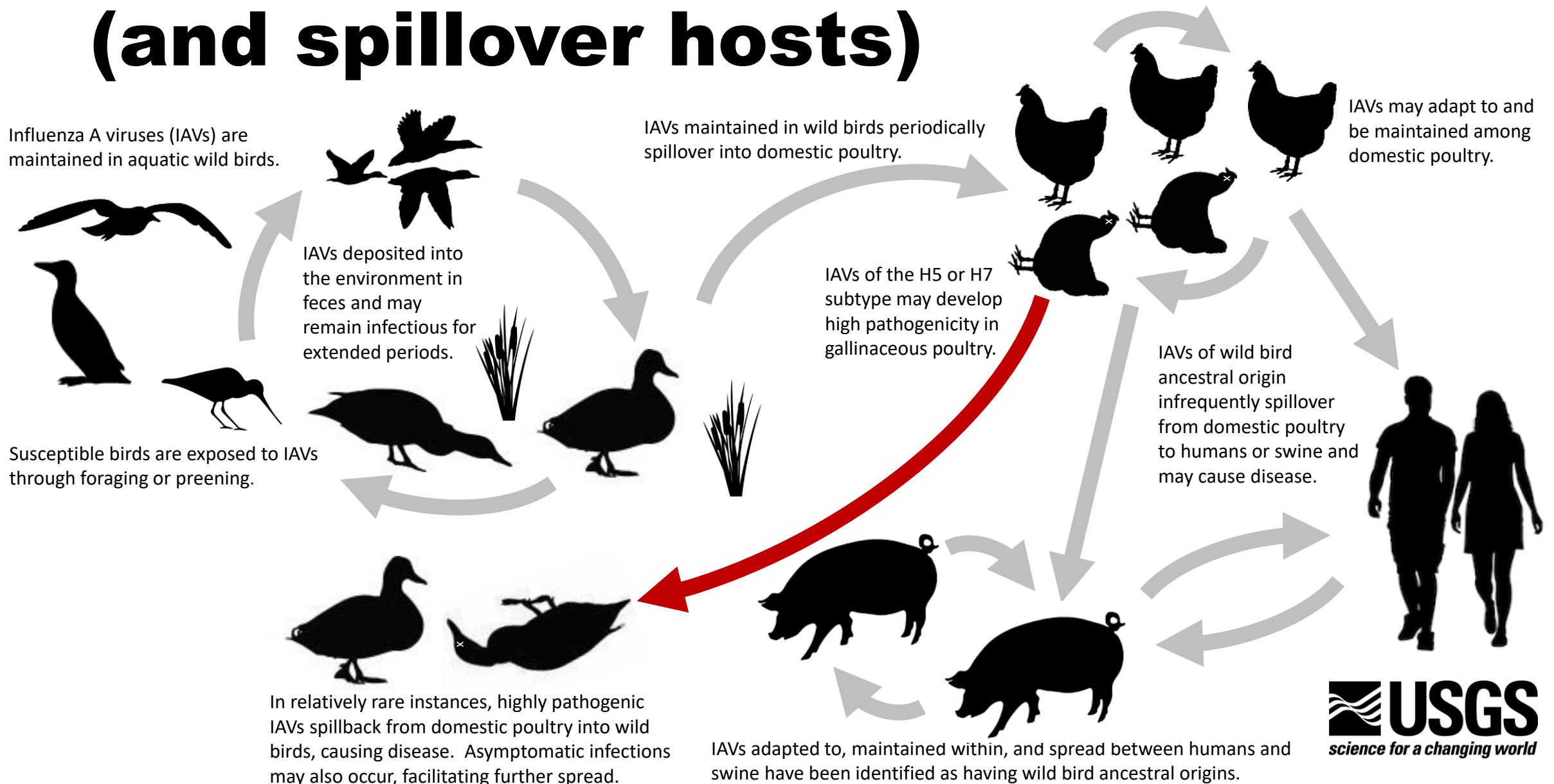
A black and white photograph of two mallards on a body of water. One mallard is in the foreground, facing right, with its head turned slightly towards the viewer. The second mallard is behind it, also facing right. Both birds have dark heads, white necks, and patterned bodies. The water is calm with some ripples.

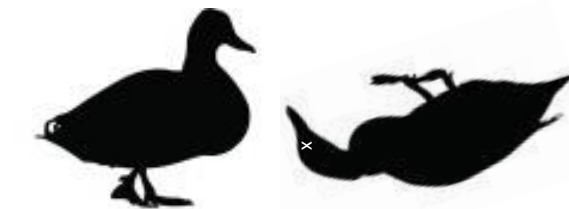
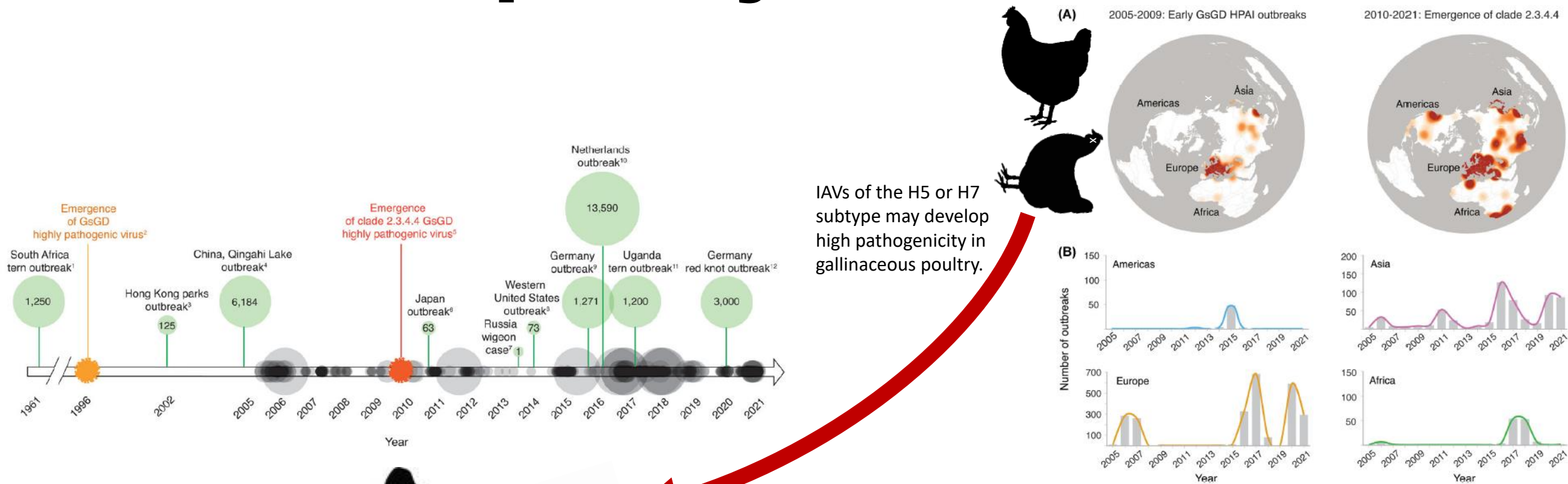
# **Recent detections of highly pathogenic avian influenza (HPAI) in wild birds of North America**

Andy Ramey  
USGS Alaska Science Center

# Influenza A viruses in wild birds (and spillover hosts)



# Spillover of HPAI viruses from domestic poultry to wild birds



In relatively rare instances, highly pathogenic IAVs spillback from domestic poultry into wild birds, causing disease. Asymptomatic infections may also occur, facilitating further spread.

Ramey et al. 2022. *Journal of Wildlife Management* doi.org/10.1002/jwmg.22171



# Current HPAI situation in wild and domestic birds

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.

Brittney J. Miller



Cranes are among the species dying from avian influenza. Credit: Heidi Levine/SIPA/Shutterstock

<https://www.nature.com/articles/d41586-022-01338-2>

CDC Centers for Disease Control and Prevention  
CDC 24/7: Saving Lives, Protecting People™

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Advanced Search

### Influenza (Flu)

Avian Flu > News & Spotlights

#### Avian Flu

Bird Flu in Birds

Bird Flu in People

Avian Influenza Type A Viruses

Prevention and Treatment

Information for Specific Groups

Current Situation

## Recent Bird Flu Infections in U.S. Wild Birds and Poultry Pose a Low Risk to the Public

[Español](#) | [Other Languages](#)

**February 14, 2022**—The U.S. Department of Agriculture's (USDA) Animal and Plant Health Inspection Service (APHIS) has announced [multiple detections of highly pathogenic avian influenza \(HPAI\) viruses in U.S. commercial poultry and backyard flocks](#) [1]. This follows [detections of HPAI A\(H5\) viruses in wild birds in the United States](#) [2] in the preceding weeks. The detection of these viruses in poultry does not change the risk to the general public's health, which CDC considers to be low. However, outbreaks in domestic poultry, in addition to infections in wild birds, may result in increased exposures in some groups of



<https://www.cdc.gov/flu/avianflu/spotlights/2021-2022/bird-flu-poses-low-risk-public.htm>

# Effects of HPAI on wild birds can be variable



Brown et al. 2006. Emerging Infectious Diseases doi.org/10.3201/eid1211.060652

# Mortality in wild birds can be significant



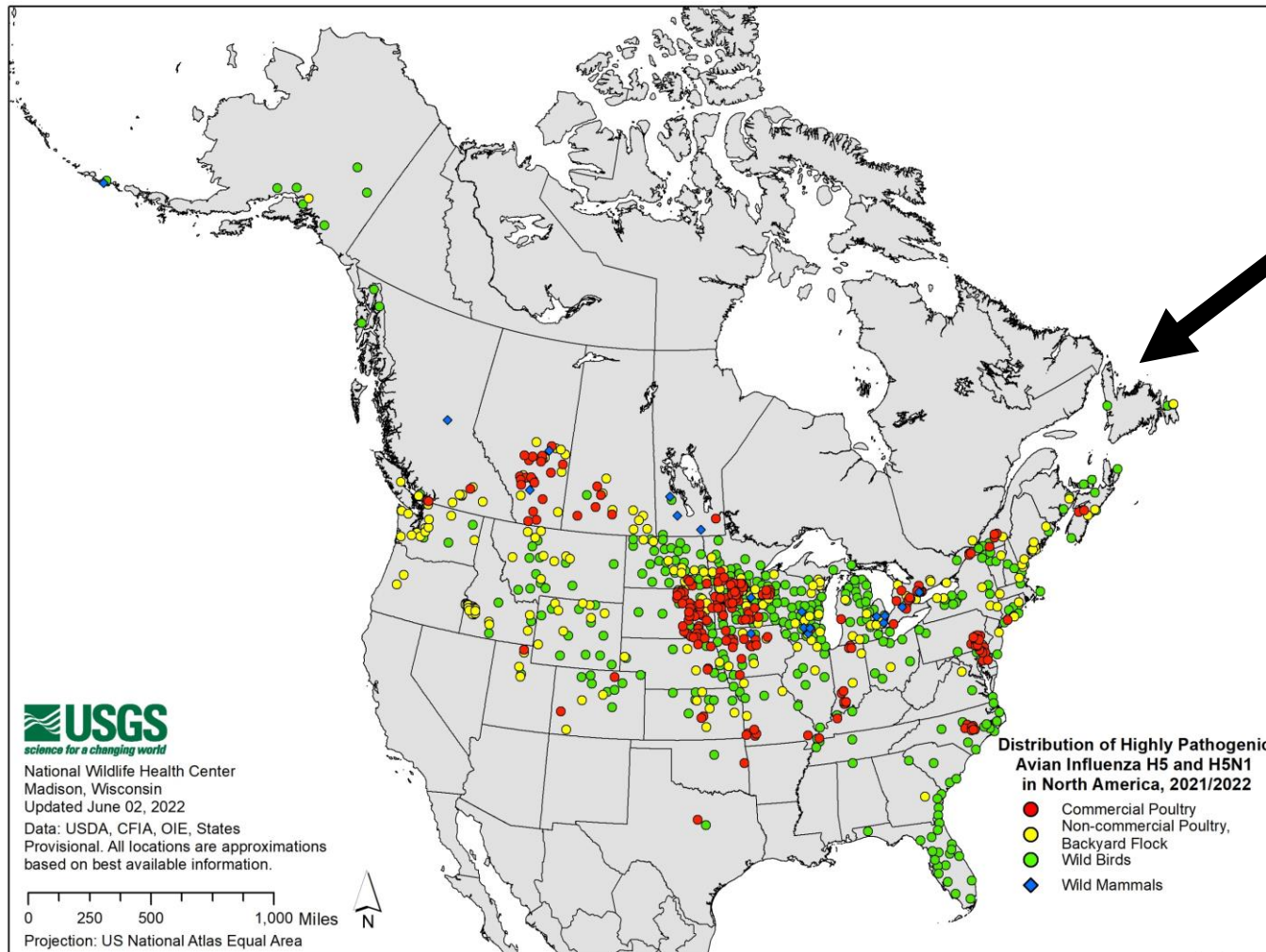
<https://www.nbcnewyork.com/news/national-international/bird-flu-kills-5200-cranes-in-israel/3469372/>



<https://www.rspb.org.uk/about-the-rspb/about-us/media-centre/press-releases/avian-influenza-outbreak/>

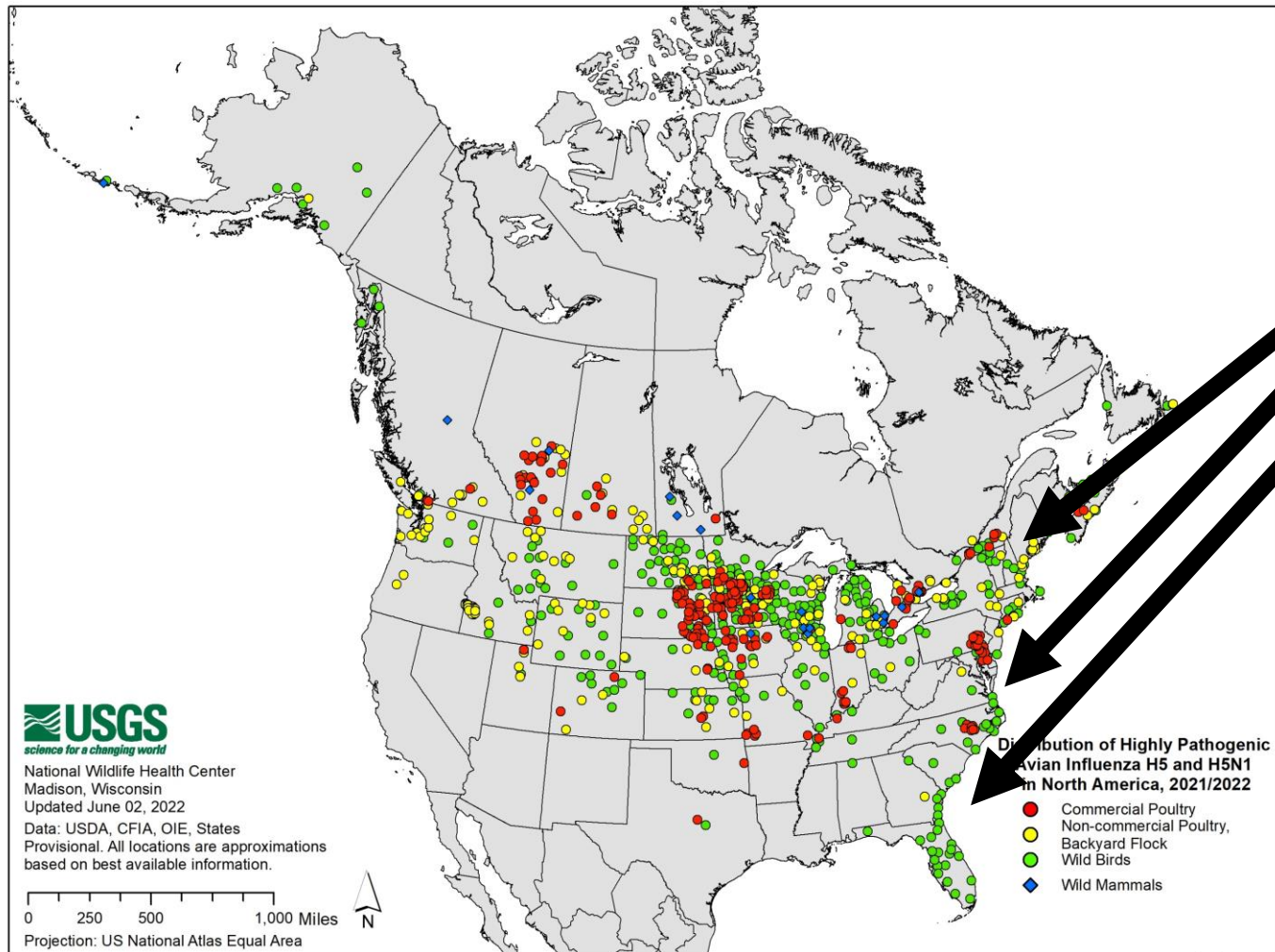


# Current outbreak of HPAI in North America wild birds and poultry



First detection in  
Newfoundland Canada in late  
December 2021

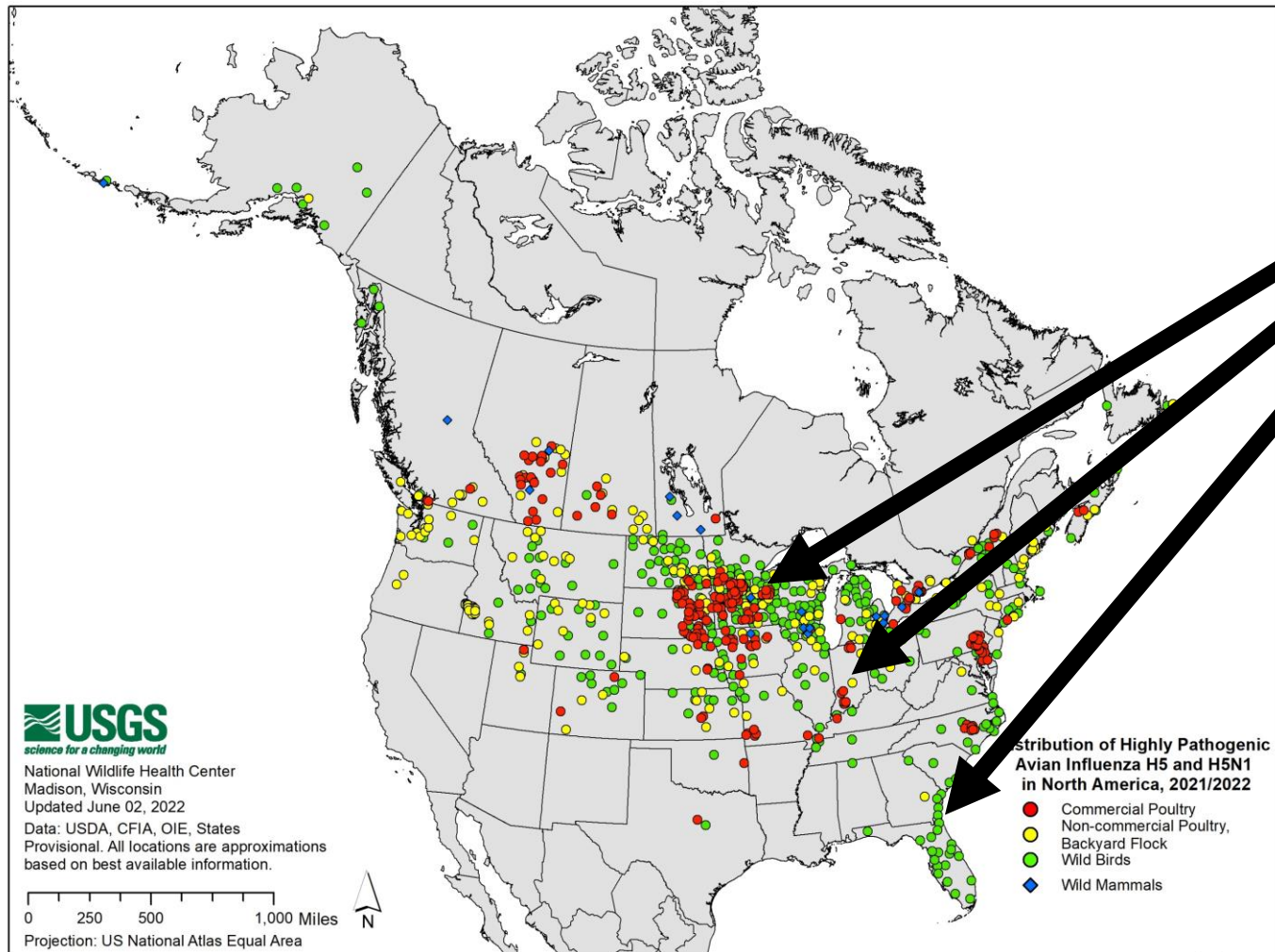
# Current outbreak of HPAI in North America wild birds and poultry



Subsequent detections along Eastern U.S. and Canada, largely from live-captured and hunter-harvested waterfowl.



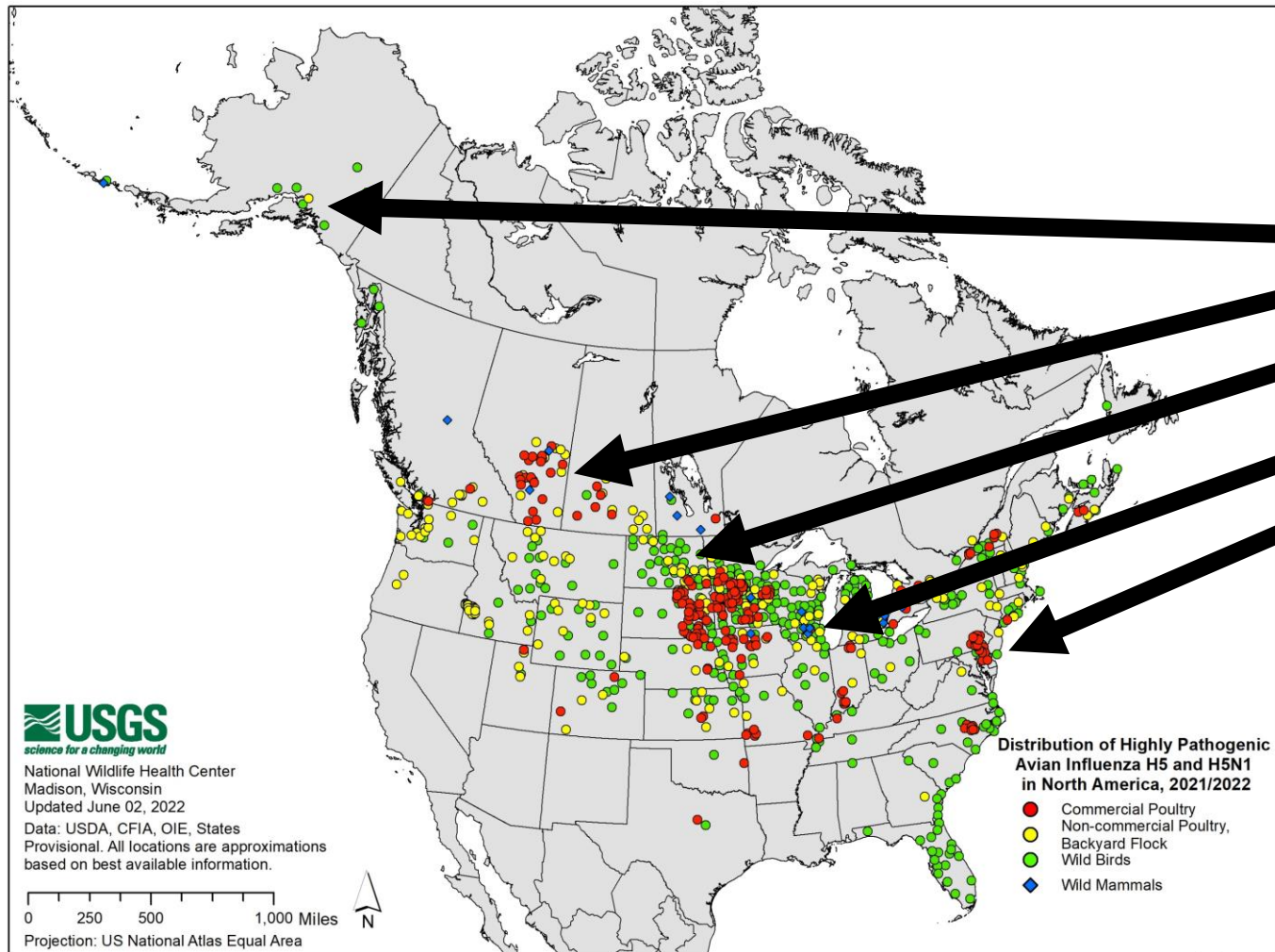
# Current outbreak of HPAI in North America wild birds and poultry



Detections spread westward and continue in the East including detections in waterfowl and poultry.

Considerable mortality in lesser scaup, bald eagles, and black vultures as well as domestic birds.

# Current outbreak of HPAI in North America wild birds and poultry

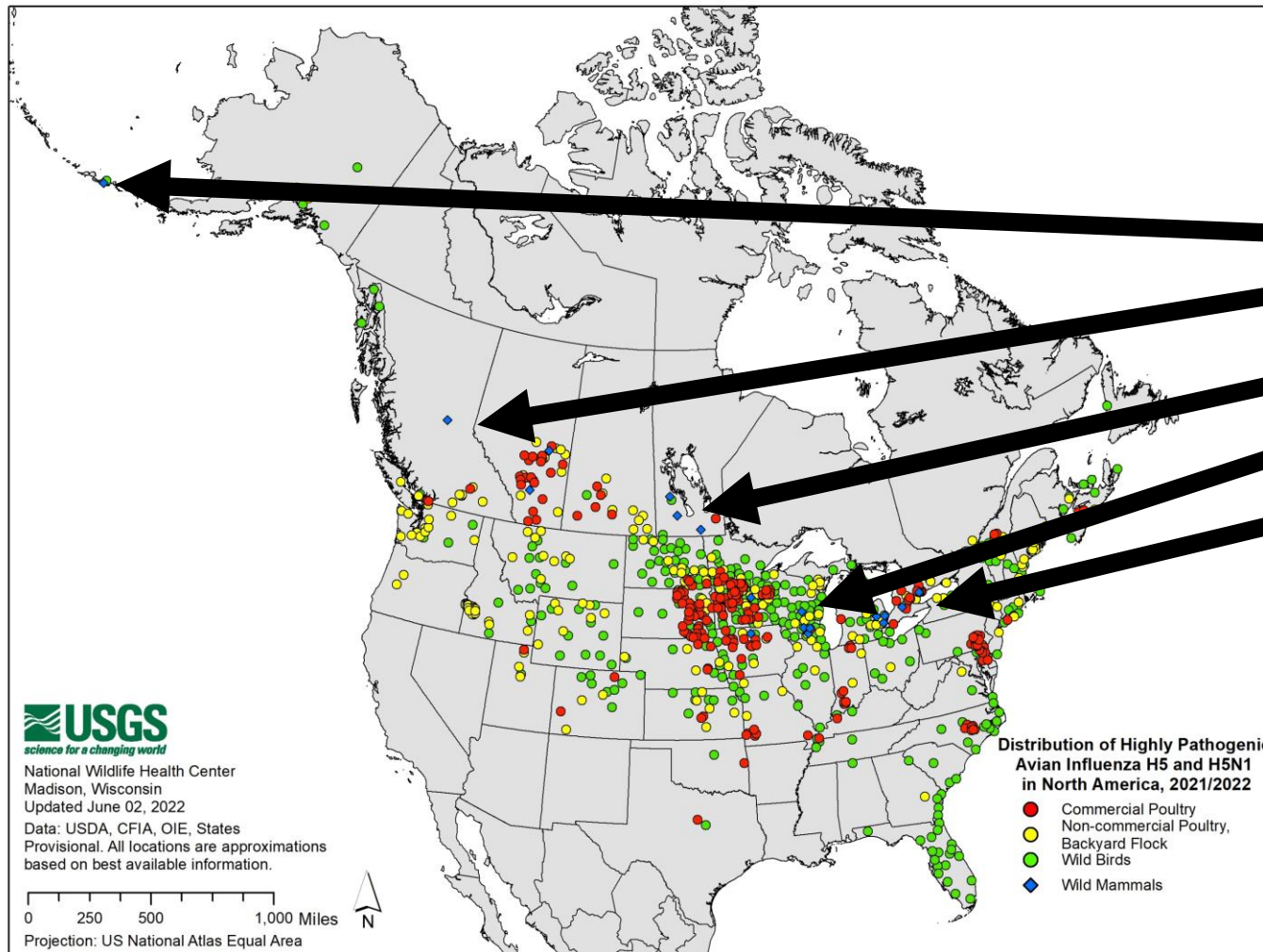


Detections spread north and west, continuing in the East and throughout the mid-continent.

Considerable mortality among snow geese, Ross's geese, and various raptor species, as well as domestic birds.



# Current outbreak of HPAI in North America wild birds and poultry



<https://www.usgs.gov/centers/nwhc/science/distribution-highly-pathogenic-avian-influenza-north-america-20212022>



## Foxes killed by avian flu

May 13, 2022



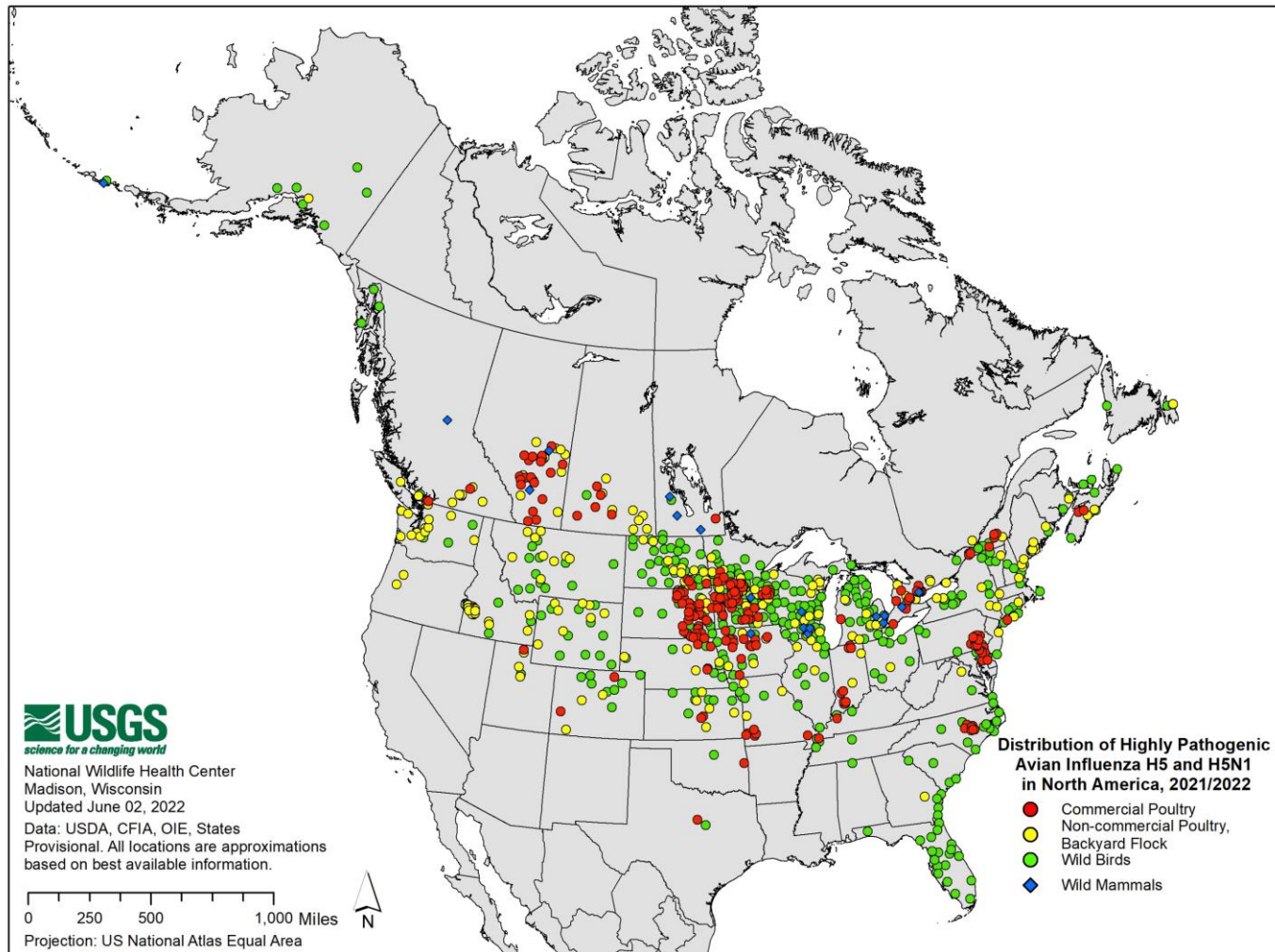
Highly pathogenic avian influenza primarily affects wild birds and poultry, but mammals like red fox kits are also susceptible. Credit: Michigan Department of Natural Resources

<https://wildlife.org/foxes-killed-by-avian-flu/>





# Current outbreak of HPAI in North America wild birds and poultry



















As of 3 June 2022...

- Confirmed detections in 40 states and 10 provinces
- 38 million domestic birds affected
- >60 spp. of wild birds affected through >1,700 confirmed infections

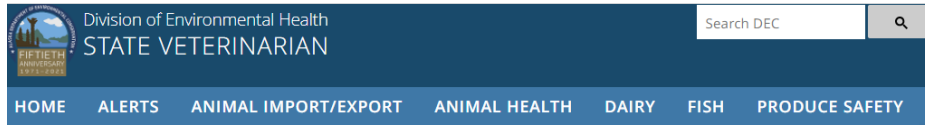
# Wild bird species affected in current outbreak of HPAI in North America

Wild bird spp. most commonly confirmed to be affected in the U.S. and Canada as of 3 June 2022...

- |  |  |
|--|--|
|  1. Snow goose        |  11. American green-winged teal |
|  2. Mallard           |  12. Wood duck                  |
|  3. Bald eagle        |  13. Turkey vulture             |
|  4. Canada goose      |  14. American black duck        |
|  5. Black vulture     |  15. Gadwall                    |
|  6. Red-tailed hawk   |  16. Lesser scaup               |
|  7. Great horned owl  |  17. Hooded merganser           |
|  8. American wigeon | 18. Herring gull   |
|  9. Ross's goose    | 19. American white pelican   |
| 10. American crow  |  20. (tie) snowy owl          |
|  | 20. (tie) wild turkey  |

 waterfowl    raptor

# For information on HPAI in Alaska...



You Are Here: [DEC / EH / Vet / Announcements / Highly Pathogenic Avian Influenza \(HPAI\) Outbreaks And Biosecurity Toolkit From USDA APHIS](#)

## HIGHLY PATHOGENIC AVIAN INFLUENZA (HPAI) OUTBREAKS AND BIOSECURITY TOOLKIT FROM USDA APHIS

[Print a copy of the Highly Pathogenic Avian Influenza \(HPAI\) Fact Sheet \(PDF\).](#)

### HPAI Outbreaks and Biosecurity

There have been multiple outbreaks of Highly Pathogenic Avian Influenza (HPAI) in the United States over the past few months in both wild waterfowl and poultry. The strain of HPAI detected here in the U.S. is the same one spreading in Europe and Asia, and has resulted in the death of waterfowl and poultry. More information about the current outbreaks, including case counts, is available on the [CDC](#) and [USDA](#) websites.

This is the time of year that people start importing poultry to their farms and backyard flocks, so it is also the perfect time for poultry growers to review their biosecurity plans. Reviewing your biosecurity plan will help you to do everything possible to keep your birds healthy and reduce the risk of spreading disease. The risk to human health from this HPAI virus is very low, but it is highly contagious among birds and can affect all types of domestic poultry.

On April 29, 2022, the [first case of HPAI in Alaska was confirmed](#) in a non-commercial backyard flock of chickens and ducks in the Matanuska-Susitna Borough. [HPAI has also been confirmed in wild birds in multiple locations across Alaska](#). Alaska's Office of the State Veterinarian (OSV) is working with the United States Department of Agriculture's (USDA) Animal and Plant Health Inspection Service (APHIS) on a joint response.

### Signs to Watch For

- Sudden death
- Significant drop in water consumption
- Respiratory distress
- Nasal discharge, sneezing, and coughing
- Abnormal behavior or difficulty walking
- Diarrhea
- Lethargy
- Blue discoloration of comb and wattles
- Swollen comb, wattles, legs, or head

### Who to Contact

To report illness or death in a backyard flock, please contact your local veterinarian or the Office of the State Veterinarian at 907-375-8215.

To report observations and concerns about migratory birds, email [ak\\_mbm@fws.gov](mailto:ak_mbm@fws.gov) or call 1-866-527-3358.

### ON THIS PAGE

- [HPAI Outbreaks and Biosecurity](#)
- [USDA APHIS Defend the Flock Program](#)
- [Alaska Poultry Biosecurity and Avian Influenza Update Webinar](#)
- [Additional Resources](#)
- [Confirmations of Highly Pathogenic Avian Influenza in Alaska](#)

### What to Do

- **Use good biosecurity practices on your farm!**
- If you have a pond nearby where waterfowl may be, do not allow your chickens or ducks near the water.
- Keep feed protected from wild birds or other wildlife.
- Keep poultry under cover or otherwise limit free ranging to prevent contact with wild birds.
- Change clothes and boots before going to another farm or area with birds.
- Do not share equipment and supplies with other bird owners.
- Isolate new birds for 30 days before adding them to your flock.
- Wash hands thoroughly after handling or working with birds. Wear clean clothes, and disinfect cages or equipment that come in contact with birds and their droppings.
- When handling and cleaning game, hunters should wear gloves, wash hands, and disinfect knives and equipment used for cleaning. Use caution if you have domestic birds at home.

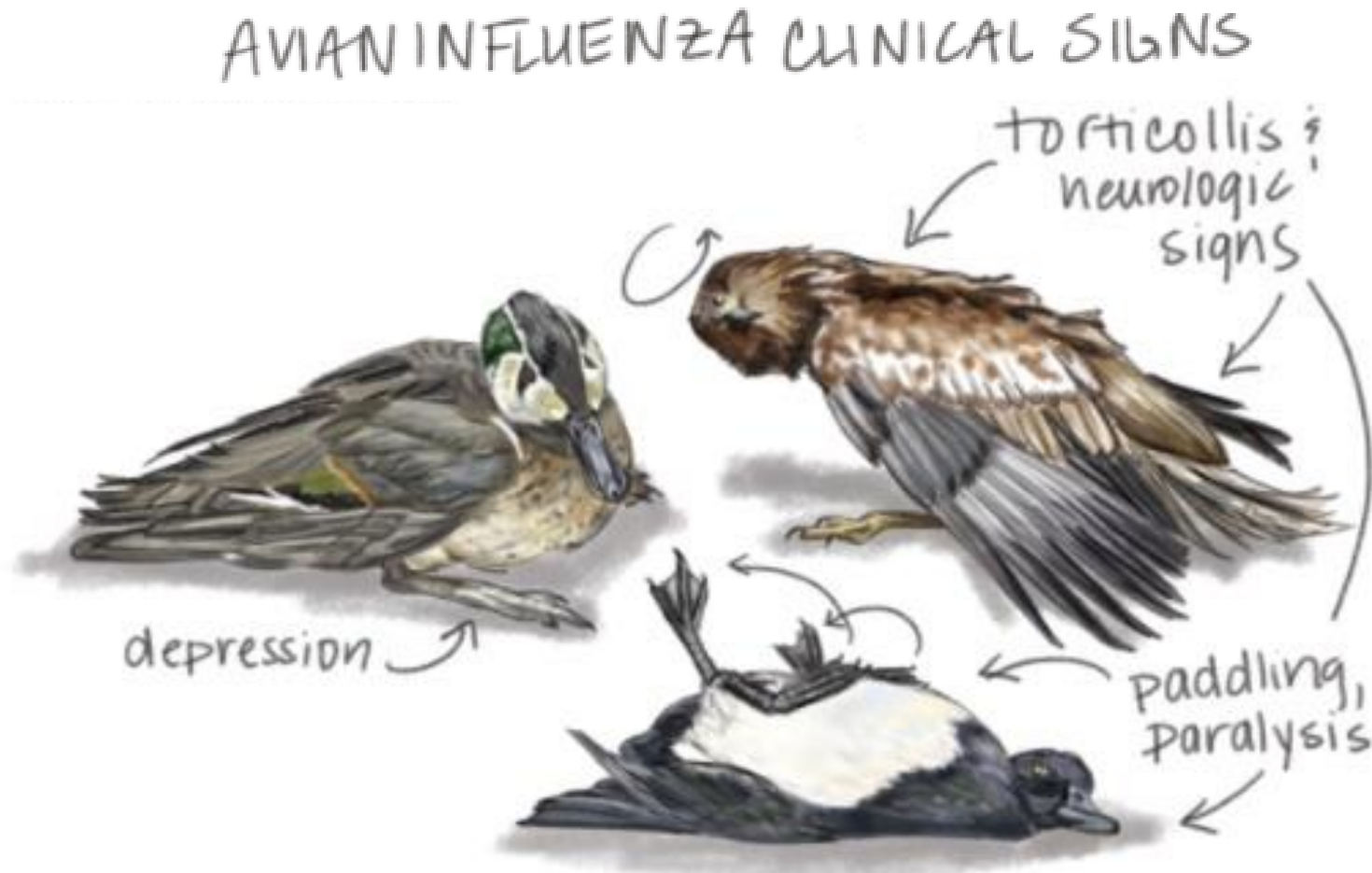
CONFIRMATION DATE	COUNTY	SPECIES	BIRDS AFFECTED	STRAIN
5/27/2022	City and Borough of Juneau	Northern Harrier	1	EA H5N1
5/27/2022	Kenai Peninsula Borough	Bald Eagle	1	EA H5N1
5/27/2022	Kenai Peninsula Borough	Bald Eagle	1	EA H5N1
5/27/2022	Sitka City and Borough	Bald Eagle	1	EA H5
5/27/2022	Sitka City and Borough	Bald Eagle	1	EA H5
5/27/2022	Sitka City and Borough	Bald Eagle	1	EA H5
5/27/2022	Sitka City and Borough	Bald Eagle	1	Low Pathogenic
5/26/2022	Municipality of Anchorage	Canada Goose	1	EA H5N1
5/26/2022	Fairbanks North Star Borough	Lesser Canada Goose	1	EA H5N1
5/25/2022	Aleutians West Census Area	Red Fox	1	EA H5N1
5/20/2022	Haines Borough	Bald Eagle	1	EA H5N1
5/17/2022	Municipality of Anchorage	Bald Eagle	1	EA H5N1
5/17/2022	Aleutians West Census Area	Bald Eagle	1	EA H5N1
5/17/2022	Chugach Census Area	Bald Eagle	1	EA H5N1
5/17/2022	Municipality of Anchorage	Canada Goose	1	EA H5N1
5/17/2022	Aleutians West Census Area	Bald Eagle	1	EA H5N1
5/17/2022	Aleutians West Census Area	Bald Eagle	1	EA H5N1
5/13/2022	Municipality of Anchorage	Canada Goose	1	EA H5N1
5/13/2022	Municipality of Anchorage	Canada Goose	1	EA H5N1
5/13/2022	Southeast Fairbanks Census Area	Canada Goose	1	EA H5N1
5/13/2022	Sitka City and Borough	Bald Eagle	1	EA H5N1
5/12/2022	Aleutians West Census Area	Bald Eagle	1	EA H5N1
5/12/2022	Matanuska-Susitna Borough	Bald Eagle	1	EA H5N1
5/6/2022	Aleutians West Census Area	Bald Eagle	1	EA H5N1

<https://dec.alaska.gov/eh/vet/announcements/avian-influenza-outbreaks>





If you observe sick or dead birds that you suspect might be affected by HPAI, please call the USFWS Alaska Sick/Dead Bird Hotline: **1-866-527-3358**



Artwork by Laura Donohue for Avian Influenza in Wild Birds by Andrew Ramey in Wildlife Health/Disease and Conservation, Johns Hopkins Press

# Consider posting reports and images of sick or dead birds to the LEO Network

LEO NETWORK

May 19, 2022 **EVENT**

**Strange behavior in a Canada goose**

BIRDS

SAFETY

UNUSUAL ANIMAL BEHAVIOR

10 km

5 mi

© Mapbox © OpenStreetMap

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Contributing Members

Erica Stone

Observer

Hooper Bay

Angela Matz

Consultant

Anchorage Alaska, United States

Fish and Wildlife Biologist Environmental Contaminants U.S. Fish and Wildlife Service

Send Message

Andrew Ramey

Consultant

Anchorage Alaska, United States

Research Scientist US Geological Survey - USGS

Send Message

See Also

View on Map

Avian flu confirmed in wild birds at multiple Alaska locations

Unalakleet, Alaska, United States

MAY 6, 2022

KINY

EVENT

Swans displaying unusual posture floating in lake

~ 60 Miles East of Nome Alaska, United States

MAY 5, 2022

EVENT

Alaska's first case of highly contagious bird flu strain confirmed in Mat-Su chickens

Matanuska Susitna Borough, United States

MAY 3, 2022

Alaska Public Media

EVENT

This video shot on Thursday May 19th, shows the erratic circling behavior of a Canada goose. Although the cause is unknown, this type of behavior is according to USGS, "highly suggestive" of an infection with Highly Pathogenic Avian Influenza (HPAI).

Shared to Facebook by Erica Stone:

LEO NETWORK

June 1, 2022 **EVENT**

**Unusual bird behavior and illness observed across species on Yukon Delta**

BIRDS

SAFETY

FOOD SECURITY

100 km

50 mi

© Mapbox © OpenStreetMap

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Contributing Members

Bryan Daniels

Observer

Anchorage Alaska, United States

Biologist Waterfowl USFWS- Yukon Delta National Wildlife refuge

Send Message

Angela Matz

Consultant

Anchorage Alaska, United States

Fish and Wildlife Biologist Environmental Contaminants U.S. Fish and Wildlife Service

Send Message

Andrew Ramey

Consultant

Anchorage Alaska, United States

Research Scientist US Geological Survey - USGS

Send Message

See Also

View on Map

Growing cases of bird illness in Norton Sound

Golovin, Alaska, United States

MAY 30, 2022

EVENT

Two wild birds test positive for avian flu in a first for the Yukon

Whitehorse, Yukon, Canada

MAY 27, 2022

EVENT

"Since about May 25, crews have been seeing multiple species showing what we believe are signs of highly pathogenic avian influenza. The signs we are seeing widespread is a headshaking that we equate to "getting the cobwebs out", like a person may do when they first wake up. This behavior occurs regularly every couple minutes. This behavior has been observed in: black brant, cackling geese, bar-tailed godwits, dunlin, lapland longspurs, spectacled eiders, emperor geese, greater white-fronted geese, sabbines gulls, glaucous gulls, and red-necked phalaropes."

Observation by Bryan Daniels:

As a Waterfowl Biologist for Yukon Delta National Wildlife Refuge I operate and collaborate in a handful of research camps on the Yukon Delta. There have been 2 camps on the coast since early May, and multiple more camps deploy this first week of June and instructed to assist in collecting information so we can disseminate what we know. There appears to be much fewer nesting birds thus

LEO NETWORK

May 26, 2022 **EVENT**

**Unusual circling behavior in a brant goose near Golovin**

BIRDS

SAFETY

UNUSUAL ANIMAL BEHAVIOR

5 km

3 mi

© Mapbox © OpenStreetMap

Follow

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Contributing Members

Gay Sheffield

Key Contact

Nome Alaska, United States

Marine Advisory Program Bering Strait UAF Sea Grant

Send Message

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Consultant

Anchorage Alaska, United States

Fish and Wildlife Biologist Environmental Contaminants U.S. Fish and Wildlife Service

Send Message

Andrew Ramey

Consultant

Anchorage Alaska, United States

Research Scientist US Geological Survey - USGS

Send Message

See Also

View on Map

Strange behavior in a Canada goose


Hooper Bay, Alaska, United States

MAY 19, 2022

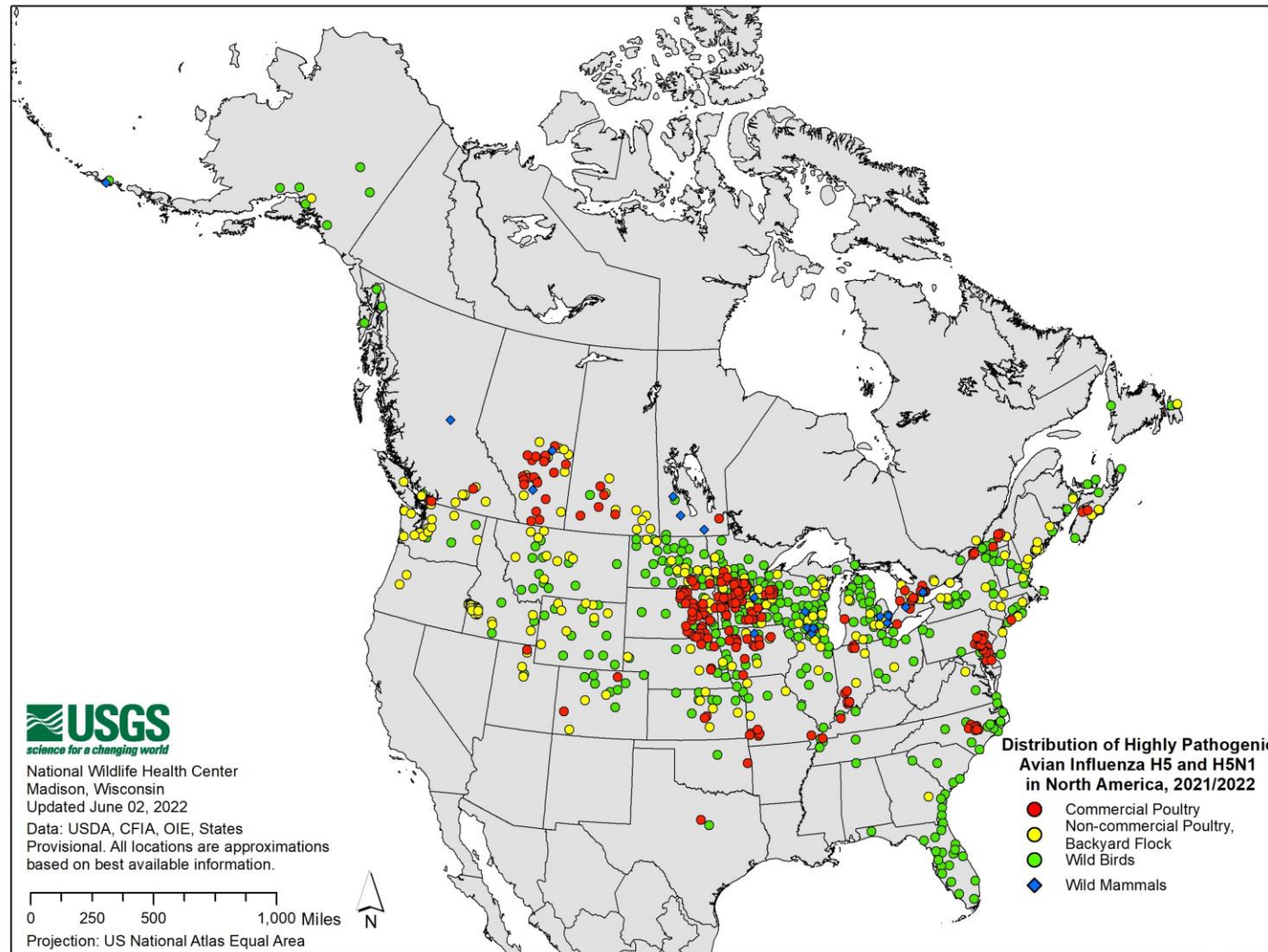
EVENT

Video shows unusual circling behavior of a brant goose filmed by a local hunter near Golovin, Alaska. Although the cause is unknown, this type of behavior is according to USGS, "highly suggestive" of an infection with Highly Pathogenic Avian Influenza (HPAI).

Observation shared by area resident Hunter Gray with help from Gay Sheffield:

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# For additional information on the distribution of HPAI in North America...



<https://www.usgs.gov/centers/nwhc/science/distribution-highly-pathogenic-avian-influenza-north-america-20212022>



# For additional information on the wild bird species affected by HPAI in the U.S...

USDA Animal and Plant Health Inspection Service  
U.S. DEPARTMENT OF AGRICULTURE

About APHIS | Ask USDA | Careers | Contact Us | Help

Home Our Focus Resources Newsroom Pet Travel Blog


Search APHIS

USDA FAQs and resources about coronavirus (COVID-19). LEARN MORE

Animal Health / Animal Disease Information / Avian / Avian Influenza /


## 2022 Detections of Highly Pathogenic Avian Influenza in Wild Birds

Last Modified: May 10, 2022



Learn about 2022 detections of HPAI in Commercial and Backyard Flocks.

Wild birds can be infected with HPAI and show no signs of illness. They can carry the disease to new areas when migrating, potentially exposing domestic poultry to the virus. APHIS anticipates additional avian influenza detections will occur in additional states as wild bird surveillance continues into the spring. APHIS' wild bird surveillance program provides an early warning system for the introduction and distribution of avian influenza viruses of concern in the United States, allowing APHIS and the poultry industry to take timely and rapid action to reduce the risk of spread to our poultry industry and other populations of concern.



Select to see larger image

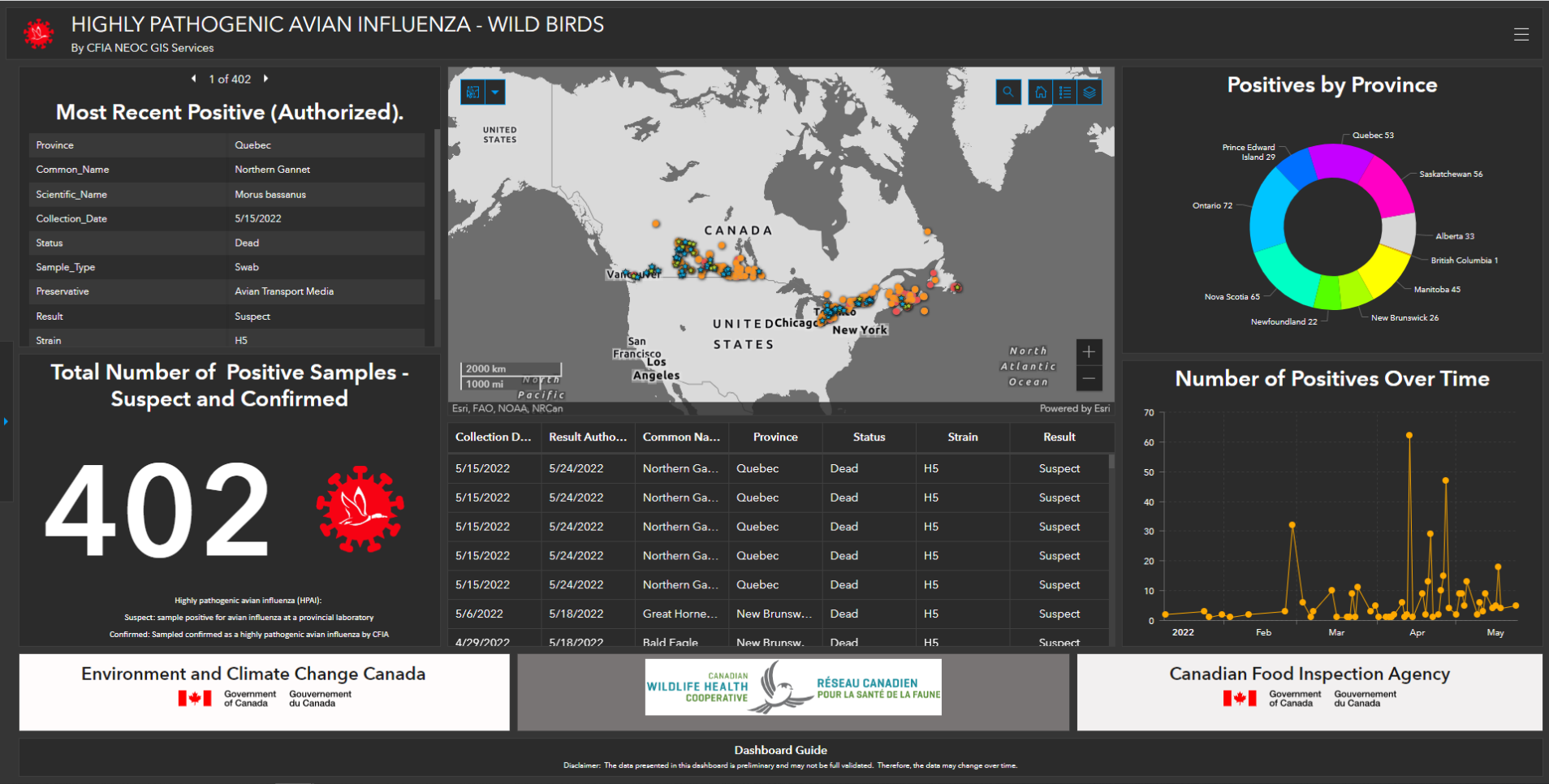
Use the search box to filter data by County, State, Date, HPAI strain, etc. Re-sort the table by selecting a column name.

Show 25 entries Search:

State	County	Date Detected	HPAI strain	Type of Wild Bird	Reporting Source
Minnesota	Chisago	5/6/2022	EA H5N1	Common loon	Wild bird mortality MN DNR
Washington	Stevens	5/6/2022	EA H5N1	Bald eagle	Wild bird mortality WA Dept of Fish and Wildlife
Wyoming	Teton	5/5/2022	EA H5N1	Great horned owl	Wild bird mortality WY Game and Fish Department
Wyoming	Teton	5/5/2022	EA H5N1	Red-tailed hawk	Wild bird mortality WY Game and Fish Department
Wyoming	Sweetwater	5/5/2022	EA H5N1	Great horned owl	Wild bird mortality WY Game and Fish Department
Wyoming	Albany	5/5/2022	EA H5N1	Canada goose	Wild bird

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

# For information on HPAI in wild birds in Canada...



<https://cfia-ncr.maps.arcgis.com/apps/dashboards/89c779e98cdf492c899df23e1c38fdbc>

# For questions or concerns regarding human health and safety on account of HPAI...

## Influenza (Flu)

### Avian Flu



#### Avian Flu

Bird Flu in Birds

Bird Flu in People +

Avian Influenza Type A Viruses

Prevention and Antivirals

Information for Specific Groups +

Current Situation +

Past Outbreaks +

Health Care & Laboratorian Guidance +

## Information on Bird Flu

[Español](#) | [Other Languages](#)

Avian influenza or bird flu refers to the disease caused by infection with avian (bird) influenza (flu) Type A viruses. These viruses naturally spread among wild aquatic birds worldwide and can infect domestic poultry and other bird and animal species. Bird flu viruses do not normally infect humans. However, sporadic human infections with bird flu viruses have occurred. The links below offer more information about bird flu.

### Bird Flu Basics



### Health Care Guidance



### Bird Flu Updates



<https://www.cdc.gov/flu/avianflu/index.htm>



# For steps hunters can take to reduce the risk of HPAI to human and animal health...

USDA Animal and Plant Health Inspection Service  
U.S. DEPARTMENT OF AGRICULTURE

## Highly Pathogenic Avian Influenza (HPAI)



### Hunters—Protect Your Poultry and Pet Birds From Avian Influenza

Avian influenza, or “bird flu,” is a respiratory disease of birds caused by influenza A viruses. Wild birds, such as ducks, gulls, and shorebirds, can carry and spread these viruses but may show no signs of illness. However, avian influenza can kill domestic poultry (such as chickens, turkeys, ducks, and geese).

Avian influenza spreads quickly through direct, bird-to-bird contact. It can also spread to birds via contaminated surfaces and materials, including people's clothing, shoes, or hands.

If you raise poultry or keep pet birds, follow the recommendations below to make sure you don't spread avian influenza to your birds.

#### When Hunting

- Do not harvest or handle wild birds that are obviously sick or found dead.
- Wash your hands with soap and water immediately

#### When Dressing Game Birds

- Always wear disposable gloves when handling or cleaning game and wash hands with soap and water immediately afterward. If soap and water are not available, use an alcohol-based hand sanitizer.
- Dress game birds in the field whenever possible.
- If you can't dress birds in the field, clean them in a location away from poultry and other birds.
- Keep a separate pair of shoes to wear only in your game cleaning area. If this is not possible, wear rubber footwear and clean and disinfect your shoes before entering or leaving the area.
- Use dedicated tools for cleaning game, whether in the field or at home. Do not use those tools around poultry or pet birds.
- Double bag the offal and feathers. Tie the inner bag, take off your gloves, and leave them in the outer bag

[https://www.aphis.usda.gov/publications/animal\\_health/2015/fsc\\_hpai\\_hunters.pdf](https://www.aphis.usda.gov/publications/animal_health/2015/fsc_hpai_hunters.pdf)



### Highly Pathogenic Avian Influenza and Migratory Birds in Alaska

Highly pathogenic avian influenza (HPAI) viruses can affect the health of humans, domestic animals, and wildlife. Globally, HPAI outbreaks have increased rapidly in both domestic poultry and wild birds. Recently, the H5N1 strain of HPAI has been detected in Alaska and has caused illness and death in waterfowl, shorebirds, gulls, and birds of prey in North America. The Center for Disease Control believes that the public health risk from HPAI in North America is low.

#### Hunters

Alaska hunters should still exercise caution while hunting and eating migratory birds by following these steps to reduce infection risk:

- Do not harvest game that appear sick or are found dead.
- Wear rubber or disposable latex or nitrile gloves while handling and cleaning game.
- When done handling game, wash hands thoroughly with soap or disinfectant, and disinfect knives, equipment, and surfaces that were in contact with game.
- Do not eat, drink, or smoke while handling game.
- Cook game thoroughly to an internal temperature of 165 degrees.

#### To Report Observations and Concerns about Migratory Birds in ALASKA

Birds with HPAI infections may appear disoriented, be walking in circles, have jerky head movements, or hold their neck or heads in an unusual position, or may be dead. Helpful information to include when reporting: location of the bird(s), species; number of birds; and whether the birds are dead, dying, injured or behaving in an erratic or abnormal manner, or have lost their fear of humans.

- U.S. Fish and Wildlife Service's Alaska Sick/Dead Bird Hotline: 1-866-527-3358
- Alaska Department of Fish and Game Wildlife Health Reporting email: [dfg.dwc.vet@alaska.gov](mailto:dfg.dwc.vet@alaska.gov)
- Local Environmental Observer Network

[https://www.fws.gov/story/highly-pathogenic-avian-influenza-and-migratory-birds-alaska#:~:text=Highly%20pathogenic%20avian%20influenza%20\(HPAI,domestic%20poultry%20and%20wild%20birds.](https://www.fws.gov/story/highly-pathogenic-avian-influenza-and-migratory-birds-alaska#:~:text=Highly%20pathogenic%20avian%20influenza%20(HPAI,domestic%20poultry%20and%20wild%20birds.)

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science for a changing world

# Contacts in Alaska

To report dead or dying wild birds, please call the  
USFWS Alaska Sick/Dead Bird Hotline:

**1-866-527-3358** or email **AK\_MBM@FWS.GOV**

Eric Taylor

U.S. Fish and Wildlife Service

[eric\\_taylor@fws.gov](mailto:eric_taylor@fws.gov)

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907-903-7210 (cell)

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907-375-8214

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907-786-7174

