

# HPAI in Wild Birds

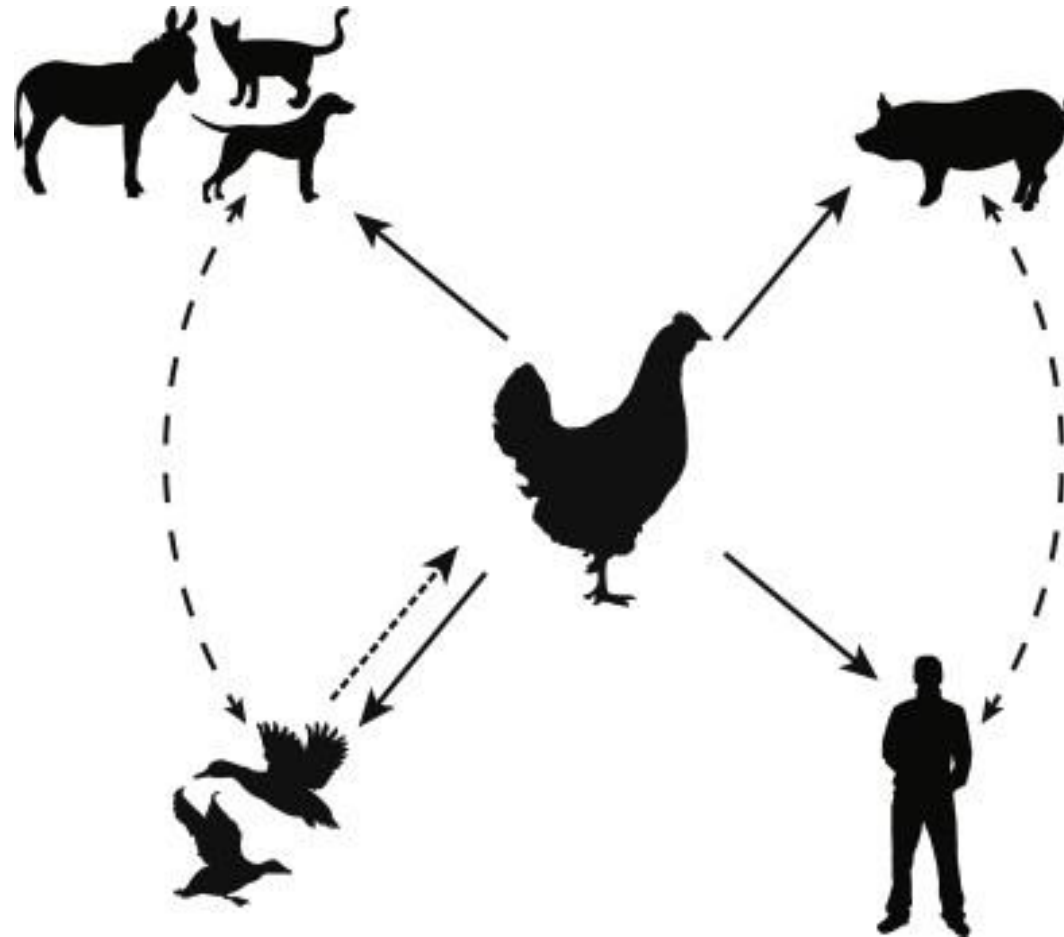
USDA Ag Forum 2023

# Wild Birds & Avian Influenza Viruses

- Naturally circulate in waterfowl and shorebirds
- Detected in feces and water
- Virus shedding and transmission to new avian hosts
- Potential spillover to:
  - Other wild bird species
  - Domestic, land-based poultry
  - Mammals
- Low pathogenic
- Highly pathogenic



# Interspecies Spread of H5N1





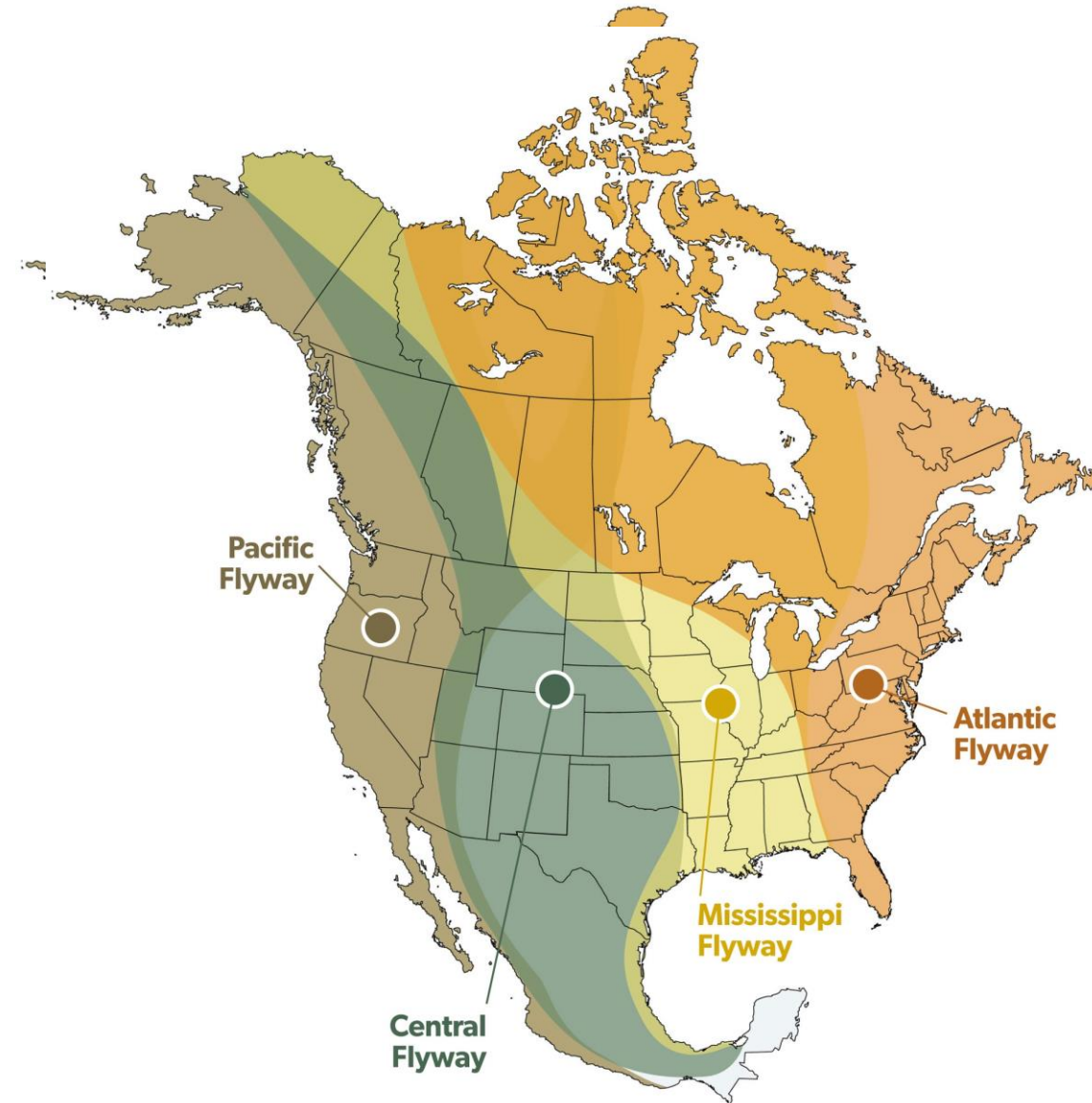
# Wild Bird Surveillance

- Maximize ability to detect viruses in waterfowl
- Monitor introductions of new viruses
- Provide early warning system to poultry industry
  - Increase vigilance and modify biosecurity
- Detect spread into new areas
- Ensure confidence of trading partners
- Better understanding of risk of spillover/ interspecies spread



# Routine Wild Bird Surveillance

- Apparently healthy birds – dabbling ducks
- Seasonal sampling
  - Summer: May – August
  - Fall: September – December
  - Winter: January – April
- 31,570 sample target (2022-2023)
  - Four Flyways/ 49 states







USDA WS Photo by Ke



## Sample Collection – Live Capture





Sample Collection – Hunter Harvest

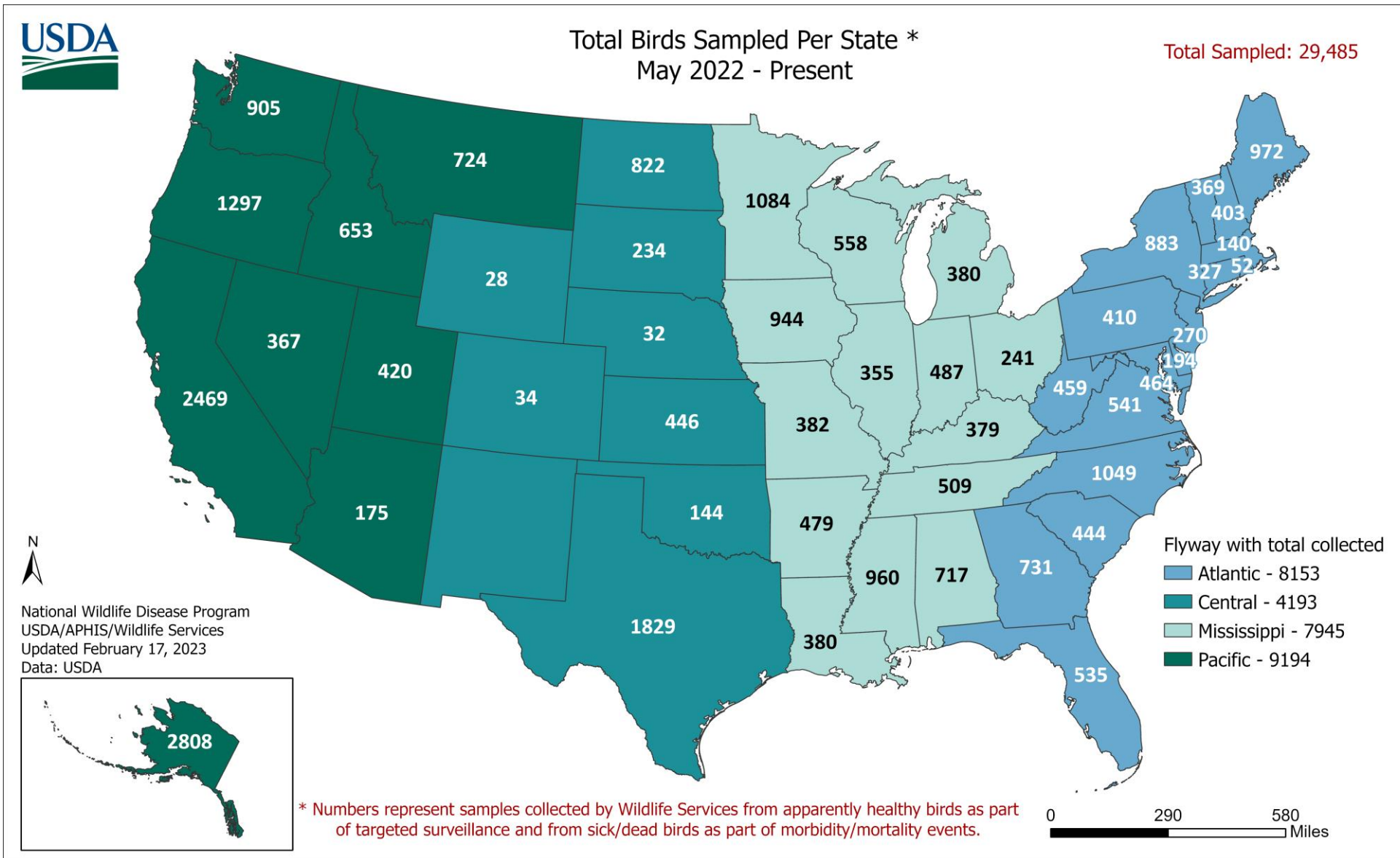




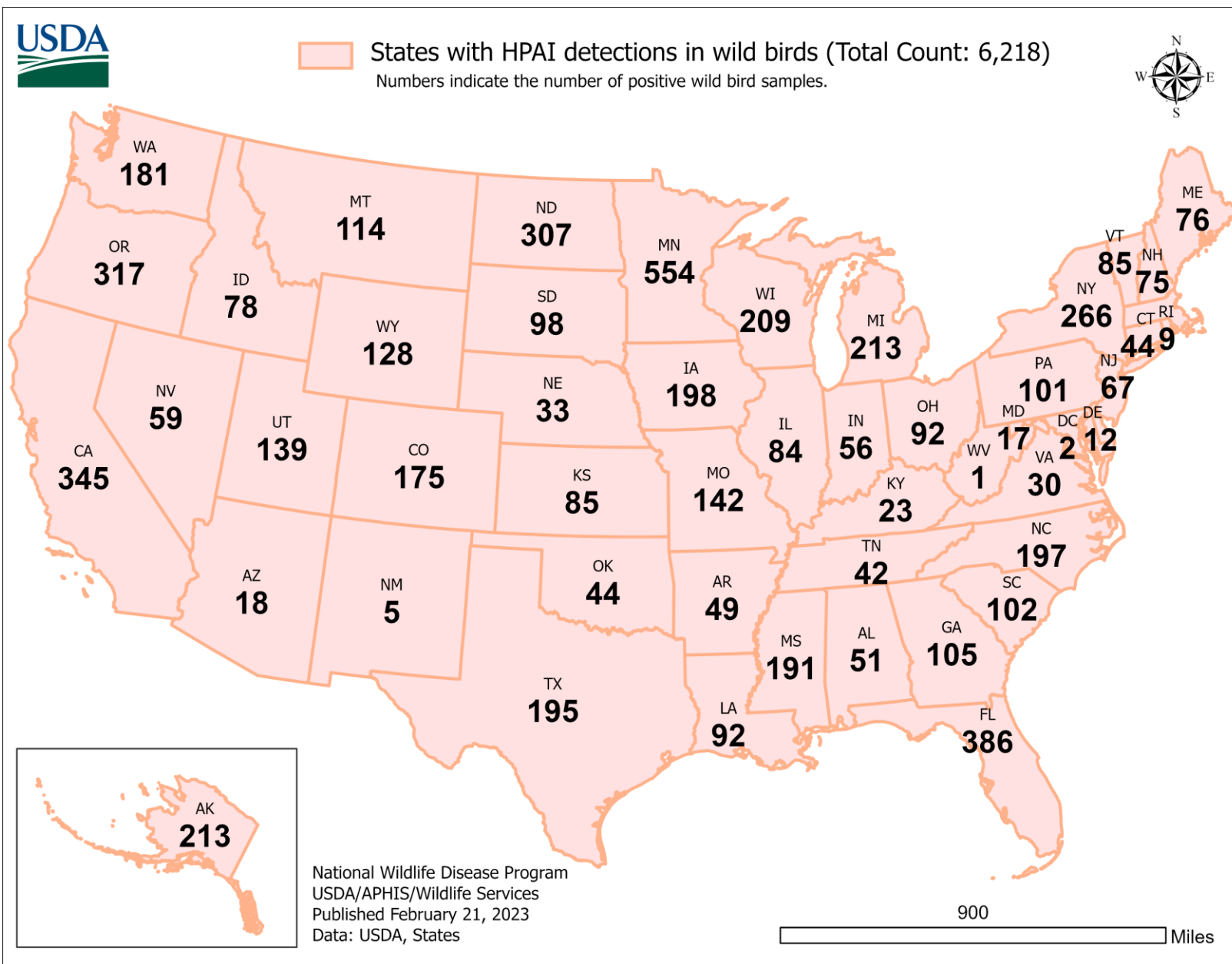
## Morbidity/Mortality Investigations

- Outside normal surveillance activities
- All species
- Sick or dead
- Neurological signs



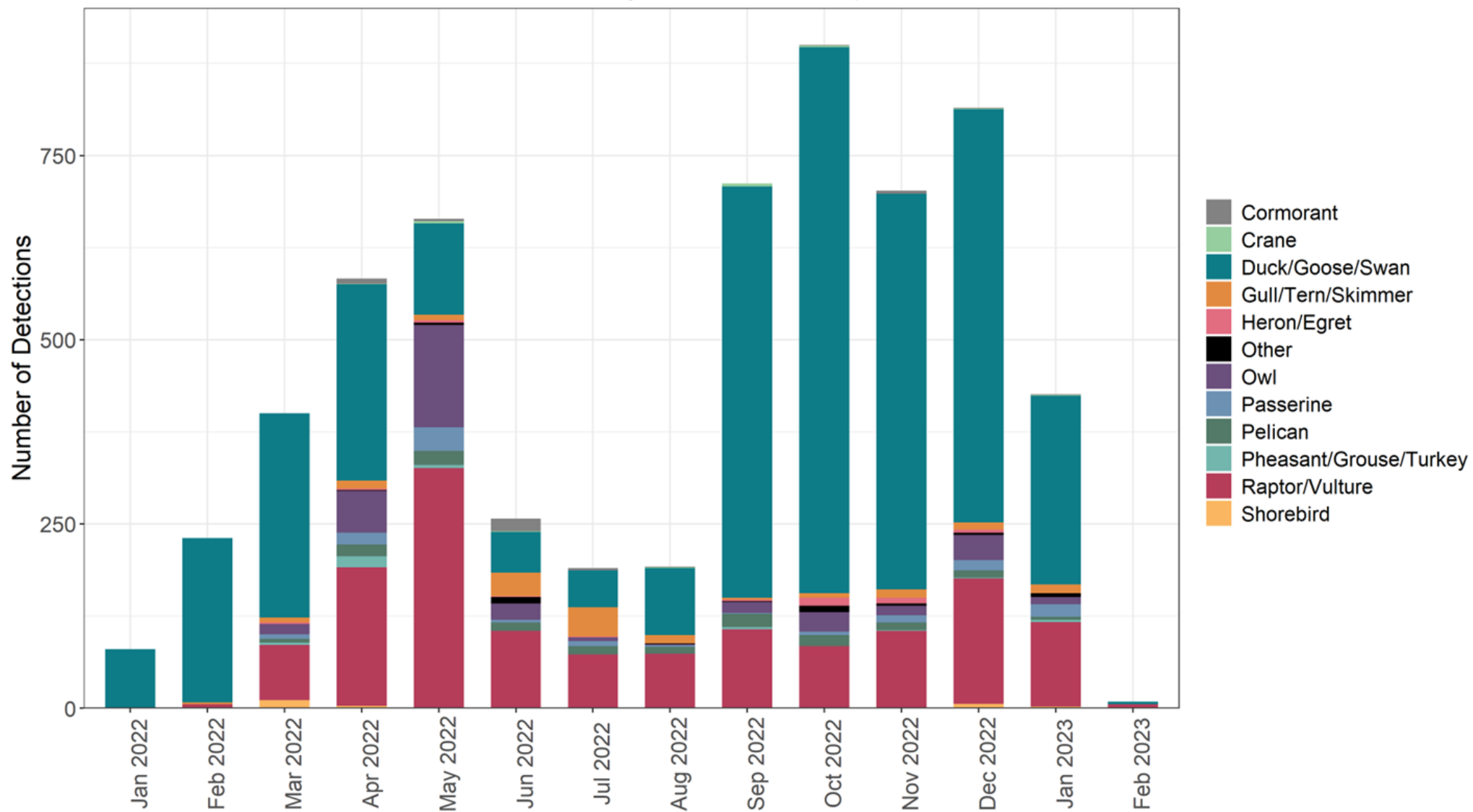


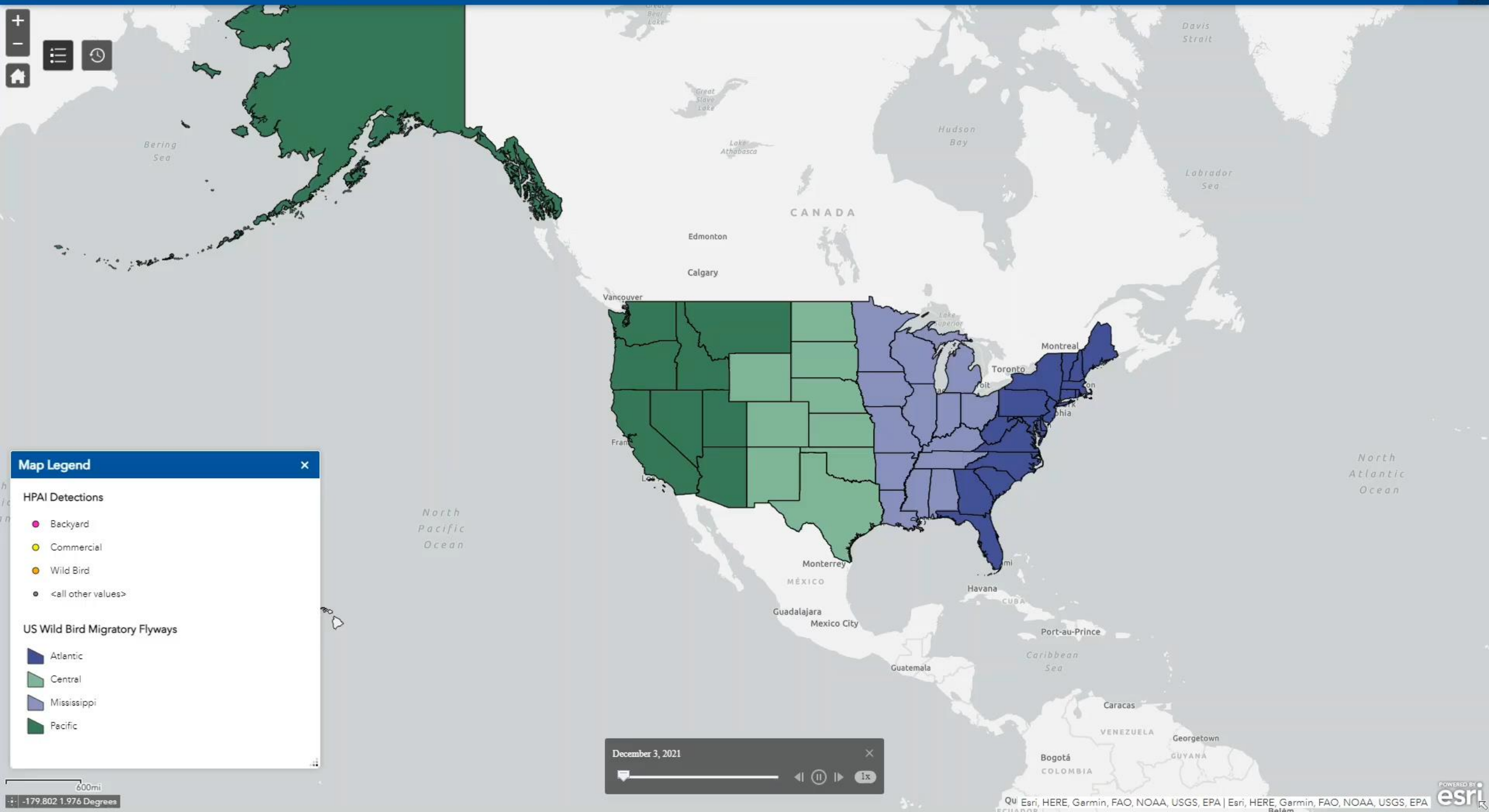
# 2022 Detections of Highly Pathogenic Avian Influenza in Wild Birds





## HPAI Detections by Functional Group





Map Legend

HPAI Detections

- Backyard
- Commercial
- Wild Bird
- <all other values>

US Wild Bird Migratory Flyways

- Atlantic
- Central
- Mississippi
- Pacific

December 3, 2021

Timeline controls: play, pause, stop, and zoom in/out

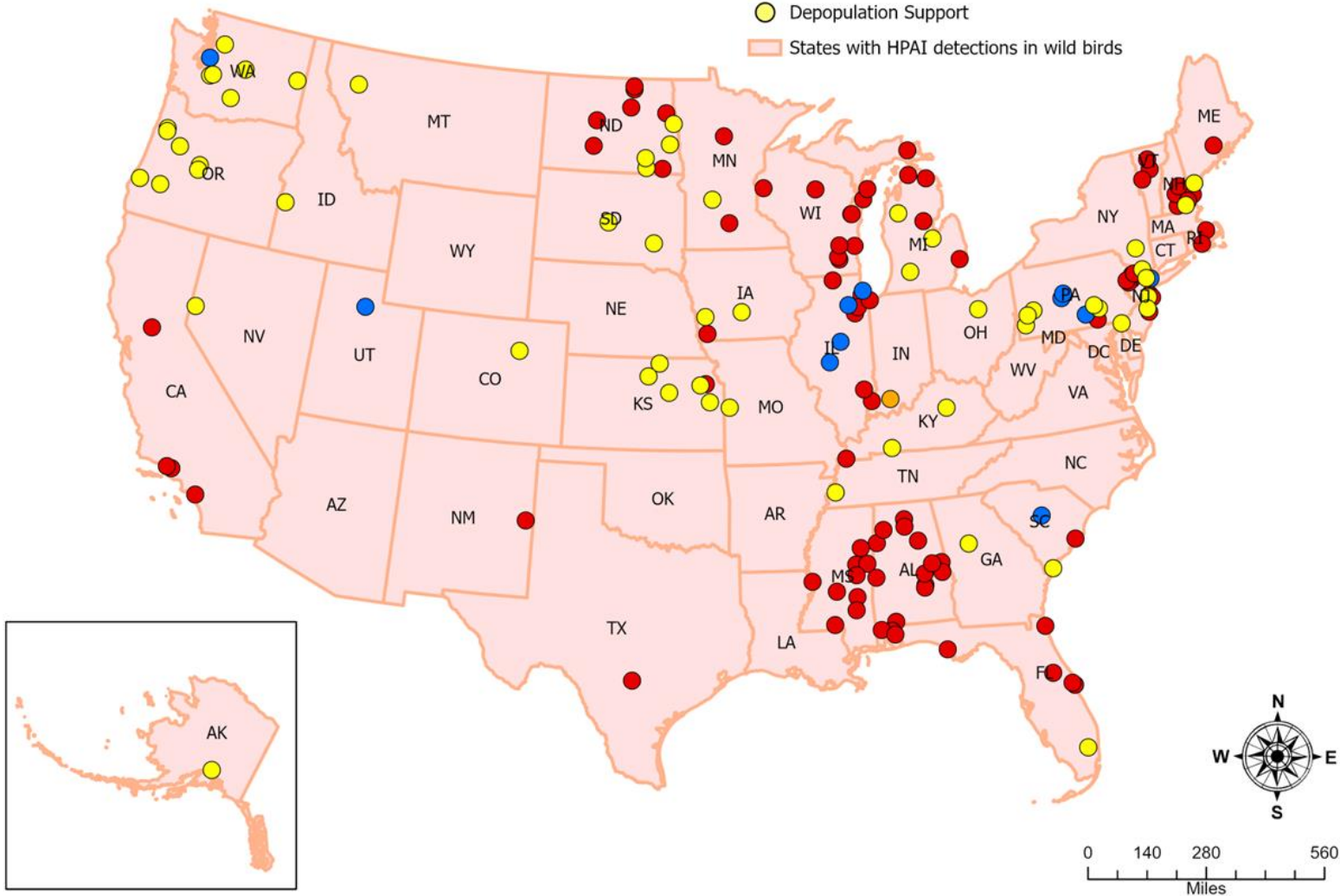


Published: 2/2/2023

WS HPAI Activities (excluding national surveillance)



- Surveillance near commercial premises
- Mortality Investigation
- Outreach
- Depopulation Support
- States with HPAI detections in wild birds



# HPAI Mammalian Detections

## United States 2022



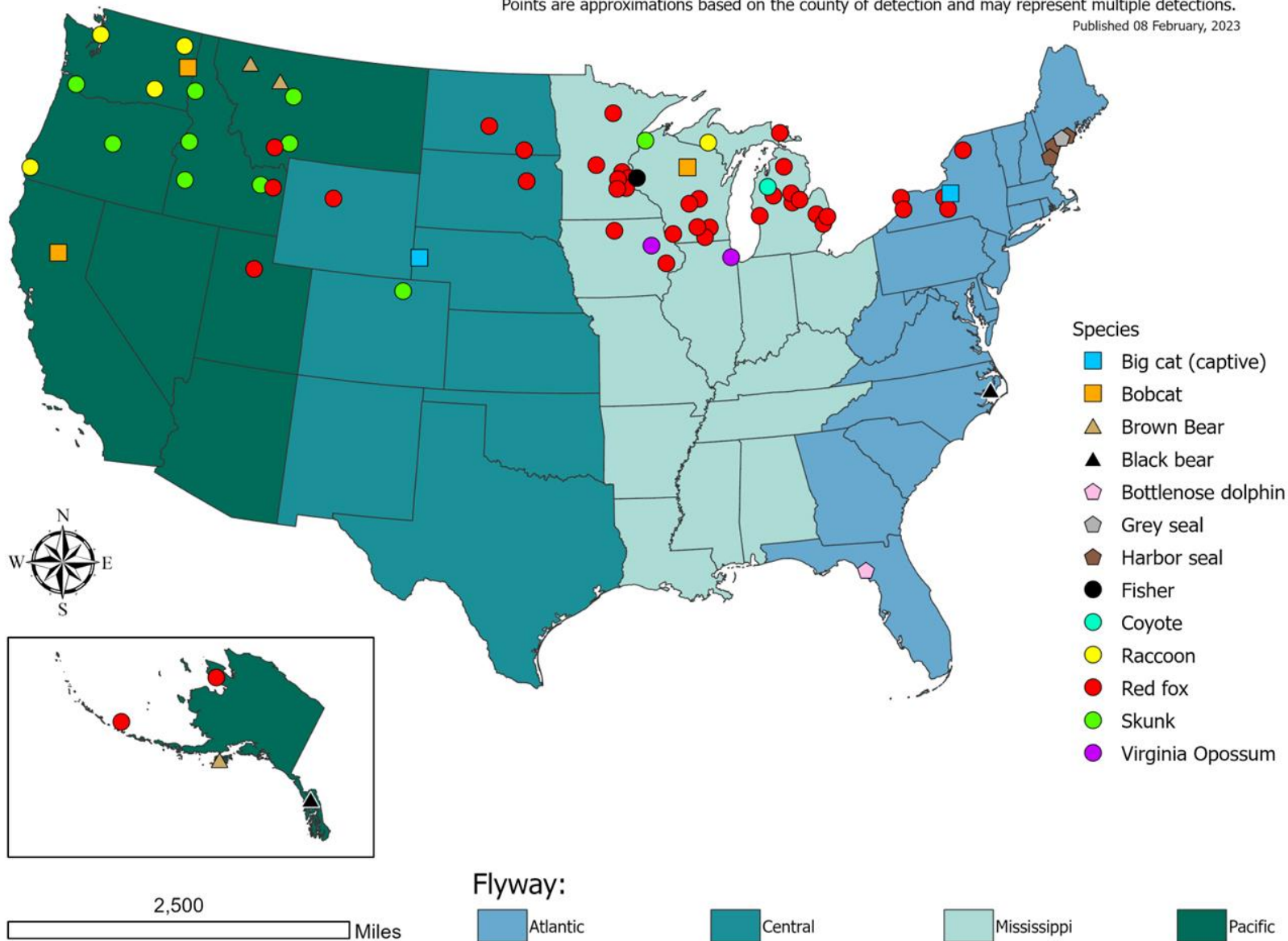
Photo: Wisconsin DNR



# Detections of Highly Pathogenic Avian Influenza in Mammals

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

Published 08 February, 2023





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NEWS | 24 January 2023

### Bird flu outbreak in mink sparks concern about spread in people

A variant of H5N1 influenza that can spread between mammals could pose an increased risk to people and wild animals.

[Saima May Sidik](#)

NEWS | 26 May 2022

### Why unprecedented bird flu outbreaks sweeping the world are concerning scientists

Mass infections in wild birds pose a significant risk to vulnerable species, are hard to contain and increase the opportunity for the virus to spill over into people.

## *Not Just for the Birds: Avian Influenza Is Also Felling Wild Mammals*

As a new version of bird flu spread through North America this spring, scientists began finding the virus in red foxes, bobcats and other mammals.

[HEALTH](#)

Bird flu

Add Topic +

### Bird flu outbreak is spilling over into mammals. What does that mean for humans?



[Adrianna Rodriguez](#)

USA TODAY

Published 6:00 a.m. ET Feb. 3, 2023 | Updated 11:03 a.m. ET Feb. 3, 2023

NEWS

### Recent Increase in Seal Deaths in Maine Linked to Avian Flu

July 20, 2022

NOAA Fisheries working with partners to determine the causes of death, and assess impacts.

[Feature Story](#) | [New England/Mid-Atlantic](#)



# Reporting

## [USDA APHIS | 2022 Detections of Highly Pathogenic Avian Influenza in Wild Birds](#)

Use the search box to filter data by County, State, Date, HPAI Strain, etc. Re-sort the table by selecting a column name.

Download Spreadsheet

Show 25 entries

Search:

State	County	Date Detected	HPAI Strain	Bird Species	WOAH Classification	Sampling Method	Submitting Agency
New York	Yates	2/10/2023	EA H5N1	Mallard	Wild bird	Live bird	NWDP
North Carolina	Beaufort	2/10/2023	EA H5N1	American green-winged teal	Wild bird	Hunter harvest	NWDP
Maine	Penobscot	2/10/2023	EA H5N1	Mallard	Wild bird	Live bird	NWDP
Alaska	Aleutians East	2/9/2023	EA H5N1	Northern pintail	Wild bird	Hunter harvest	USGS
North Carolina	Beaufort	2/8/2023	EA H5N1	American green-winged teal	Wild bird	Hunter harvest	NWDP
North Carolina	Hyde	2/8/2023	EA H5N1	Gadwall	Wild bird	Hunter harvest	NWDP
Maine	Penobscot	2/8/2023	EA H5N1	Mallard	Wild bird	Live bird	NWDP
Maine	Penobscot	2/8/2023	EA H5	Mallard	Wild bird	Live bird	NWDP
New York	Yates	2/8/2023	EA H5N1	Snow goose	Wild bird	Morbidity/Mortality	NY DEC
New York	Kings	2/8/2023	EA H5N1	Peregrine falcon	Wild bird	Morbidity/Mortality	NY DEC
Washington	Snohomish	2/8/2023	EA H5N1	Hooded merganser duck	Wild bird	Morbidity/Mortality	WA DFW
Mississippi	Neshoba	2/6/2023	EA H5N1	Black vulture	Wild bird	Morbidity/Mortality	NWDP
Mississippi	Neshoba	2/6/2023	EA H5N1	Black vulture	Wild bird	Morbidity/Mortality	NWDP
Mississippi	Neshoba	2/6/2023	EA H5N1	Black vulture	Wild bird	Morbidity/Mortality	NWDP
Massachusetts	Hampden	2/3/2023	EA H5N1	Mallard	Wild bird	Live bird	NWDP
Massachusetts	Hampden	2/3/2023	EA H5N1	Mallard	Wild bird	Live bird	NWDP

## [USDA APHIS | 2022 Detections of Highly Pathogenic Avian Influenza in Mammals](#)

Use the search box to filter data by County, State, HPAI Strain, etc. Re-sort the table by selecting a column name.

Download Spreadsheet

Show 25 entries


Search:

State	County	Date Collected	Date Detected	HPAI Strain	Species
Oregon	Crook	2023-01-23	2023-02-01	H5N1	Striped Skunk
Oregon	Crook	2023-01-23	2023-02-01	H5N1	Striped Skunk
Wyoming	Hot Springs	2023-01-08	2023-01-27	H5N1	Red fox
California	Butte	2022-12-27	2023-01-24	H5N1	Bobcat
Wisconsin	Dane	2023-01-09	2023-01-23	H5N1	Red fox
Washington	Spokane	2023-01-11	2023-01-23	H5N1	Bobcat
South Dakota	Spink	2022-12-07	2023-01-09	H5N1	Red fox
Oregon	Curry	2022-12-19	2023-01-03	H5N1	Raccoon
Nebraska	Scotts Bluff	2022-12-21	2023-01-03	H5N1	Amur tiger
Nebraska	Scotts Bluff	2022-12-21	2023-01-03	H5N1	Mountain lion
Montana	Flathead	2022-12-16	2022-12-20	H5N1	Grizzly bear

<https://www.aphis.usda.gov/aphis/ourfocus/animalhealth/animal-disease-information/avian/avian-influenza/2022-hpai>

# Reporting

# Avian Influenza



With devastating consequences for the poultry industry, farmer's livelihoods, international trade, and the health of wild birds, avian influenza, most commonly known as 'bird flu', has captured the attention of the international community over the years.

Where outbreaks occur, it is often the policy to cull all poultry, whether infected or healthy, to contain the spread of avian influenza. This represents heavy economic losses for farmers and a long-lasting impact on their livelihoods.

But poultry is not the only impacted. While they play a major role in the spread of the disease, wild birds also become victims of bird flu viruses.

Avian influenza is also a major concern for public health. Whenever avian influenza viruses circulate in poultry, sporadic cases of avian influenza in humans are sometimes identified.

## LINKS TO CODE AND MANUAL

Terrestrial Code	⊕
Terrestrial Manual	⊕

Overview

Global Situation

Prevention and control

International collaboration

Resources

FAQ

## What is avian influenza?

Avian influenza (AI) is a highly contagious viral disease that affects both domestic and wild birds. AI viruses have also been isolated, although less frequently, from mammalian species, including humans. This complex disease is caused by viruses divided into multiple subtypes (i.e. H5N1, H5N3, H5N8 etc.) whose genetic characteristics rapidly evolve. The disease occurs worldwide but different subtypes are more prevalent in certain regions than others.

The many strains of avian influenza viruses can generally be classified into two categories according to the severity of the disease in poultry:

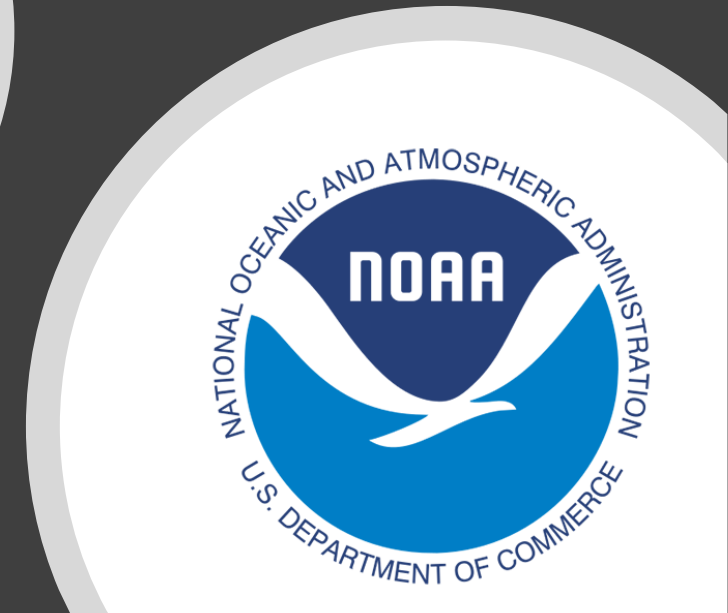
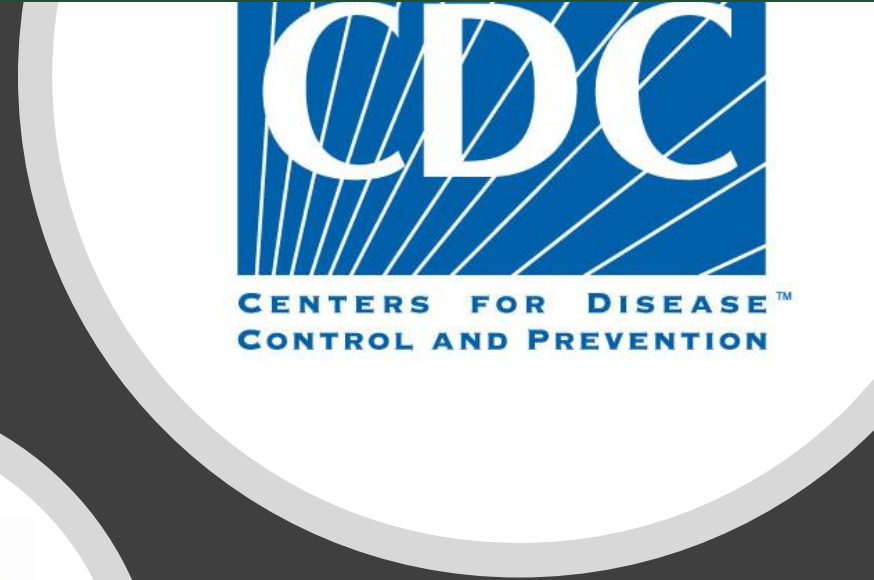
- low pathogenicity avian influenza (LPAI) that typically causes little or no clinical signs;
- high pathogenicity avian influenza (HPAI) that can cause severe clinical signs and possible high mortality rates.

[Avian Influenza - WOA - World Organisation for Animal Health](#)



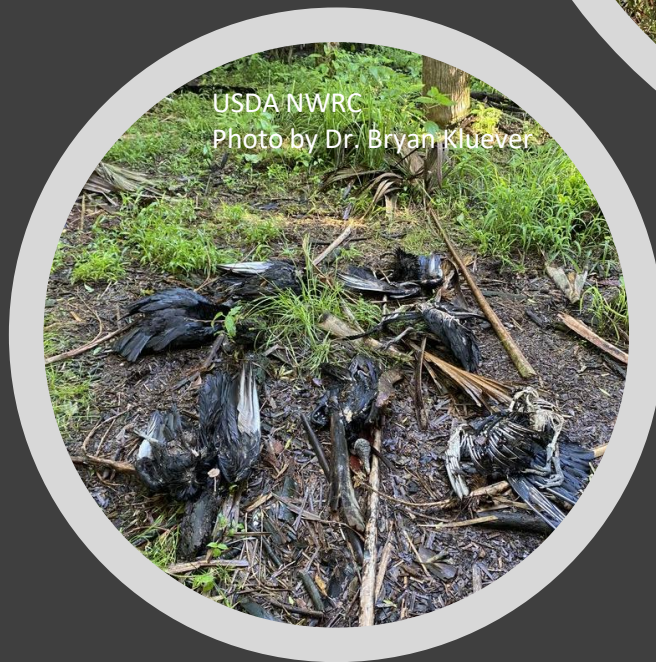
# Interagency Cooperation

- Dept. of Interior
- CDC
- NOAA
- Homeland Security
- National Security Council
- University partners
- SCWDS

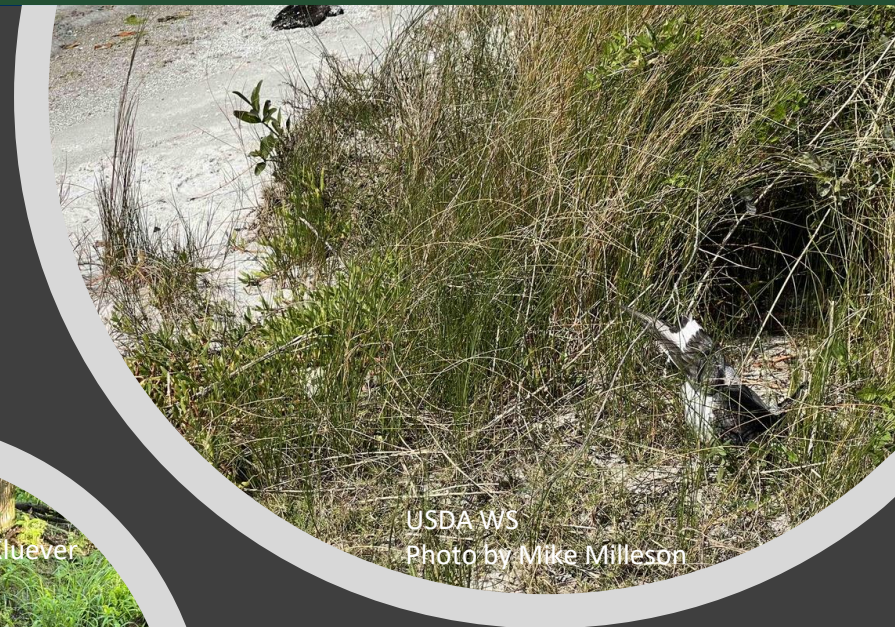


# State & Tribal Cooperation

- State Agencies
  - Morbidity/Mortality events
  - Carcass clean-up and removal
- Native American Tribes
  - Investigation/submission of suspect cases



USDA NWRC  
Photo by Dr. Bryan Kluever

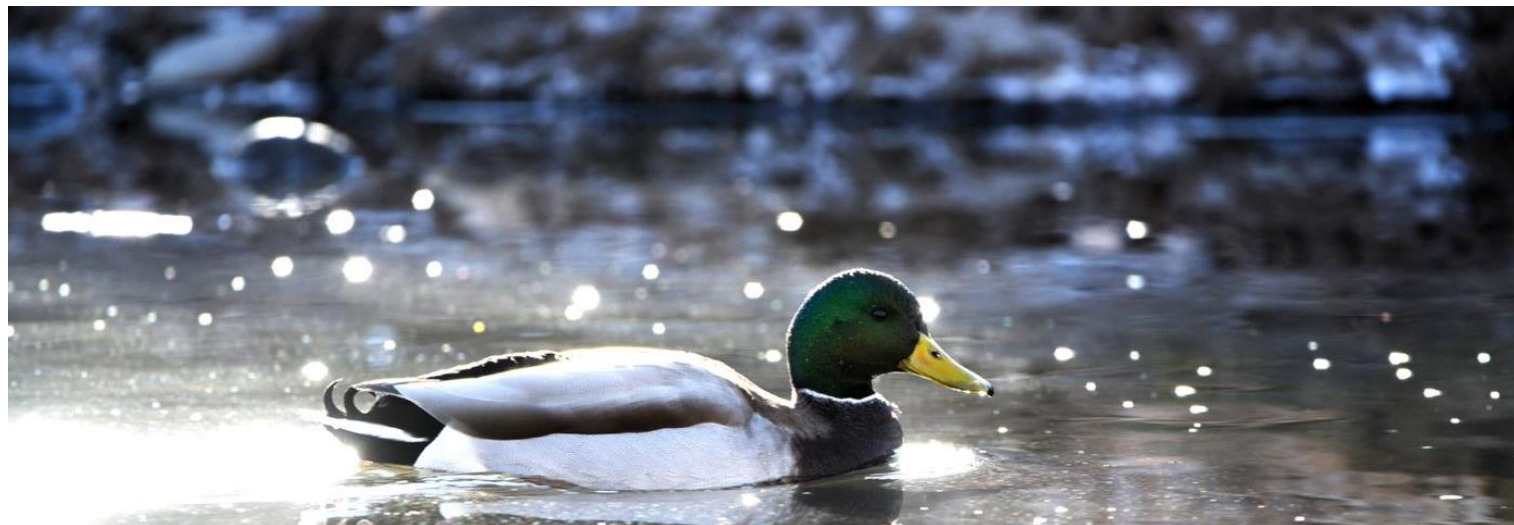
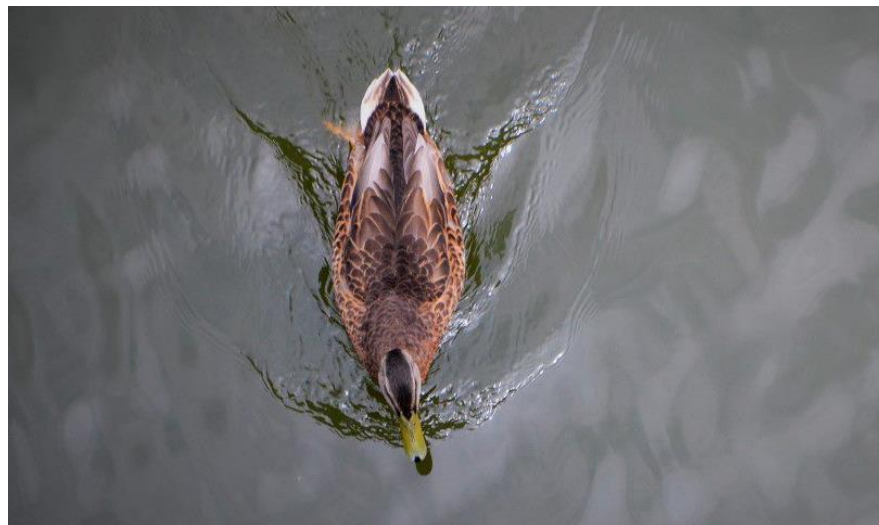


USDA WS  
Photo by Mike Milleson



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Photo by Kelsey Dawson





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# Acknowledgements

National Wildlife Disease Program Staff  
Wildlife Services Operational Staff  
State Natural Resource Agencies and Hunters  
USDA Veterinary Services, NVSL, NAHLN