

HIGHLY PATHOGENIC AVIAN INFLUENZA (HPAI):  
UPDATE FOR THE YUKON DELTA REGIONAL ADVISORY COUNCIL

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## OUTLINE OF TALK

- What is Highly Pathogenic Avian Influenza (HPAI)?
- HPAI Outbreak History
- Who is Tracking HPAI in Alaska
- Migratory Bird Species affected on YKD
- Risks to Humans
- Expectations for Fall and Winter

# WHAT IS HPAI H5N1?

Avian influenza (AI) is caused by a virus which infects poultry (chickens, domestic ducks) and wild birds (especially waterfowl).

Avian influenza viruses are classified by

1. Protein groups: H1 to H16 (hemagglutinin) and N1 to N9 (neuraminidase)
2. Pathogenicity – ability to produce disease in domestic chickens
  - Low pathogenicity AI (LPAI) occurs naturally in wild birds without causing illness.
  - Highly pathogenic AI (HPAI) is extremely infectious, and often fatal to chickens.
3. Where they are thought to come from:
  - “European strain”
  - “North American strain”

# OUTBREAK HISTORY

- Current HPAI outbreak began in 2020
  - Previous global outbreaks – different strains - were in 2004 and 2014-16
- Current strain first detected in North America in Dec 2021 in eastern Canada.
- Spread westward across the continent, in domestic/commercial poultry and in wild birds.
- First detections in Alaska: Late April, 2022
- More detections over the summer, many on YKD
- USFWS has worked with a state-federal-tribal interagency group to address HPAI in Alaska by coordinating carcass collection.
  - Track spread of HPAI geographically
  - Track species affected by HPAI
  - Provide information to subsistence hunters.

# AGENCY HPAI COLLABORATION IN ALASKA

## Tribal

Alaska Native Tribal Health Consortium

## Federal

US Dept. Agriculture – Animal & Plant Health Inspection Service

US Fish & Wildlife Service – Migratory Bird Program, National Wildlife Refuges, and Ecological Services

USGS – Alaska Science Center

National Park Service

## State of Alaska:

AK Dept. Of Env. Conservation – Office of the State Veterinarian

AK Dept. of Fish & Game – Area Biologists and Wildlife Veterinarian

AK Dept. Of Health

UAF Extension/Alaska SeaGrant

## Goals

- ✓ Track spread of HPAI across Alaska
- ✓ Track species affected by HPAI
- ✓ Provide information to subsistence hunters.

## TRACKING HPAI IN ALASKA IN 2022

1. Calls to Sick and Dead Bird Hotline: 1-866-527-3358
2. USFWS works with others to collect sick birds or carcasses for testing
3. Collection depends on how many birds, carcass condition, other logistics - it is much easier for us to collect carcasses where there are agency personnel
4. ADEC Office of the State Veterinarian takes and sends off samples, and posts confirmed cases on their website:  
<https://dec.alaska.gov/eh/vet/announcements/avian-influenza-outbreaks>

## SPECIES AFFECTED IN ALASKA TO DATE (10/4/2022):

|   | Taxa   | Number HPAI<br>Confirmed in AK |
|---|--|--------------------------------|
| Raptors: Bald Eagle, Northern Harrier, Snowy Owl  | Bald Eagle                                     | 23                             |
| Waterbirds: Black Brant, Cackling Goose, Canada Goose,<br>Mallard, Red-Necked Grebe, Snow Goose, Northern Pintail             | Other Raptor                                   | 2                              |
|   | Waterbirds                                     | 17                             |
| Corvids: Common Raven   | Corvid   | 11                             |
| Crane: Sandhill Crane   | Crane  | 1                              |
|   | Gulls/Terns/Jaegers                            | 18                             |
| Gulls/Terns/Jaegers: Arctic Tern, Glaucous Gull, Glaucous-<br>Winged Gull, Parasitic Jaeger, Sabine's Gull, Short-Billed Gull | Shorebird/Passerine                            | 5                              |
|   | Domestic (4 flocks)                            | 84                             |
|   | Mammal (red fox)                               | 2                              |
| Shorebirds/Passerines: Dunlin, Tree Swallow   | <b>Total to date<br/>(8/8/2022)</b>            | <b>163</b>                     |
| Domestic Poultry: Chickens/ducks  | <b>Total Wild Birds to<br/>date (8/8/2022)</b> | <b>77</b>                      |
| Mammals: Red Fox  |  |                                |



# CONFIRMED HPAI ON YKD

- **Dead Birds**

- Black Brant
- Glaucous gulls
- Sabines gulls
- Short-billed gull
- Raven
- Dunlin
- Sandhill crane
- Parasitic jaeger
- Arctic tern
- Chickens

- **Live Birds**

- Mallard
- Pintail





# HPAI SAMPLING ON LIVE BIRDS

- Collected paired blood and oral/cloacal swabs on adults
  - 50 Emperor Geese
  - 60 black brant
  - 63 cackling geese
  - 6 Spectacled eiders
- Swabs only
  - 225 ducks
- Trying to learn more about past and current infections and immunities



## HPAI OUTREACH BY YDNWR

- Yukon Delta NWR Facebook posts
- 4 talks on KYUK Radio
- LEO (Local Environmental Observer) network
- Email updates to Jennifer Hooper at AVCP
- AVCP Waterfowl Conservation Committee presentation

## RISKS TO HUMANS

“More than 880 human infections with earlier H5N1 viruses have been reported since 2003 worldwide, however the current virus circulating is different than earlier strains

The Centers for Disease Control (CDC) considers the risk to humans from this outbreak to be low.

- One reported case in US; two reported in the world. Both had mild symptoms.

## RISKS TO HUMANS: HUNTERS

- Flu viruses, and many other viruses, can be killed with heat.
- Advice to subsistence hunters was developed with tribal and State health agencies; it's very similar to USDA advice for hunters.

Even though HPAI is of low risk for human health, **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 and eggs thoroughly to an internal temperature of 165 degrees.**

## RISKS TO OTHER ANIMALS

- Multiple species of scavenger mammals have been infected during the current HPAI outbreak.
- In North America, current outbreak detected in: red fox (two in Alaska), raccoons, striped skunks, opossum, bobcat, coyote, harbor seals, grey seals, mink.
- Not detected in any dogs in North America, but dogs eating infected carcasses may be at risk.
- It has not been detected in marine mammals in Alaska, although avian influenza viruses can be found in marine mammals, and this HPAI has been detected in seals in Maine. The National Marine Fisheries Service Stranding Network has tested for it; currently archiving samples and monitoring .

## HPAI EXPECTATIONS FALL 2022 AND WINTER 2022/2023

- WE DON'T KNOW
- HPAI will likely will not go away (based on multiple migration cycles in Europe).
- Staging in coastal lagoons and estuaries and wintering on Alaska Peninsula may result in additional mortality.
- Drought in California will concentrate wintering birds in remaining wetlands, may result in additional mortality.
- HPAI is another hardship for migratory birds in North America

## HOW LONG CAN AVIAN INFLUENZA SURVIVE IN THE ENVIRONMENT?

Avian influenza can be removed from clothing and surfaces by detergents and disinfectants, and heating and drying will inactivate them.

However, these viruses can persist in soil, feces, and pond water for varying amounts of time, especially in cool and wet conditions.



# RESOURCES

## Information Links:

- U.S. Fish and Wildlife Service information about Avian Influenza in wild bird: (<https://www.fws.gov/node/379666>)
- Alaska Bird FAQ: if it's sick, abandoned, injured or dead (<https://www.fws.gov/node/271056>)
- Alaska Department of Health Avian Flu Page: (<https://dhss.alaska.gov/dph/Epi/id/Pages/influenza/avian/default.aspx>)
- National Centers for Disease Control (CDC) Avian Flu Page (human health information): (<https://www.cdc.gov/flu/avianflu/index.htm>)
- National HPAI case counts in wild birds:
- <https://www.aphis.usda.gov/aphis/ourfocus/animalhealth/animal-disease-information/avian/avian-influenza/hpai-2022/2022-hpai-wild-birds>
- Case counts in Alaska:
- <https://dec.alaska.gov/eh/vet/announcements/avian-influenza-outbreaks>.

# RESOURCES

## 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.leonetwork.org>

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