

PROTECTING YOUR FLOCK AGAINST AVIAN INFLUENZA

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Avian Diagnostician

March 1, 2024

10:00-11:00 am

IMPROVING DISEASE PREPAREDNESS AMONG SMALL-SCALE POULTRY OWNERS

- Who: We are a group of researchers funded by the USDA to understand biosecurity in small-scale operations
- What: We are asking you to complete this survey on your background knowledge of small-scale operations
- Why: With the data we gather from this and other surveys we will be able to help improve the health of both you and your flock



GAUGE OF AWARENESS!

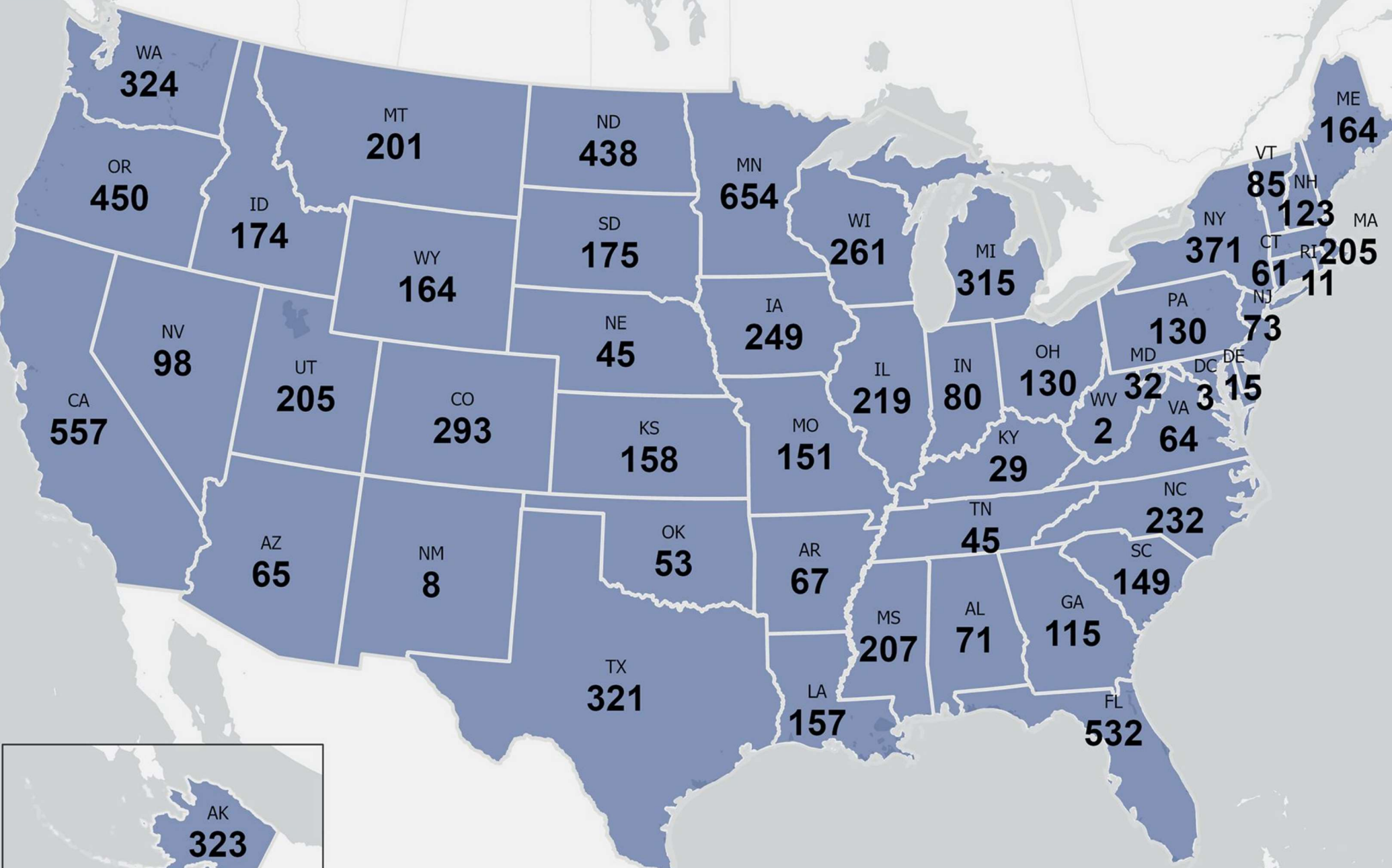
- How many people have contracted AI in U.S. since the beginning of the outbreak in 2022?
 - 1 !!!!!!!!!!!!!!!
- What strain of AI are we dealing with?
 - H5N1
- How many birds have been affected?
 - XXXXXXXXXXXXX

WHERE ARE WE TODAY?





States with HPAI detections in wild birds (Total Count: 9,054)
Numbers represent all positive wild bird samples since January 1, 2022



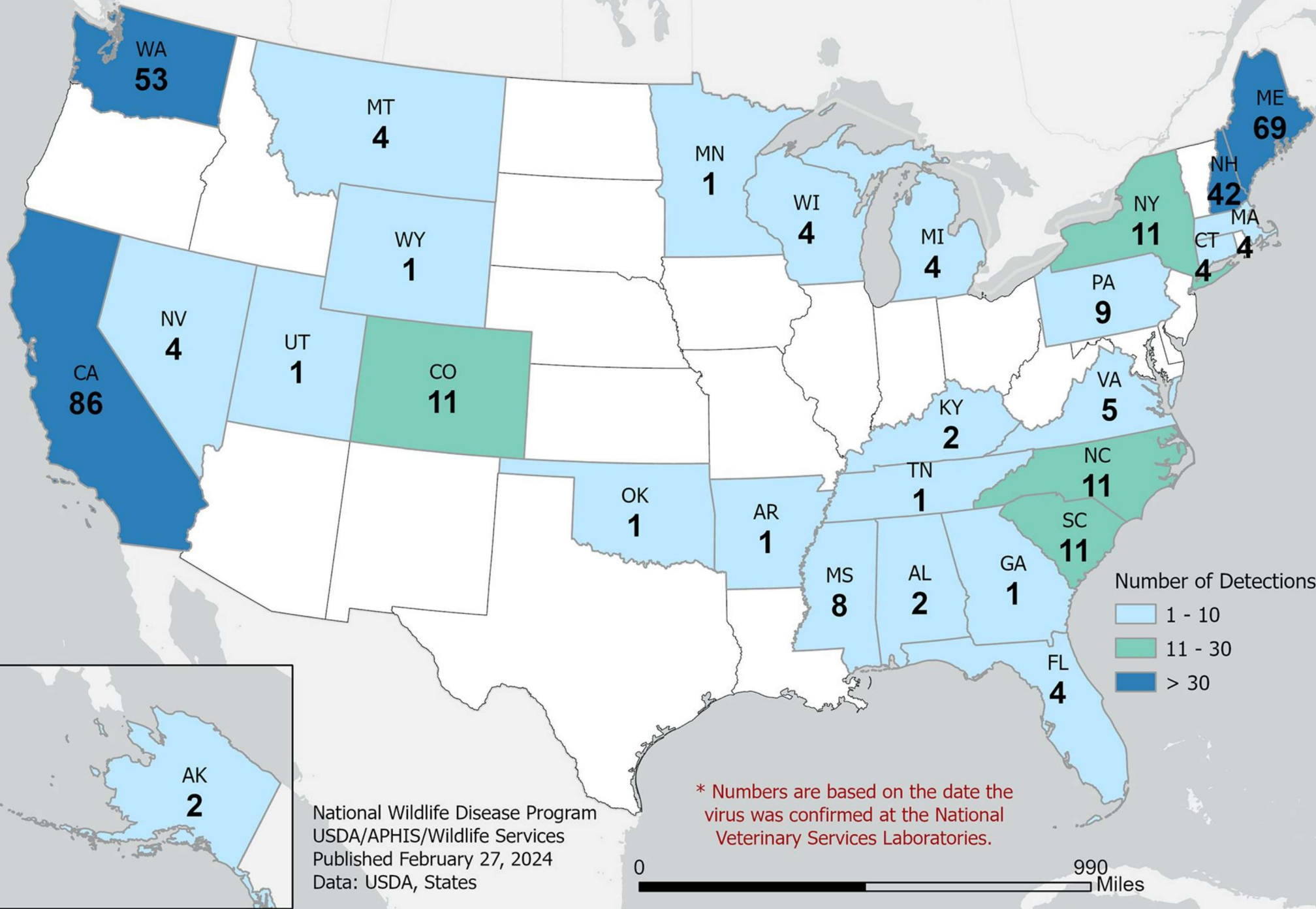
National Wildlife Disease Program
USDA/APHIS/Wildlife Services
Published February 27, 2024
Data: USDA, States

0 880 Miles



States with HPAI detections in wild birds in the last 30 days (Total Count: 357*)

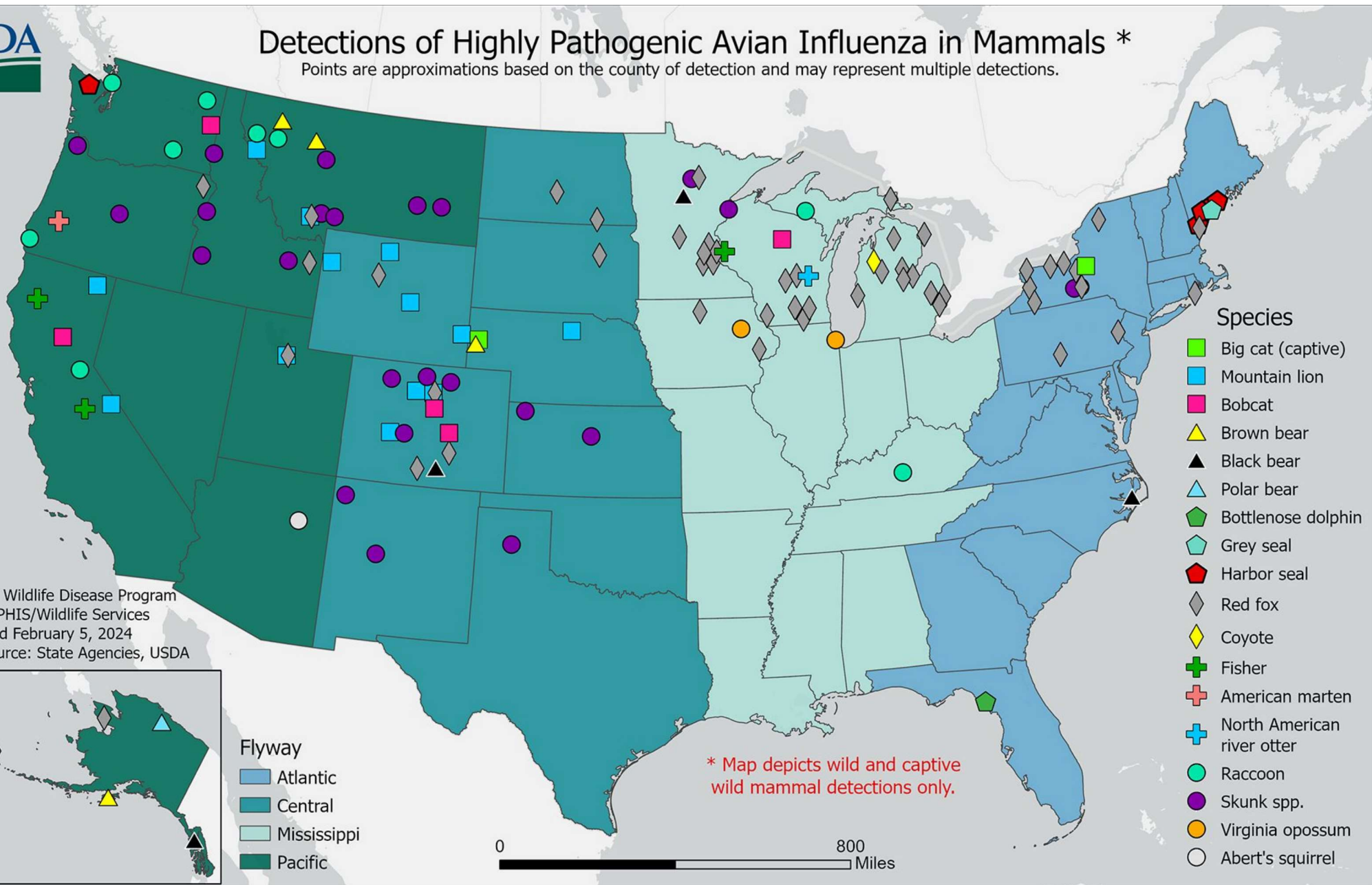
Date range of samples: January 29 - February 23, 2024





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 February 5, 2024
Data Source: State Agencies, USDA



HPAI 2022/2023 Confirmed Detections

as of September 21, 2023

Last reported detection Friday, September 15, 2023

Data updated weekdays by 12pm Eastern

[Download Data](#)

840 Confirmed Flocks

1 confirmed last 30 days

Birds tested and confirmed having HPAI

47 Affected States

1 states last 30 days

States with at least one confirmed infected flock

Commercial Flocks

325

Backyard Flocks

515

Birds Affected*

58.79M



*Number of birds on confirmed infected premises.
Bars reflect most recent 4 months (numbers may not add up to total).

WHAT'S THIS VIRUS ABOUT?

INFLUENZA- THE BACKGROUND STORY

- Types A, B, and C
- A: Various mammals and birds
- B: Humans and seals
- C: Humans and swine
- All strains affect birds are type A!



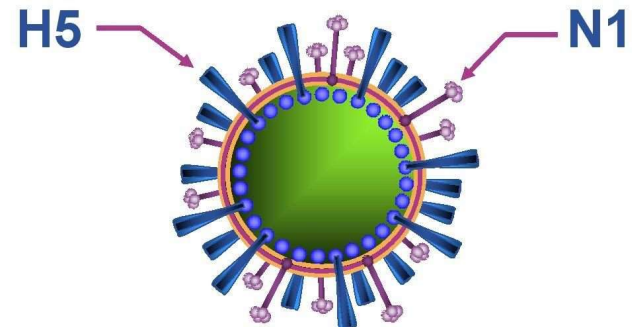
2011 outbreak New England

http://www.pressherald.com/2011/11/06/probe-of-seal-deaths-grows-as-influenza-is-found-in-several_2011-11-06

INFLUENZA: THE BACKGROUND STORY

- What's this H and N business?
- H: Hemagglutinin- Glycoprotein needed for viral binding: 16 hemagglutinins
- N: Neuraminidase- Enzyme needed for viral release from host cell: 9 neuraminidases

<https://sites.google.com/site/kelseyhe/H5N1virus.jpg>



LOW PATH VS. HIGH PATH

Low Path

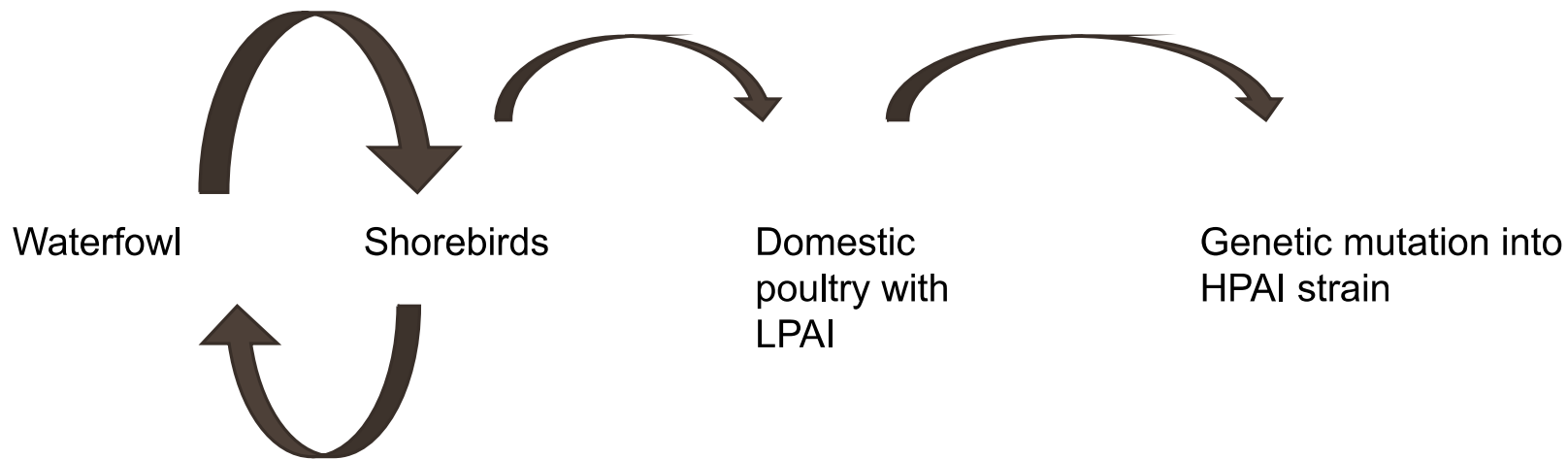
- Signs: None or mild respiratory signs
- Mortality: Usually very low
- Impact: Depopulation (local)

High Path

- Signs: Massive die offs (gross lesions described later)
- Mortality: Up to 100%
- Will be an H5 or H7
- Impact: Huge!

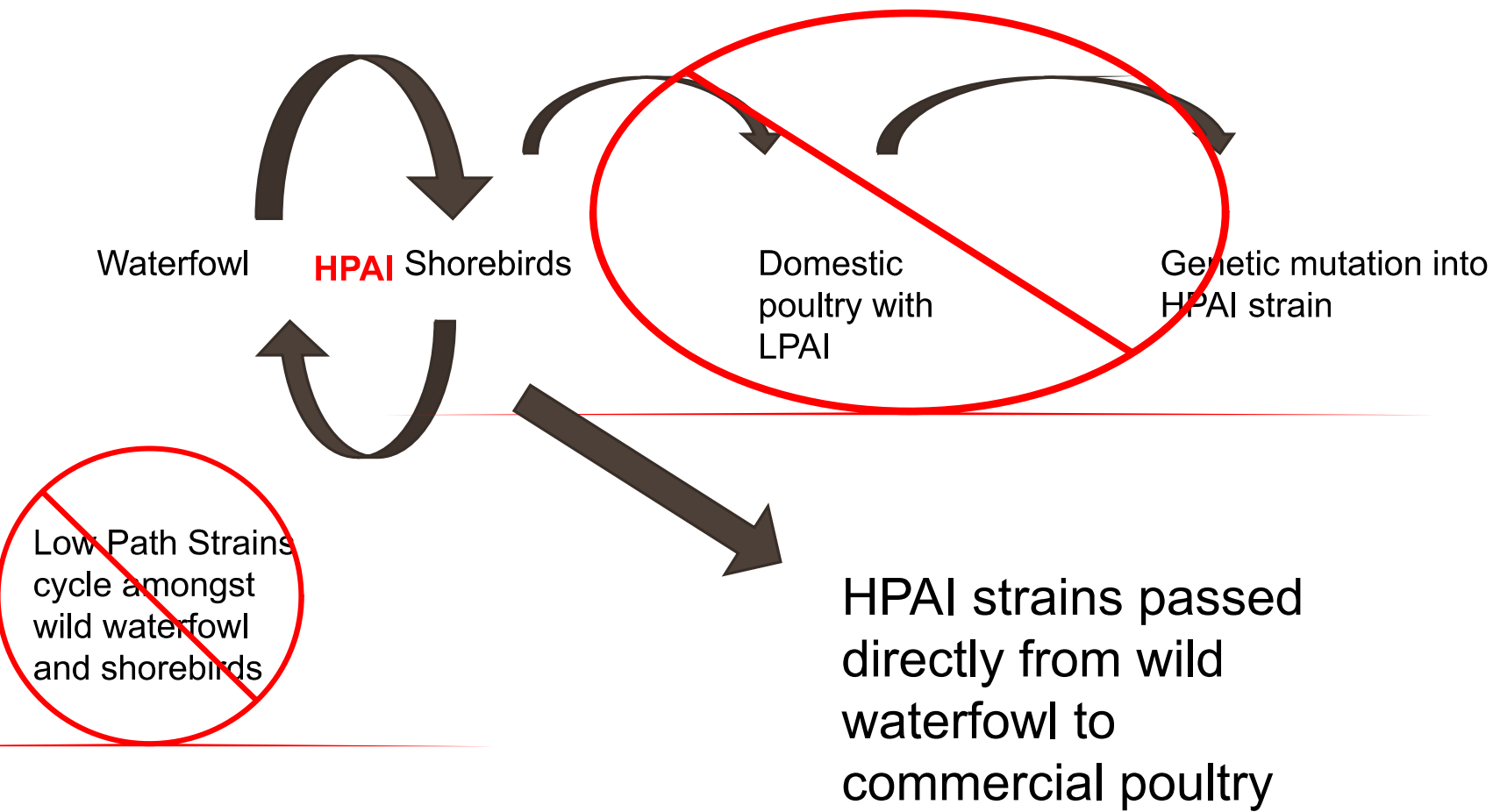
Not an indicator for transmissibility to humans!

INFLUENZA: THE TYPICAL CYCLE



Low Path Strains
cycle amongst
wild waterfowl
and shorebirds

INFLUENZA: 2022-2024 OUTBREAK



How Bird Flu Spread

<http://agribiz.org/update-on-iowa-avian-influenza-response/>

Asia saw early outbreaks of avian flu in early 2014 and again in September. It turned up in Europe and Canada in November and in the U.S. in December.

Country reporting avian flu infections (Sept. 2014 - June 2015)

Strains: H5N1 in:



H5N2 in:



H5N3 in:



H5N6 in:



H5N8 in:



H7N3 in:





**HOW DO YOU KNOW
IF YOU HAVE IT?????**

SIGNS OF HPAI

- ****Sudden death with no clinical signs!**
- ****Birds may be very quiet or “sleepy”**
- **Bluish discoloration head and comb**
- **Blotchy red discoloration of the shanks**



Slide courtesy
Pat Wakenell







WHEN DO YOU CALL SOMEONE?



- #1 Unexplained death loss (greater than normal, daily “acceptable” mortality)
- #2 Signs of respiratory disease (potential huge impact on your birds!)

WHO DO YOU CALL????

USDA Healthy Birds Hotline



Indiana ADDL

ANIMAL DISEASE DIAGNOSTIC
LABORATORY AT PURDUE UNIVERSITY

Mailing Address:

406 South University St.
West Lafayette, IN 47907-2065

Phone: 765-494-7440

Fax: 765-494-9181

Email: addl@purdue.edu

HEEKE ANIMAL DISEASE DIAGNOSTIC
LABORATORY AT THE SOUTHERN INDIANA
PURDUE AGRICULTURAL CENTER

Mailing Address:

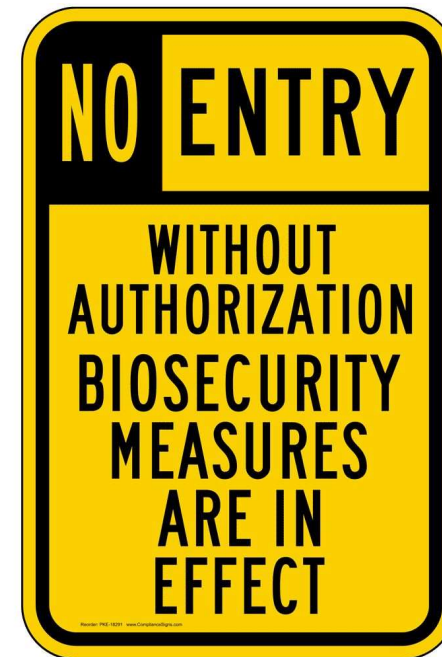
11367 E. Purdue Farm Road
Dubois, IN 47527-9666

Phone: 812-678-3401

Fax: 812-678-3412

Email: addl@purdue.edu

AI PREVENTION



WILD LIFE

- Prevent your birds access to open water sources or fields waterfowl congregate on.
- Do not leave out food or place food in pastures that will attract wild waterfowl.
- Extra precautions with high risk activities like hunting, fishing, golfing.



DEDICATED CLOTHING/SHOES

- Always important to have dedicated shoes and even clothes for when you interact with your poultry.
- Prevents contamination from your regular/work clothes.

KEEP OTHERS AT BAY!

- Place biosecurity signage on your property.
- Consider fencing or other barriers to entry.
- Don't let visitors interact with your birds, especially if they have poultry!
- Have visitors utilize PPE if someone does need to come on your property
- Have hand sanitizer available! Use before and after encountering birds.



DESPITE BIRD FLU, IT'S BUSINESS AS USUAL AT MEADVILLE POULTRY AUCTION



STEPS POST INTERACTING WITH OUTSIDE BIRDS

- Wear shoes or boots that can be scrubbed/washed and disinfected.
- Change of clothes
- Shower and blow your nose!

QUARANTINE

- New bird should be quarantined as far away as possible from your main flock.
- Minimum 30 day quarantine period.
- Many diseases of poultry allow for inapparent carrier states.

ORDER OF OPERATIONS

- Dictates the order in which you take care of your birds on a given day
- Youngest to oldest
- Sick or quarantined birds should be last



ALL IN ALL OUT GROWING PRACTICE

- Works best for “commercial” type, larger flocks.
- All birds sourced from same place and at same time (preferably as chicks).
- No new birds are ever added until the flock is processed/replaced.

**IT'S ALL ABOUT
CREATING A HABIT!**

THANK YOU!

Questions?

Dr. Geoffrey Lossie: glossie@purdue.edu

ADDL Main Line: 765-494-7440

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