



# Maine Update on HPAI and Cattle

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# Introduction



# Mission of the DACF Animal Health Program



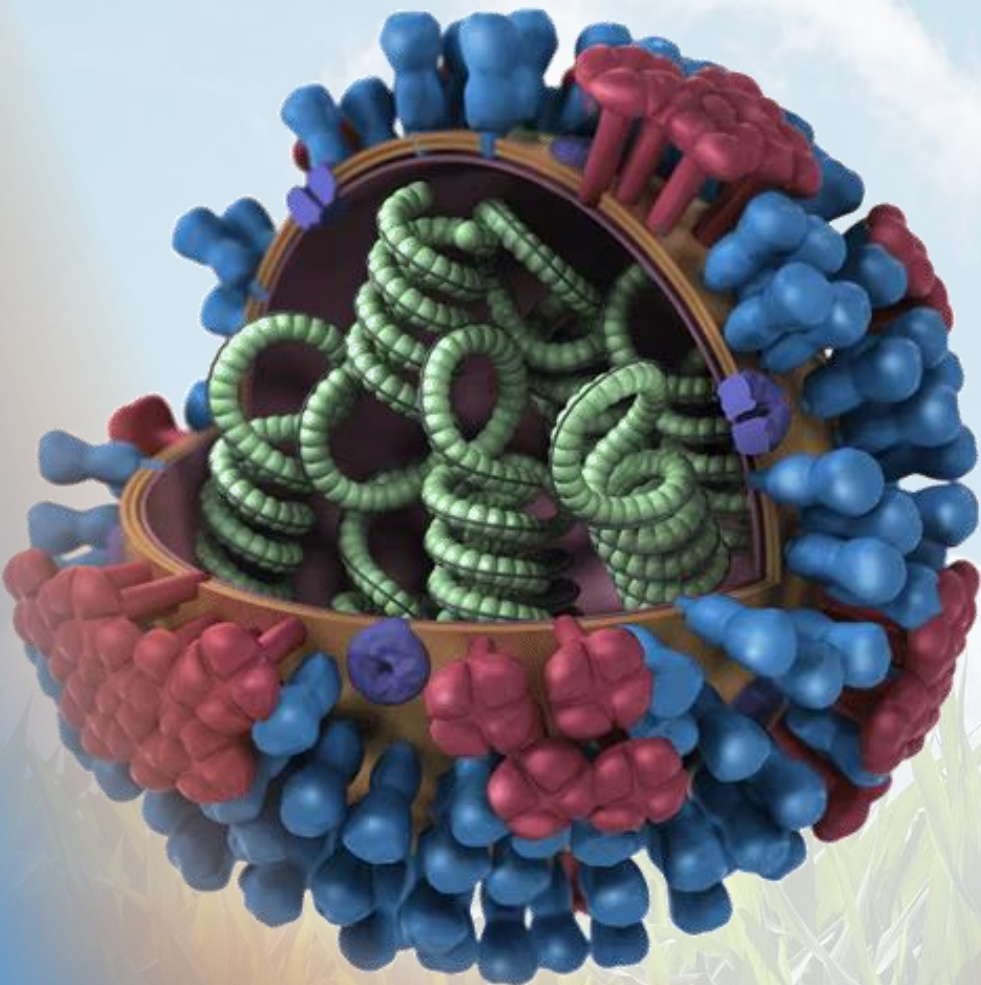
- Prevent the introduction and spread of contagious diseases among poultry and livestock
- Promote public health and food safety as it relates to zoonotic disease
- Enhance the quality and health of livestock
- Maintain fair practices in the buying and selling of poultry and livestock



# A brief recap of HPAI (H5N1) activity

## Connecting Past to Present:

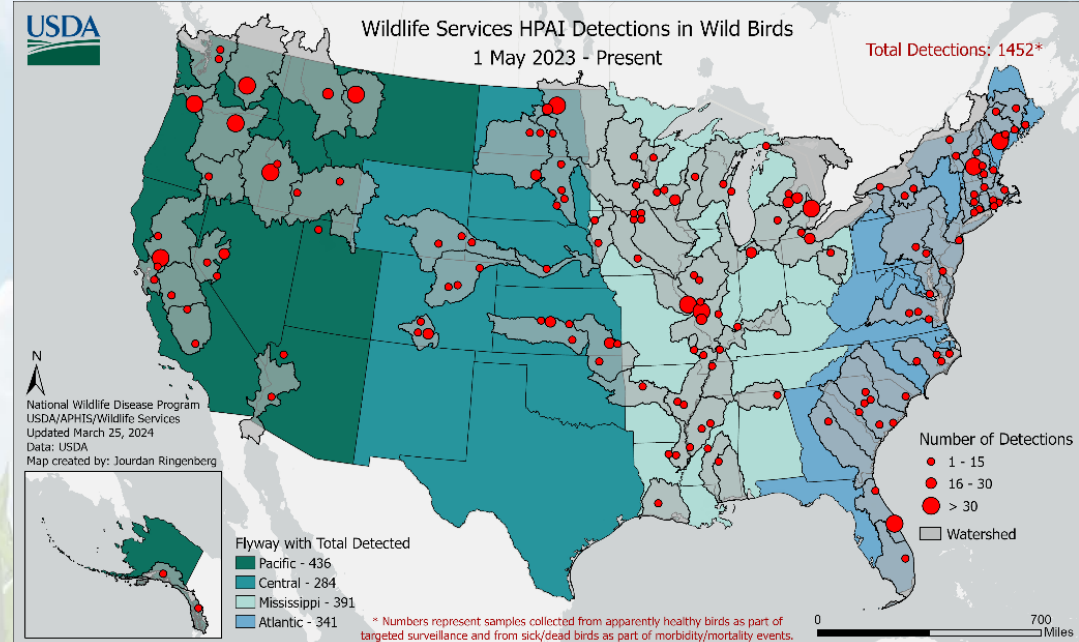
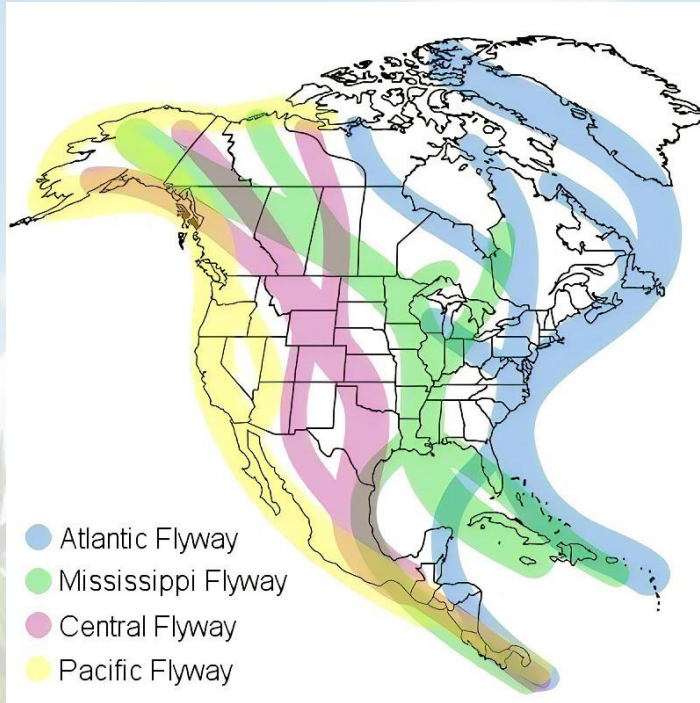




## The ABCDs...and H & N

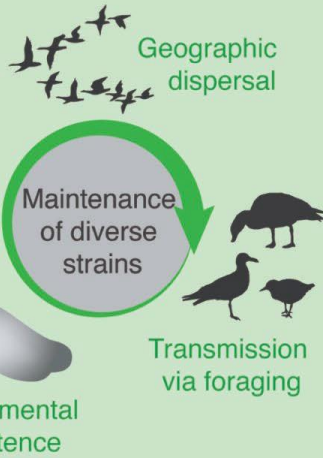
- Influenza comes in basic types: A, B, C, D
- Influenza A is further divided into subtypes based on the H and N protein makeup
- LPAI (low) or **HPAI** (high)
- The current outbreak of HPAI in the U.S. is due to **H5N1**

# Distribution of Highly Pathogenic Avian Influenza

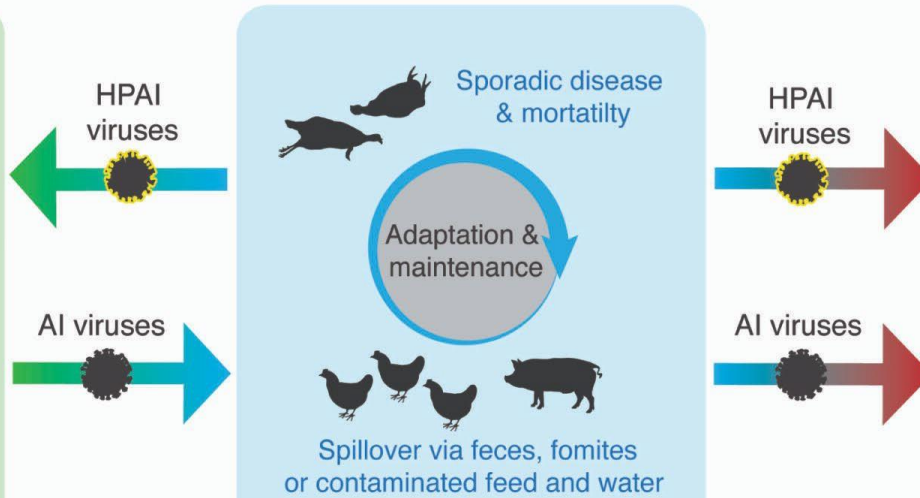




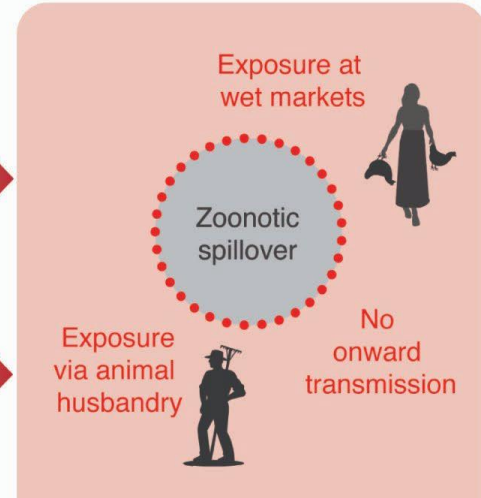
## Wildlife



## Agriculture

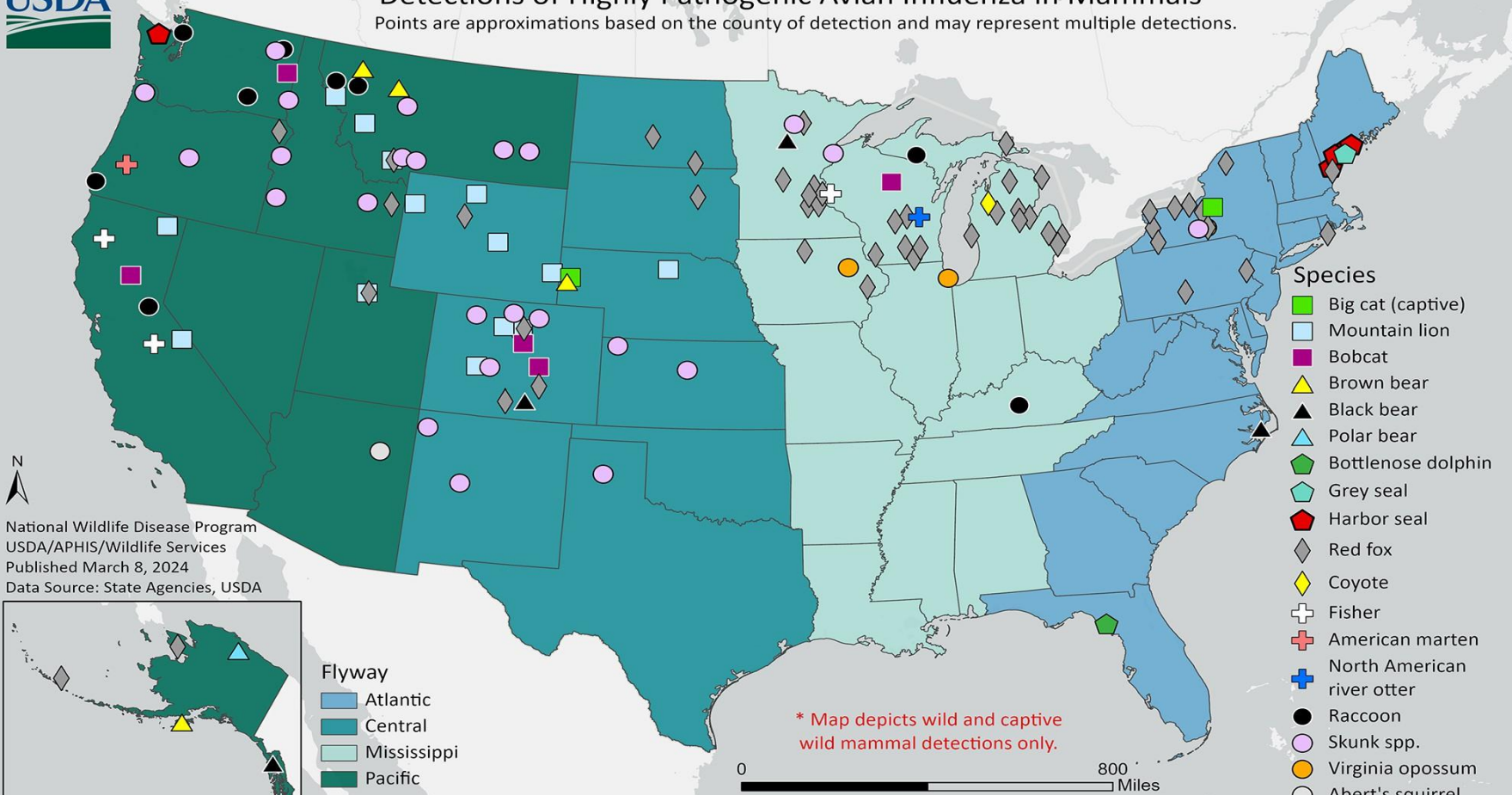


## Human



# Detections of Highly Pathogenic Avian Influenza in Mammals \*

Points are approximations based on the county of detection and may represent multiple detections.



National Wildlife Disease Program  
 USDA/APHIS/Wildlife Services  
 Published March 8, 2024  
 Data Source: State Agencies, USDA

## Species

- Big cat (captive)
- Mountain lion
- Bobcat
- ▲ Brown bear
- ▲ Black bear
- ▲ Polar bear
- ◆ Bottlenose dolphin
- ◊ Grey seal
- ◆ Harbor seal
- ◆ Red fox
- ◆ Coyote
- + Fisher
- + American marten
- + North American river otter
- Raccoon
- Skunk spp.
- Virginia opossum
- Abert's squirrel

## Flyway

- Atlantic
- Central
- Mississippi
- Pacific

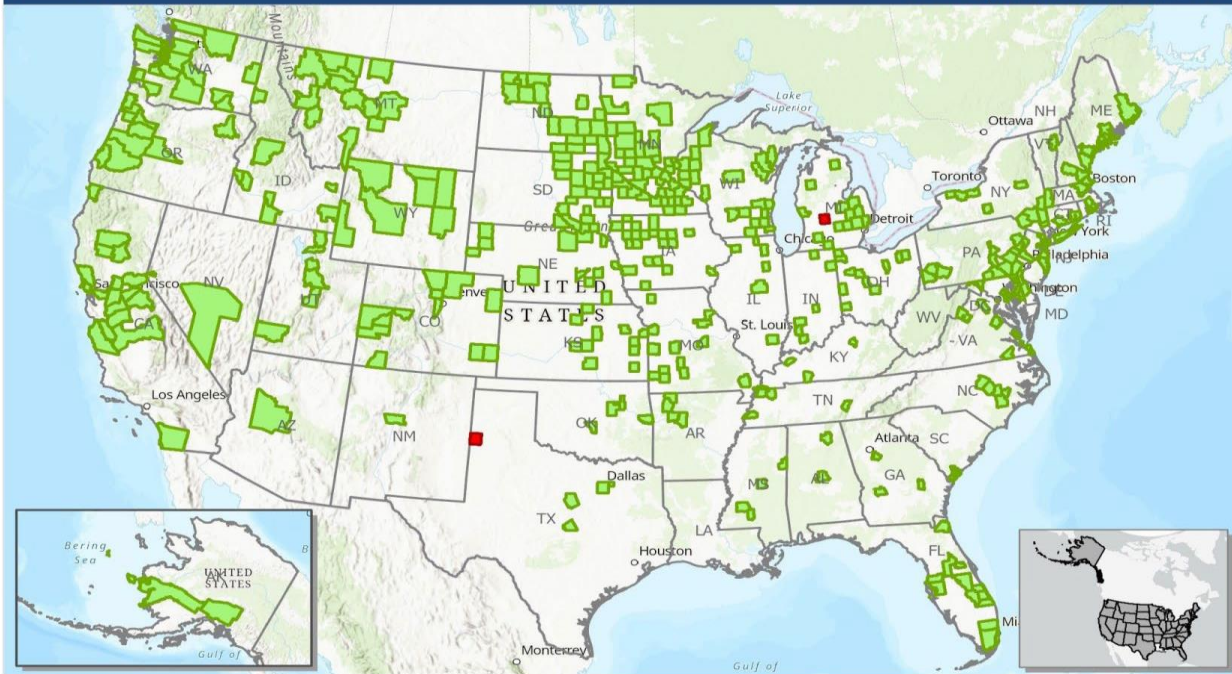
\* Map depicts wild and captive wild mammal detections only.



# OVERVIEW OF THE NATIONAL SITUATION



HPAI in Domestic Poultry – Active Surveillance by County  
As of: April 05, 2024 3:00 PM. ET



- Active Control Areas/Surveillance Zones < Mar 31, 2024
- All Control Areas/Surveillance Zones Released
- Active Control Areas/Surveillance Zones ≥ Mar 31, 2024



Data Source:  
APHIS, USDA EPHIS  
Spatial Reference:  
North America Albers Equal Area Conic

These data, and all the information contained therein, have been collected by the US Department of Agriculture's Animal and Plant Health Inspection Service (APHIS), or by its cooperation on APHIS' behalf, for restricted government purposes only and is the sole property of APHIS. See full disclosure: <http://www.aphis.usda.gov/ahp/data-disclosure>

USDA APHIS  
2150 Centre Ave.  
Fort Collins, Co 80526

48 Affected States

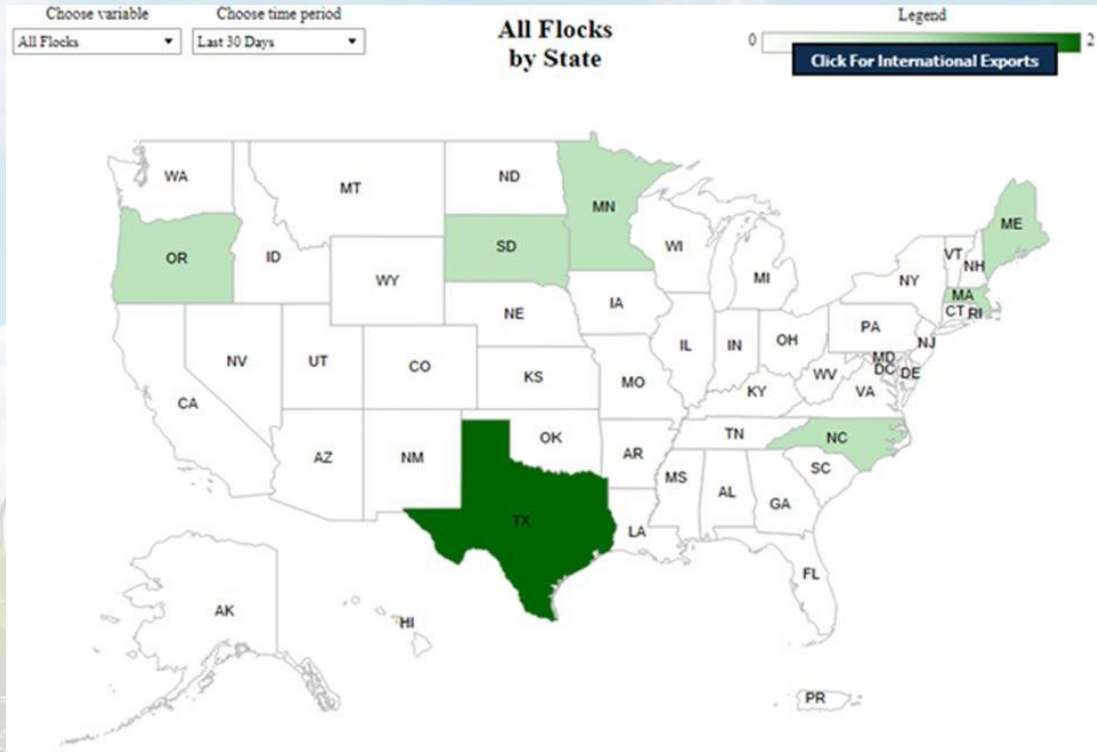
1118 Confirmed Premises

906 Control Areas/  
Surveillance Zones Released

**\*Note:** This map displays domestic Control Areas and the status of each affected county. It is not reflective of the trade status of the counties.

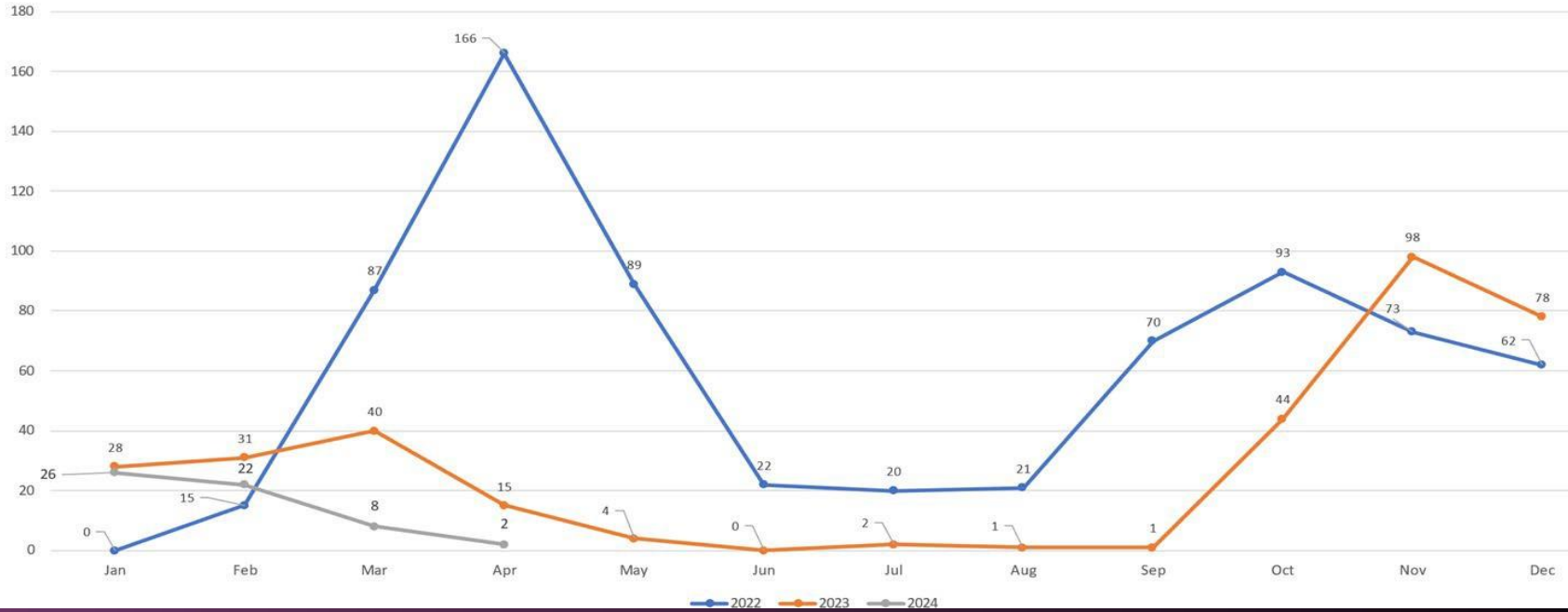
*Surveillance Zones for non-poultry premises were in place prior to November 15<sup>th</sup>.*

HPAI  
Detections in  
Poultry last  
30 days



# HPAI Confirmed Domestic Poultry Detections 2022 - Present

HPAI Confirmed Domestic Poultry Detections  
2022 - Present







## HPAI in Cattle



# HPAI in Dairy Herds

April 2, 2024 – The U.S. Department of Agriculture (USDA) Animal and Plant Health Inspection Service (APHIS) has confirmed the detection of highly pathogenic avian influenza (HPAI) in a dairy herd in Idaho.

To date, USDA has confirmed the detection of HPAI in dairy herds in Texas (7) Kansas (2), Michigan (1), Idaho (1) and New Mexico (1), Ohio (1), NC (1)

Strain of the virus found is very similar to the strain originally confirmed in cattle in Texas and Kansas that appears to have been introduced by wild birds (H5N1, Eurasian lineage goose/Guangdong clade 2.3.4.4b).



The screenshot shows the USDA Animal and Plant Health Inspection Service (APHIS) website. The page title is "Highly Pathogenic Avian Influenza (HPAI) Detections in Livestock". The page includes a navigation menu with links for Home, Travelers, Trade, Animals, Plants, Funding, and About. The main content area features a breadcrumb trail: Home > Animals > Animal Health > Livestock and Poultry Disease > Avian Disease > Avian Influenza > 2022-2024 Detections of Highly Pathogenic Avian Influenza > Highly Pathogenic Avian Influenza (HPAI) Detections in Livestock. The article text states: "The U.S. Department of Agriculture, Food and Drug Administration, Centers for Disease Control and Prevention, and State veterinary and public health officials are investigating an illness among dairy cows." Below the text is a photograph of a group of black and white dairy cows standing in a field. The page also includes a "Print" link and a note about future updates.

# Clinical Information

- Case Definition
  - Older and mid-late lactation cows most affected
  - Drop in milk production
  - Reduced appetite
  - Decreased rumination
  - Thickened, discolored milk
  - Lethargy/Fever/Dehydration possible
  - Changes in manure (tacky/dry)
  - Virus affinity to replicate in mammary tissue
- Self-limiting disease
  - Avg 10% of herd affected
  - Resolution with supportive care
  - No need to heavily cull





# Transmission

- Avian to cow
  - The strain confirmed in Texas and Kansas appears to have been introduced by wild birds
- Cow-to-cow
  - HPAI transmission between cattle cannot be ruled out
  - Milk and udder tissue seeing virus concentrating in lactating dairy cows

# Testing Recommendations

## Testing Affected Cattle

- Testing is a tool producers and veterinarians may use to help manage this disease or reduce the risk of introducing the disease
- Dairy must have sick cows or dead birds; may have dead cats or other mammals
- Accredited veterinarians must obtain authorization from their state veterinarian
- NAHLN laboratories to conduct reimbursable H5 testing for any Influenza A positive samples regardless of the species or sample type
- All Influenza A non-negative samples (regardless of species) must be forwarded to NVSL

## Movement Testing

- USDA recommendation is strongly recommend minimizing movement of cattle
- Pregnant, springing heifers, and breeding bulls: Nasal swabs.
- Lactating cows: Milk/udder secretions
- Testing NOT currently recommended for calves or dairy beef



## Focus on Biosecurity

- Manage movements of cattle and their transport and isolate upon arrival
- Minimizing access of wild waterfowl especially to cattle and their environment
- Exclude or separate species as possible
- Do not feed unpasteurized (raw) colostrum or milk to calves/cattle and other mammals
- Enhance parlor sanitation
- Public health considerations when handling sick cows, sick/dead birds and small mammals, and unpasteurized (raw) milk



# Milk Supply

- From FDA: There continues to be no concern that there's a risk to consumer health or that it affects the safety of the interstate commercial milk supply because products are pasteurized before entering the market
- Pasteurization has continually proven to inactivate bacteria and viruses, like influenza, in milk and milk products (cheese)



# Raw Milk

- From FDA: We do not know at this time if HPAI (H5N1) viruses can be transmitted through consumption of unpasteurized (raw) milk and products (such as cheese) to people made from raw milk from infected cows
- Unpasteurized, raw milk can harbor dangerous microorganisms that can pose serious health risks to consumers
- Do not manufacture or sell raw milk or raw/unpasteurized milk cheese products made with milk from cows showing symptoms of illness
- Pasteurize milk intended to be used to feed calves or other animals (including pets)







## Secure Milk Supply Plans





# Influenza A H5N1 Human Health

Anna Krueger, Epidemiologist



# Influenza A H5N1 Transmission



Influenza A viruses infect the respiratory and gastrointestinal tracts of birds.



Influenza A viruses can also infect the respiratory tract of mammals.



Human infections with avian influenza A viruses can happen when enough virus gets into a person's eyes, nose, or mouth or is inhaled.

# Influenza A H5N1 Infection in People

The risk to the general public is considered low. However, people with exposure to infected animals are at greater risk of infection.

Illnesses caused by influenza A H5N1 in people have ranged from mild to severe illness or death.



# How farm workers can protect themselves:

Wear protective clothing when working with sick or dead animals, feces, or milk.



Wash your hands thoroughly throughout the day and before eating. Avoid touching your face and mouth.

Do not prepare or eat raw or undercooked food from sick animals.

# What to do if you are exposed to H5N1:

**Monitor for symptoms right away until 10 days after your last exposure.**

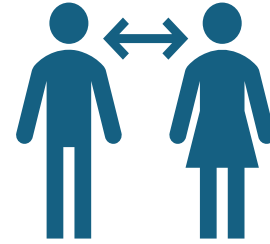
Maine CDC will be in contact with you throughout your monitoring period.

Symptoms can include eye redness (conjunctivitis), cough, sore throat, runny or stuffy nose, muscle or body aches, headaches, fatigues, trouble breathing, and fever.

# What to do if you are exposed to H5N1 and develop symptoms:



Get tested and start  
treatment



Stay away  
from others



# Contact Maine CDC if:

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You have any human-health related questions

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You think you may have been exposed to H5N1

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You have been exposed to H5N1 and develop symptoms

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Call Maine CDC's 24-hour reporting line at 1-800-821-5821

<https://www.maine.gov/dacf/php/index.shtml>

How to find  
us

**maine** MAINE DEPARTMENT OF  
**Agriculture, Conservation & Forestry**


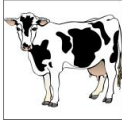


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## Division of Animal and Plant Health

	<b>Animal</b> <a href="#">Animal Health</a> <a href="#">Animal Welfare</a> <a href="#">Help Fix ME</a>		<b>Farm</b> <a href="#">Agricultural Compliance</a> <a href="#">Compost</a> <a href="#">Nutrient Management Program</a>
	<b>Plant</b> <a href="#">Apiary (Beekeeping)</a> <a href="#">Arborist</a> <a href="#">Ginseng</a> <a href="#">Horticulture</a> <a href="#">Hemp</a> <a href="#">Seed Potato Certification</a>		<b>Pests and Pesticides</b> <a href="#">Cooperative Agricultural Pest Survey (CAPS)</a> <a href="#">Integrated Pest Management (IPM)</a> <a href="#">Board of Pesticides Control (BPC)</a> <a href="#">Got Pests?</a>

# Resources

- [Animal Health: Division of Animal and Plant Health: Maine DACF](#)
- <https://www.aphis.usda.gov/livestock-poultry-disease/avian/avian-influenza/hpai-detections/livestock>
- [hpai-dairy-faqs.pdf \(usda.gov\)](#)
- <https://www.cdc.gov/flu/avianflu/hpai/hpai-interim-recommendations.html>
- [Current H5N1 Bird Flu Situation in Mammals | Avian Influenza \(Flu\) \(cdc.gov\)](#)
- [Manage Wildlife To Prevent Avian Influenza \(usda.gov\)](#)





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