HPAI H5N1; Suspected LPAI	H5N1	LPAI
9/18/08	Monmouth County, NJ	Mallard	Live birds	New Jersey Division of Fish and Wildlife/USDA	Yes	Yes	Not related to HPAI H5N1; Suspected LPAI	No virus isolated	Not applicable

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9/18/08	Brown County, SD	Northern pintail	Live birds	USDA	Yes	Yes	Not related to HPAI H5N1; Suspected LPAI	No AI virus isolated	Not applicable
9/5/08	Crawford County, PA	Mallard	Live birds	PA Game Commission	Yes	Yes	Not related to HPAI H5N1; Suspected LPAI	No virus isolated	Not applicable
9/5/08	Marquette County, WI	Mallard	Live birds	WI DNR	Yes	Yes	Not related to HPAI H5N1; Suspected LPAI	Testing underway	Testing underway
8/25/08	Erie County, PA	Mallard	Live birds	PA Game Commission	Yes	Yes	Not related to HPAI H5N1; Suspected LPAI	No virus isolated	Not applicable
8/25/08	Crawford County, PA	Mallard (#1)	Live birds	PA Game Commission	Yes	Yes	Not related to HPAI H5N1; Suspected LPAI	H3N1	Not applicable
8/25/08	Crawford County, PA	Mallard (#2)	Live birds	PA Game Commission	Yes	Yes	Not related to HPAI H5N1; Suspected LPAI	H3N2	Not applicable
8/18/08	Marathon County, WI	Mallard (#1)	Live birds	Wisconsin DNR	Yes	Yes	Not related to HPAI H5N1; Suspected LPAI	H6N1	Not applicable
8/18/08	Marathon County, WI	Mallard (#2)	Live birds	Wisconsin DNR	Yes	Yes	Not related to HPAI H5N1; Suspected LPAI	No AI virus isolated	Not applicable
1/29/08	Jefferson County, AR	Unknown	Environmental	USDA	Yes	Yes	Not related to HPAI H5N1; Suspected LPAI	H2N9	Not applicable
11/20/07	Kent County, DE	American black duck	Hunter killed	DE Dept. of Natural Resources and Environmental Control	Yes	Yes	Not related to HPAI H5N1; Suspected LPAI	No AI virus isolated	Not applicable
11/20/07	Socorro County, NM	Northern pintail duck	Live birds	NM Dept. of Fish and Game	Yes	Yes	Not related to HPAI H5N1; Suspected LPAI	No virus isolated	Not applicable
11/19/07	Kent County, DE	Mallard (#1)	Hunter killed	DE Dept. of Natural Resources and Environmental Control	Yes	Yes	Not related to HPAI H5N1; Suspected LPAI	H1N1	Not applicable
11/19/07	Kent County, DE	Mallard (#2)	Hunter killed	DE Dept. of Natural Resources and Environmental Control	Yes	Yes	Not related to HPAI H5N1; Suspected LPAI	No AI virus isolated	Not applicable
11/16/07	Ottawa County, OH	Mallard	Hunter killed	Ohio Division of Wildlife	Yes	Yes	Not related to HPAI H5N1; Suspected LPAI	No virus isolated	Not applicable
11/11/07	Davis County, UT	Northern pintail duck	Hunter killed	Utah Division of Wildlife Resources	Yes	Yes	Not related to HPAI H5N1; Suspected LPAI	No virus isolated	Not applicable
11/4/07	Tuscola County, MI	American black duck	Hunter killed	MI Dept of Natural Resources	Yes	Yes	Not related to HPAI H5N1; Suspected LPAI	N1 virus isolated; H-type unidentifiable	Not applicable
10/31/07	Saint Clair County, MI	American black duck	Hunter killed	MI Dept of Natural Resources	Yes	Yes	Not related to HPAI H5N1; Suspected LPAI	H5N1	LPAI
10/30/07	Bay County, MI	Mallard	Hunter killed	MI Dept of Natural Resources	Yes	Yes	Not related to HPAI H5N1; Suspected LPAI	N1 virus isolated; H-type unidentifiable (H5 negative)	Not applicable

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10/29/07	Erie County, PA	Mallard	Hunter killed	USDA	Yes	Yes	Not related to HPAI H5N1; Suspected LPAI	H3N2	Not applicable
10/29/07	Divide County, ND	Lesser snow goose	Hunter killed	USDA	Yes	Yes	Not related to HPAI H5N1; Suspected LPAI	No virus isolated	Not applicable
10/13/07	Middlesex County, NJ	Green-winged teal	Hunter killed	New Jersey Division of Fish and Wildlife/USDA	Yes	Yes	Not related to HPAI H5N1; Suspected LPAI	No virus isolated	Not applicable
9/29/07	Cascade County, MT	Mallard	Hunter killed	Montana Fish, Wildlife & Parks/USDA	Yes	Yes	Not related to HPAI H5N1; Suspected LPAI	H5N1	LPAI
9/27/07	Genesee County, NY	Mallard	Live birds	New York State Department of Environmental Conservation/USDA	Yes	Yes	Not related to HPAI H5N1; Suspected LPAI	N1 virus isolated; H-type unidentifiable (H5 negative)	Not applicable
8/27/07	Addison County, VT	Mallard (#1)	Live birds	USDA	Yes	Yes	Not related to HPAI H5N1; Suspected LPAI	No virus isolated	Not applicable
8/27/07	Addison County, VT	Mallard (#2)	Live birds	USDA	Yes	Yes	Not related to HPAI H5N1; Suspected LPAI	No virus isolated	Not applicable
8/27/07	Addison County, VT	Mallard (#3)	Live birds	USDA	Yes	Yes	Not related to HPAI H5N1; Suspected LPAI	No virus isolated	Not applicable
8/27/07	Addison County, VT	Mallard (#4)	Live birds	USDA	Yes	Yes	Not related to HPAI H5N1; Suspected LPAI	No virus isolated	Not applicable
8/27/07	Addison County, VT	Mallard (#5)	Live birds	USDA	Yes	Yes	Not related to HPAI H5N1; Suspected LPAI	No virus isolated	Not applicable
6/18/07	Kent County, MD	Mallard	Live birds	USDA/Avian Influenza Coordinated Agricultural Project (AICAP)	Yes	Yes	Not related to HPAI H5N1; Suspected LPAI	H5N1	LPAI
5/22/07	Kent County, DE	Ruddy turnstone	Live birds	USDA/DE Department of Natural Resources and Environmental Control	Yes	Yes	Not related to HPAI H5N1; Suspected LPAI	No virus isolated	Not applicable
5/21/07	Cape May County, NJ	Ruddy turnstone	Live birds	Southeastern Cooperative Wildlife Disease Study	Yes	Yes	Not related to HPAI H5N1; Suspected LPAI	H5N1	LPAI
5/16/07	Sussex County, DE	Ruddy turnstone (#1)	Live birds	USDA/DE Department of Natural Resources and Environmental Control	Yes	Yes	Not related to HPAI H5N1; Suspected LPAI	No virus isolated	Not applicable
5/16/07	Sussex County, DE	Ruddy turnstone (#2)	Live birds	USDA/DE Department of Natural Resources and Environmental Control	Yes	Yes	Not related to HPAI H5N1; Suspected LPAI	No virus isolated	Not applicable
5/16/07	Sussex County, DE	Ruddy turnstone (#3)	Live birds	USDA/DE Department of Natural Resources and Environmental Control	Yes	Yes	Not related to HPAI H5N1; Suspected LPAI	No virus isolated	Not applicable
5/11/07	Kent County, DE	Ruddy turnstone	Live birds	USDA/DE Department of Natural Resources and Environmental Control	Yes	Yes	Not related to HPAI H5N1; Suspected LPAI	No virus isolated	Not applicable
5/10/07	Cape May County, NJ	Ruddy Turnstone	Live birds	Southeastern Cooperative Wildlife Disease Study	Yes	Yes	Not related to HPAI H5N1; Suspected LPAI	H5N1	LPAI

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12/19/06	Hyde County, NC	American black duck	Live birds	Southeastern Cooperative Wildlife Disease Study	Yes	Yes	Not related to HPAI H5N1; Suspected LPAI	H4N1	Not applicable
11/4/06	Stoddard County, MO	Northern Shoveler	Hunter killed	Missouri Conservation Department	Yes	Yes	Not related to HPAI H5N1; Suspected LPAI	H1N1	Not applicable
11/4/06	Stanley County, SD	Northern Shoveler	Hunter killed	South Dakota Department of Game, Fish and Parks/USDA	Yes	Yes	Not related to HPAI H5N1; Suspected LPAI	No virus isolated	Not applicable
10/28/06	Grundy County, IL	Mallard ducks	Hunter killed	IL Dept of Natural Resources/USDA	Yes	Yes	Not related to HPAI H5N1; Suspected LPAI	No virus isolated	Not applicable
10/28/06	Grundy County, IL	Mallard ducks	Hunter killed	IL Dept of Natural Resources/USDA	Yes	Yes	Not related to HPAI H5N1; Suspected LPAI	No virus isolated	Not applicable
10/27/06	Sussex County, DE	Green-winged teal	Hunter killed	USDA/DE Department of Natural Resources	Yes	Yes	Not related to HPAI H5N1; Suspected LPAI	H5N1	LPAI
10/21/06	Niagara County, NY	Mallard ducks	Hunter killed	New York State Department of Environmental Conservation/USDA	Yes	Yes	Not related to HPAI H5N1; Suspected LPAI	No virus isolated	Not applicable
10/21/06	Niagara County, NY	Mallard ducks	Hunter killed	New York State Department of Environmental Conservation/USDA	Yes	Yes	Not related to HPAI H5N1; Suspected LPAI	No virus isolated	Not applicable
10/21/06	Grundy County, IL	Mallard ducks	Hunter killed	USDA/IL Dept of Natural Resources	Yes	Yes	Not related to HPAI H5N1; Suspected LPAI	H5N1	LPAI
10/19/06	St. Claire County, MI	Mallard ducks	Hunter killed	USDA/MI Dept of Natural Resources	Yes	Yes	Not related to HPAI H5N1; Suspected LPAI	H5N1	LPAI
10/15/06	Tuscola County, MI	Green-winged teal	Hunter killed	USDA/MI Dept of Natural Resources	Yes	Yes	Not related to HPAI H5N1; Suspected LPAI	No virus isolated	Not applicable
10/8/06	Ottawa County, OH	Northern pintail ducks	Hunter killed	USDA/OH Division of Wildlife	Yes	Yes	Not related to HPAI H5N1; Suspected LPAI	No virus isolated	Not applicable
9/24/06	Fulton County, IL	Green-winged teal	Hunter killed	USDA/IL Dept of Natural Resources	Yes	Yes	Not related to HPAI H5N1; Suspected LPAI	H6N2	Not applicable
9/21/06	Cascade County, MT	Northern pintail ducks	Live birds	USDA/MT Dept of Fish, Wildlife, and Parks	Yes	Yes	Not related to HPAI H5N1; Suspected LPAI	H5N3	LPAI
8/28/06	Crawford County, PA	Mallard ducks	Live birds	USDA/PA Game Commission	Yes	Yes	Not related to HPAI H5N1; Suspected LPAI	H5N1	LPAI
8/8/06	Monroe County, MI	Mute Swans	Hunter killed	USDA/MI Dept of Natural Resources	Yes	Yes	Not related to HPAI H5N1; Suspected LPAI	H5N1	LPAI
8/2/06	Queen Annes County, MD	Resident wild Mallard ducks	Environmental	USDA/Avian Influenza Coordinated Agricultural Project (AICAP)	Yes	Yes	Not related to HPAI H5N1; Suspected LPAI	H5N1	LPAI

<sup>1</sup> Testing for the presence of avian influenza (AI) requires that samples be taken from live birds, dead birds or the environment birds inhabit. The Departments of Agriculture and Interior are working collaboratively with States and academic institutions to sample wild birds throughout the United States for the presence of highly pathogenic avian influenza. The interagency plan outlines five specific strategies for early detection of the virus in wild migratory birds, including: investigation of disease-outbreak events in wild birds; expanded monitoring of apparently healthy live wild birds; monitoring of hunter-killed birds; use of sentinel animals; and environmental sampling of bird feces.

<sup>2</sup> A series of AI rapid screening tests are performed that cannot differentiate between highly pathogenic AI (HPAI) and low pathogenic AI (LPAI) viruses. The initial rapid screening tests are highly sensitive and can detect active and inactive viruses in samples. Because these rapid screening tests are highly sensitive, it is not uncommon to have positive results for a specific subtype on the initial screen test and yet not be able to isolate a virus of that subtype.

<sup>3</sup> This test involves identifying the genetic sequence or key parts of the sequence, of the virus grown and comparing it to known AI genetic sequences. These known sequences, such as that of the highly pathogenic H5N1 AI virus circulating overseas, are stored in databanks. If the genetic sequence matches that of a known highly pathogenic AI virus, the sample is considered to be highly pathogenic.

<sup>4</sup> Virus isolation is the gold standard test used to diagnose AI virus infections. The virus is grown and isolated in chicken embryos (eggs). A series of tests follow to specifically identify H and N subtypes of the AI virus. These tests cannot determine pathogenicity.

<sup>5</sup> This test involves the inoculation of 4- to 8-week old disease-free chickens and observation for signs of AI for 10 days. According to the USDA and World Organization for Animal Health (OIE), highly pathogenic AI is defined as any AI virus that is lethal for 6 or more of 8 chickens (75% mortality). Pathogenicity is confirmed 10 days from when the chickens are inoculated with the virus grown from the gold standard virus isolation test. Only H5 and H7 subtypes undergo chicken pathogenicity testing because of their potential to become HPAI, all others are considered to be LPAI.

**For additional information about Avian Influenza Testing and Diagnostics and Avian Influenza Low Pathogenic H5N1 vs. Highly Pathogenic H5N1, go to [www.usda.gov/birdflu](http://www.usda.gov/birdflu) and click on fact sheets.**

*This table is a cooperative effort of the U.S. Departments of Agriculture and Interior, and is managed as part of the [National HPAI Early Detection Data System \(HEDDS\)](#) by the [NBII Wildlife Disease Information Node](#).*