

HPAI Updates

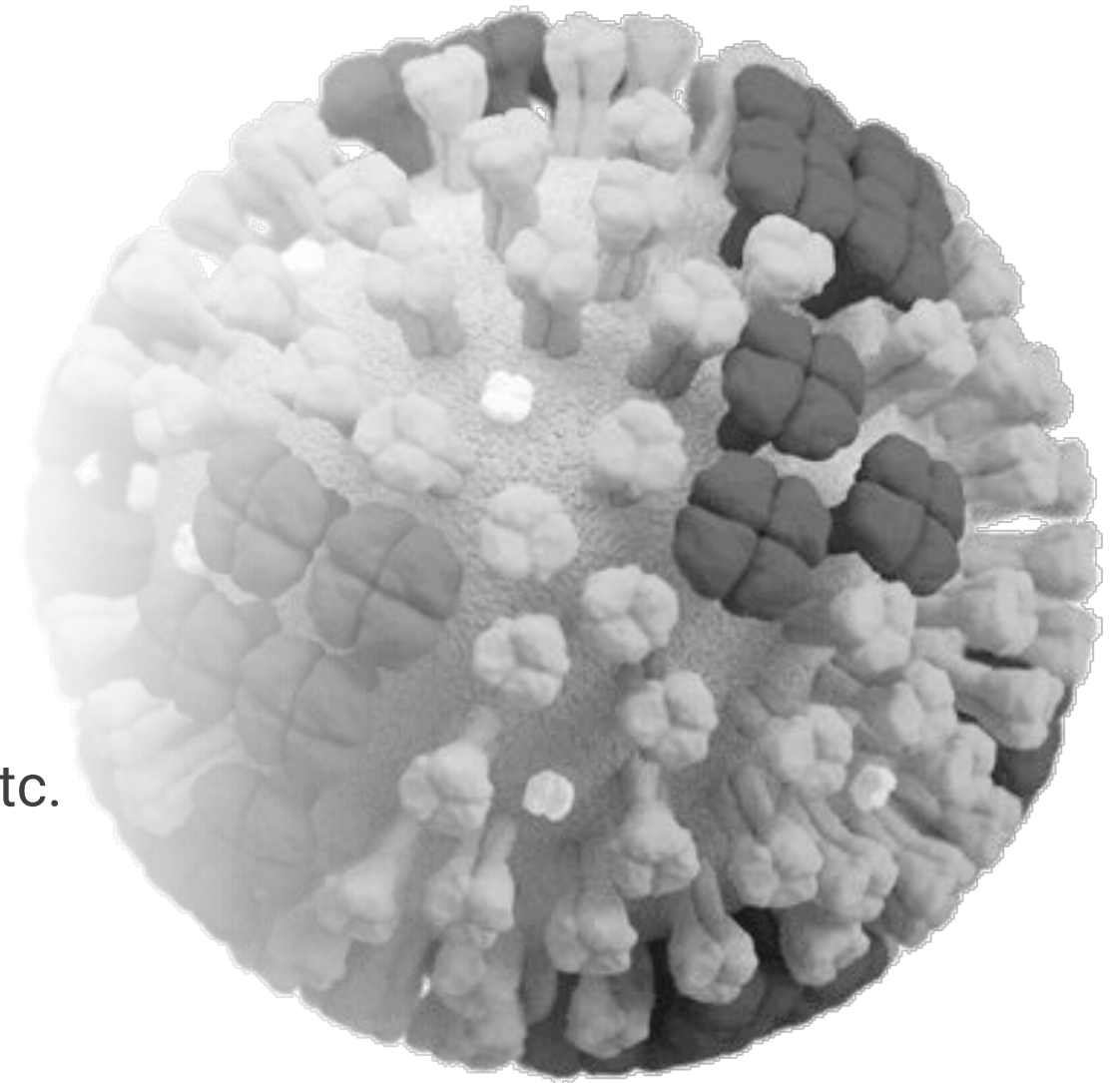
July 11, 2024

Maggie Baldwin, DVM - State Veterinarian



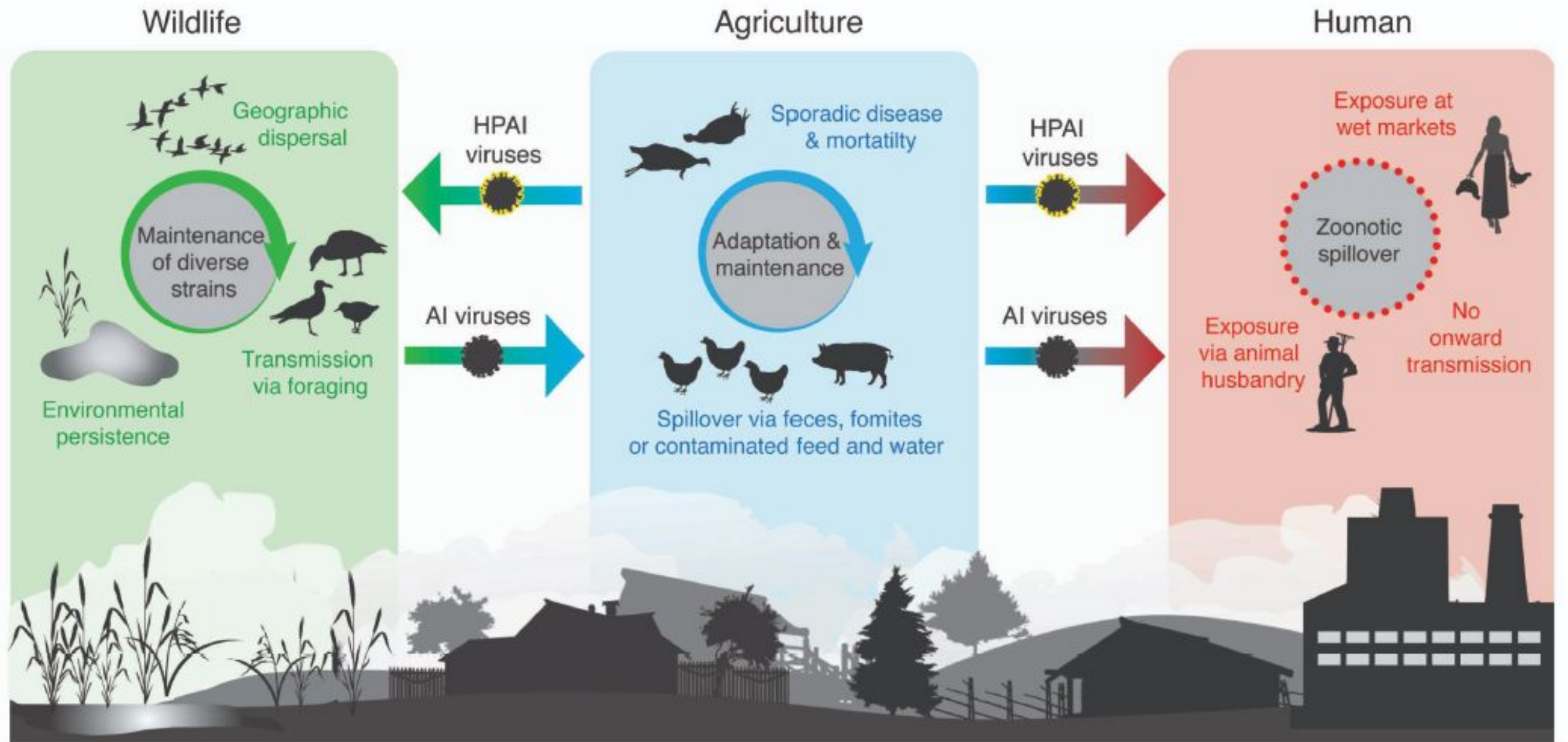
What is HPAI?

- **Avian Influenza**
 - Influenza A Virus
 - Carried by waterfowl and shorebirds - globally
- **Classified based on surface proteins (H's, N's)**
 - e.g., H5N1, H3N2, H7N3
 - H5, H7 - highly pathogenic
- **Causes severe disease in poultry**
 - Chickens, turkeys, pheasants, quail, ducks, geese, etc.
 - >90% illness and death in infected flocks
- **Occasional spillover into other mammals**
 - Varying symptoms
 - Zoonotic potential



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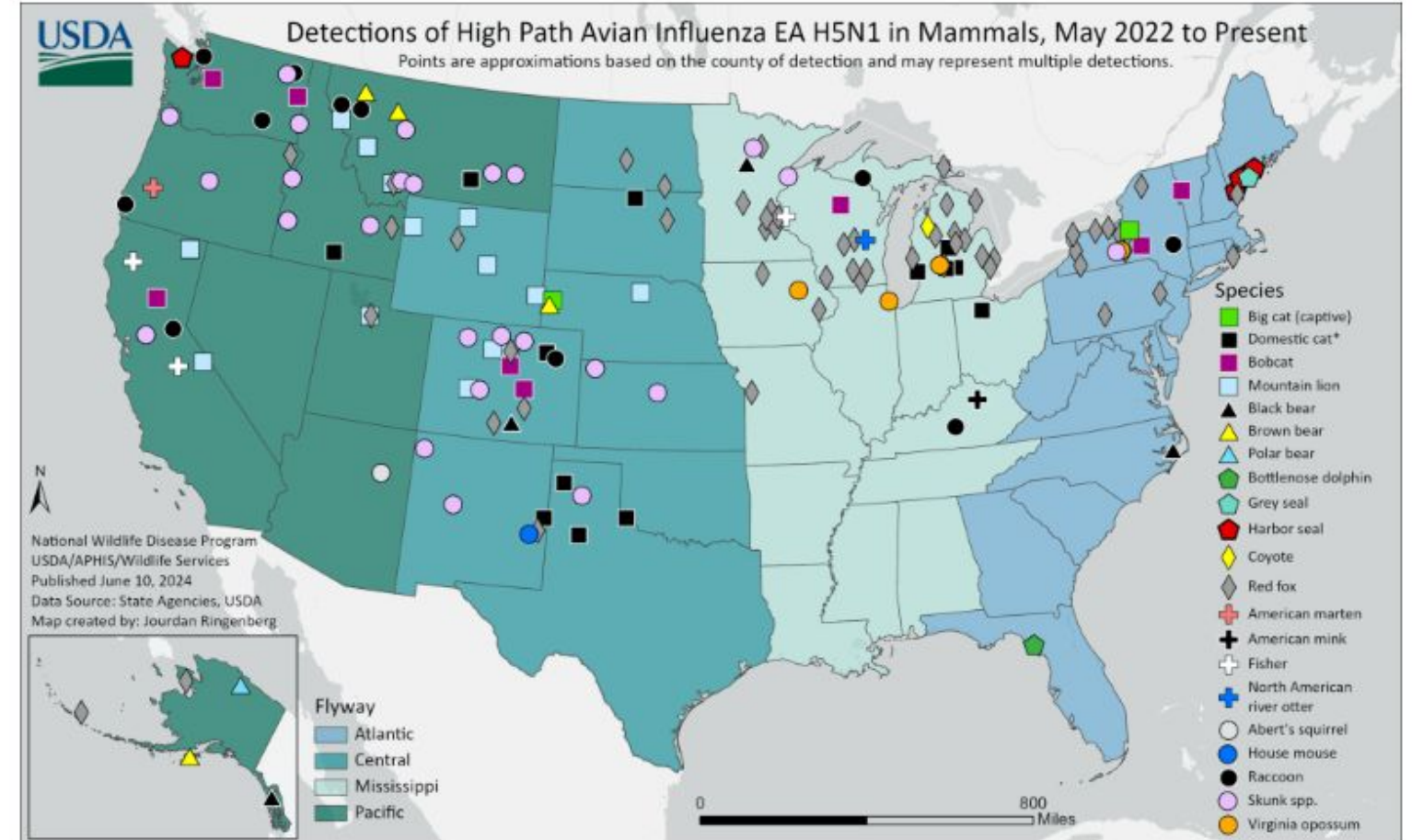
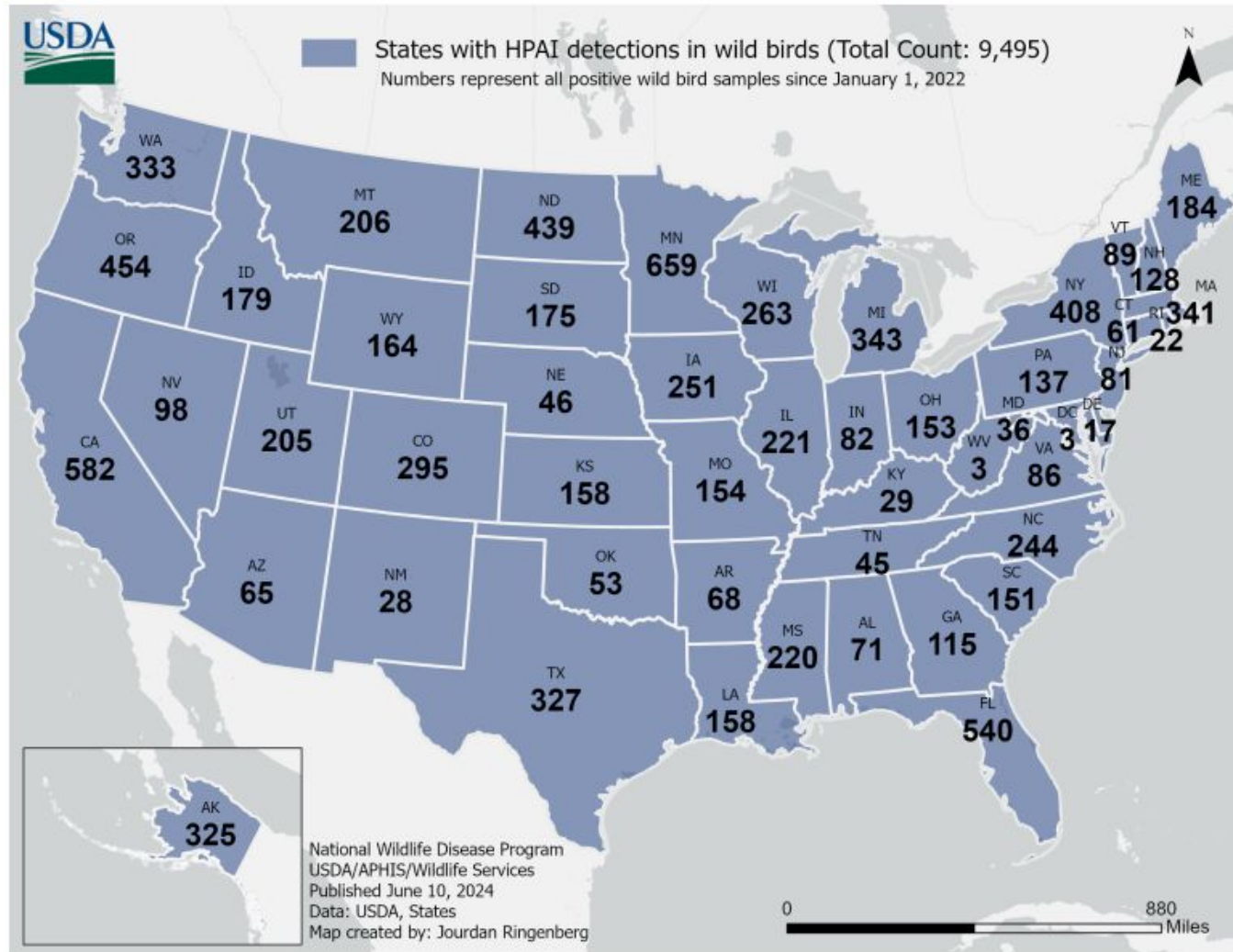


Generalized ecology of avian-origin influenza A (AI) viruses showing common directionality of cross-species transmission events, including those for highly pathogenic (HP) phenotypes. Reprinted from the Journal of Wildlife Management (2022) with permission.



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HPAI in Wild Birds and Wild Mammals



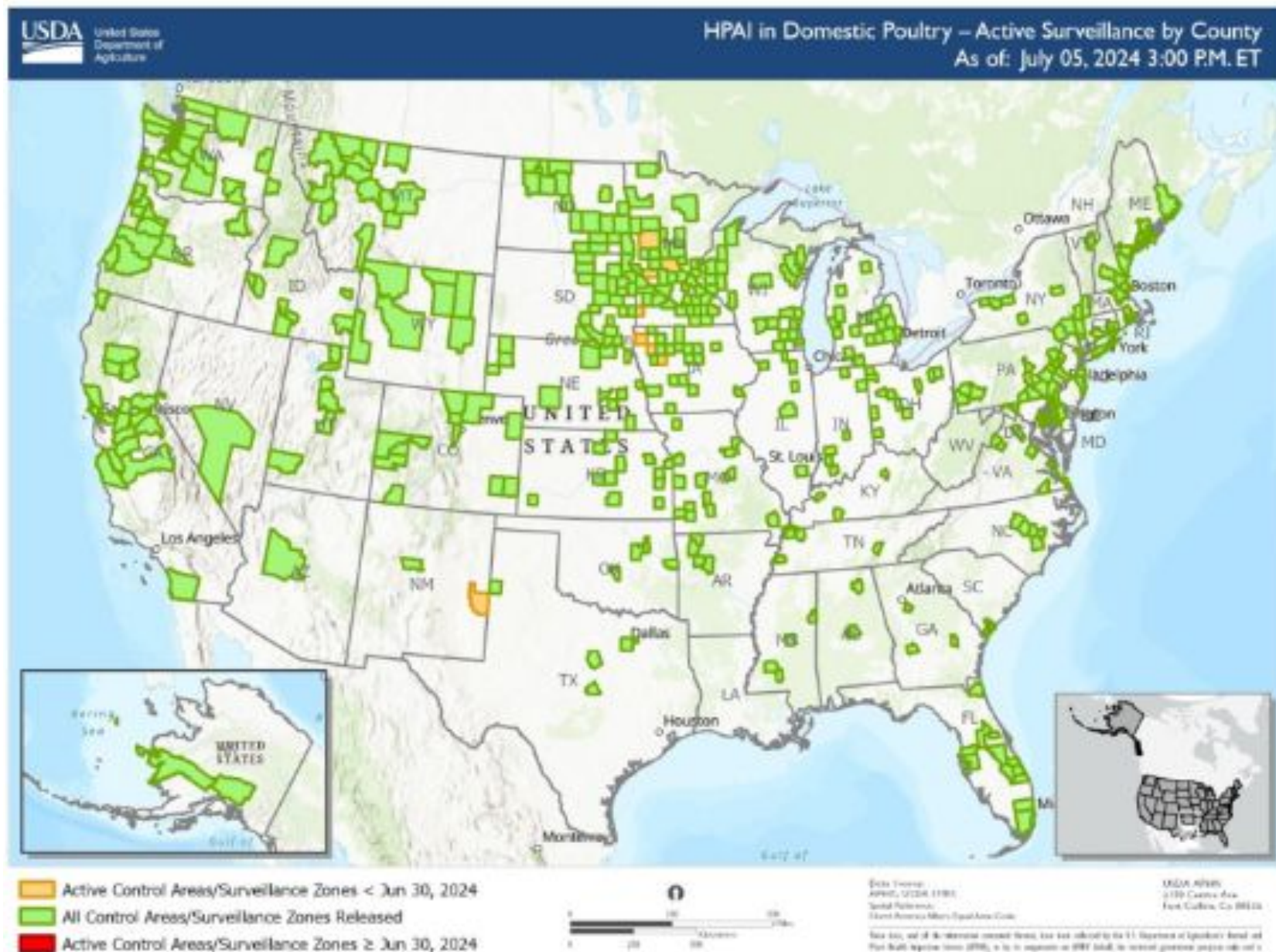
<https://www.aphis.usda.gov/livestock-poultry-disease/avian/avian-influenza/hpai-detections/wild-birds>

<https://www.aphis.usda.gov/livestock-poultry-disease/avian/avian-influenza/hpai-detections/mammals>



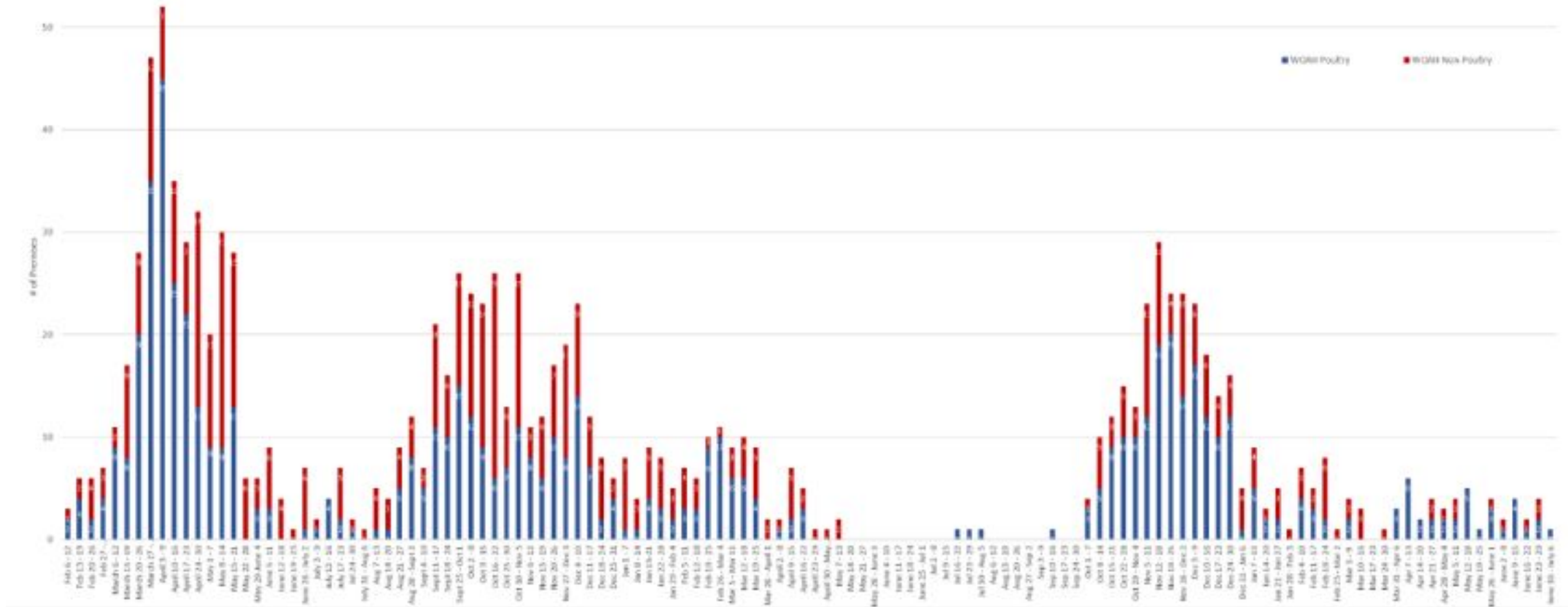
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OVERVIEW OF THE NATIONAL SITUATION



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HPAI Epi Curve 2022-2024 (poultry)

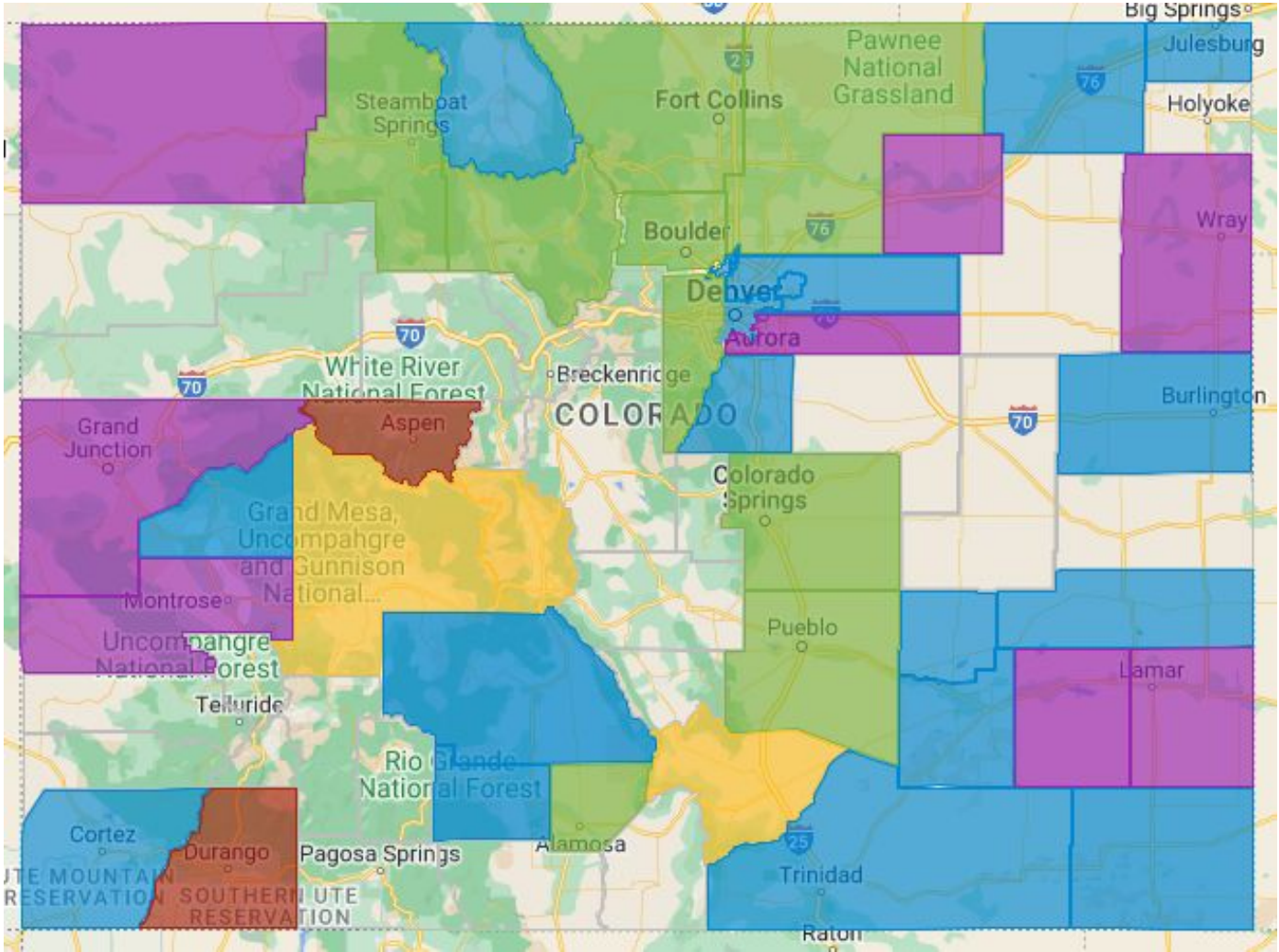


<https://www.aphis.usda.gov/aphis/ourfocus/animalhealth/animal-disease-information/avian/avian-influenza/hpai-2022/2022-hpai-commercial-backyard-flocks>



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HPAI in Colorado



Color coding legend for HPAI map

Blue Counties = Positive wild bird cases
Red Counties = Positive domestic bird cases
Purple Counties = Positive cases in both domestic and wild birds
Yellow Counties = Positive mammal cases
Green counties = Positive cases in mammal cases and domestic or wild birds

ag.colorado.gov/HPAIresponse



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Colorado Outbreak Overview

POULTRY

April 2022 - current

35 Premises Total

- 10 Commercial Facilities
 - 2 Broiler Breeder
 - 6 Table Egg Layers
 - 1 Pullet Facility
 - 1 Game Bird
- 25 Non-Commercial/Backyard
 - 8 WOAHA Poultry
 - 17 WOAHA Non-poultry

> 8.0 million domestic poultry impacted



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Colorado Outbreak Overview

WILDLIFE

April 2022 - current

Wild Birds

- Multiple avian species affected
- ~10,000 snow geese
- > 2200 Canada geese
- > 150 raptors and scavengers
- Occasional other species: mergansers, wood ducks, cackling geese, Ross' geese, blue-winged teals, mallards, pelicans

Wild Mammals

- 7 skunks
- 4 red foxes
- 1 black bear
- 2 bobcats
- 4 mountain lions



HPAI in Dairy Cattle



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Highly Pathogenic Avian Influenza in dairy cattle

- HPAI - H5N1
 - clade 2.3.4.4 b
 - genotype 3.13
- aka - Bovine Influenza A Virus
- Milk - high viral loads
 - Pasteurization is effective
- CDA updates: ag.colorado.gov/HPAIncattle
- USDA updates:
[https://www.aphis.usda.gov/livestock-poultry-disease/avian/avian-influenza/hpai-detections/livestoc](https://www.aphis.usda.gov/livestock-poultry-disease/avian/avian-influenza/hpai-detections/livestock)

[k](#)



Symptoms - lactating dairy cattle

- decreased rumination
- decreased feed consumption
- decreased milk production
- thicker, concentrated, colostrum-like milk
- abnormal feces, low-grade fever
- Cattle appeared to recover with supportive care
- Some don't come back to full milk production



Disease Response

- **Federal Response Partners**
 - USDA - animal health lead
 - CDC - human health lead
 - FDA - milk safety lead
- **State Response Partners**
 - CDA - animal health lead
 - CDPHE (and local PH) - human health lead
 - CDPHE Milk Program - milk safety lead
 - CSU VDL - NAHLN laboratory
 - CPW - wildlife lead



USDA Federal Order

Issued 04/25

CDA Emergency Rule

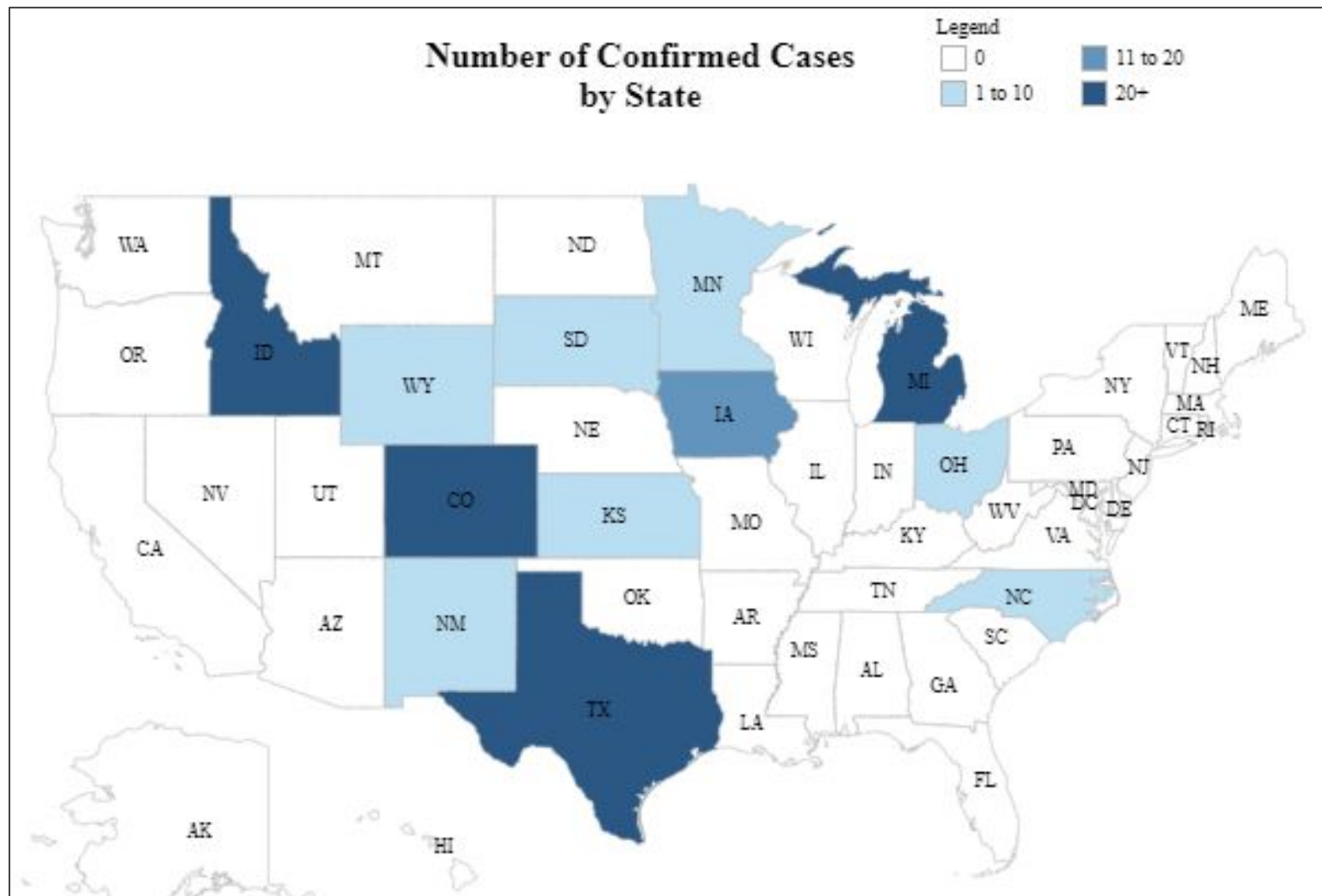
Adopted 04/30

- Mandatory reporting of positive cases
- Owners of positive herds must provide epi and movement information
- Mandatory testing of lactating dairy cattle moving interstate
 - Unless direct to slaughter - will require a CVI or alternate movement document
- Clinically affected or test positive dairy cattle ineligible for interstate movement for 30 days
 - Must retest after 30 days



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As of July 1, 2024:

- New USDA dashboard
 - Total outbreak
- 12 states affected
- 137 dairy premises affected

<https://www.aphis.usda.gov/livestock-poultry-disease/avian/avian-influenza/hpai-detections/livestock>



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Colorado Cases

H5N1 2.3.4.4b
B3.13

Dairy Cattle:

- 26 confirmed positive (*4 released from qt*)
- 1 presumptive positive
- 3 under investigation

Domestic Cats (*assumed B3.13*):

- 2 confirmed positive

Poultry (*assumed B3.13*):

- 2 backyard confirmed positive
- 1 commercial confirmed positive



HPAI Transmission in dairy cattle



- Whole Genome Sequencing
- Epidemiology information
- Initial introduction by wild birds - Dec 2023
- Transmission of the virus:
 - cow-to-cow - milk, respiratory
 - farm to farm - associated with movement
 - spillover to poultry farms
 - spillback into wildlife
 - spillover into domestic cats
- Mechanisms to prevent spread



Epidemiological Briefing

- The spread of H5N1 between states is linked to cattle movements (versus independent wild bird introduction) with further local spread between dairy farms in some states.
- Disease spread between dairy cattle farms is likely multifactorial (direct and indirect transmission routes).
- **Biosecurity** is key to mitigate the risk of disease spread.

<https://www.aphis.usda.gov/sites/default/files/hpai-dairy-national-epi-brief.pdf>

VISITORS
PLEASE RESPECT FARM BIOSECURITY

BEFORE your visit:


- Plan your visit ahead of time and ask about biosecurity before your arrival (e.g., required downtime, clothing, shower in/out).
- Avoid contact with other livestock and poultry before your visit.
- Clean your vehicle—the cab, exterior, and tires.
- If possible, park your vehicle off the premises.

DURING your visit:

- Put on clean coveralls over street clothes and clean rubber boots.
- Limit direct interactions with animals during your visit.
- Wear gloves and eye protection if in direct contact with livestock.

AFTER your visit:

- Remove cloth coveralls and place them into a garbage bag. Lysol the outside of the garbage bag and launder the dirty coveralls at home.
- Lysol your boots and wash your hands with soap and water before returning to your vehicle.
- Wash your vehicle at a car wash after leaving.
- Plan downtime before going to other livestock premises.

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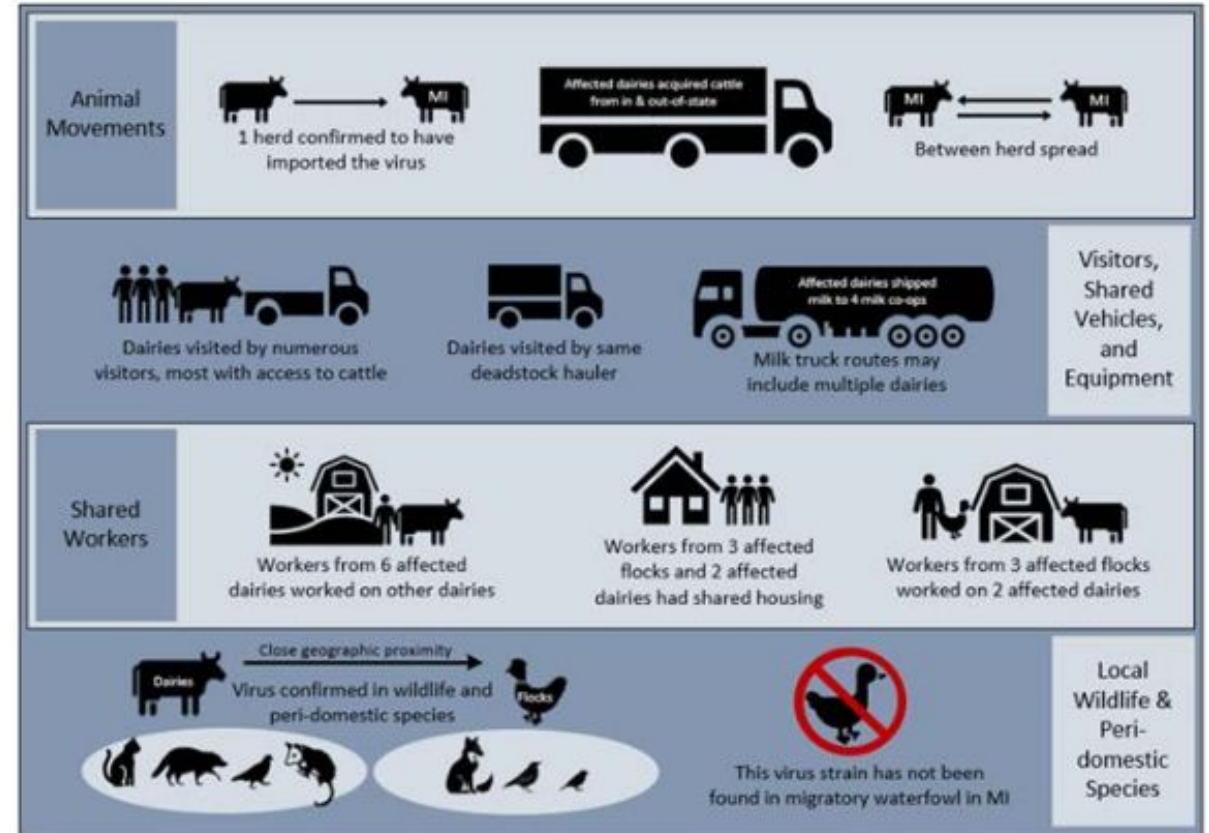
Icons: Car, Person, Boots, Gloves, Goggles, Handwashing



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Michigan Epi Briefing

- 15 dairy herds and 8 poultry flocks affected with HPAI H5N1 genotype B3.13 in Michigan
- Potential transmission pathways:
 - animal and human movements
 - shared vehicles and equipment



<https://www.aphis.usda.gov/sites/default/files/hpai-h5n1-dairy-cattle-mi-epi-invest.pdf>



Unknowns...

- Incubation period in dairy cattle
- Exact mechanism of transmission
- Shedding period in dairy cattle
- Risk for non-lactating dairy cattle or other livestock species



USDA Support for Producers



PPE and/or
laundering



Biosecurity planning
and implementation



Heat treatment
for waste milk



Veterinarian
costs



Shipping costs
for samples

<https://www.aphis.usda.gov/sites/default/files/usda-support-hpai-affected-premises.pdf>



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FSA Support for production loss

working through ELAP

<https://www.usda.gov/media/press-releases/2024/05/10/usda-hhs-announce-new-actions-reduce-impact-and-spread-h5n1>



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Voluntary Testing Program

- Pilot program with USDA
- Herd status monitoring program
- Herd Plan with USDA and CDA
- Weekly bulk milk tank testing by certified sampler
- Monitor health status
- Find disease early to prevent spread
- Monitored status - move without premovement testing



Show/Fair Guidance

- **Before the event:**
 - Implement Biosecurity. Monitor for clinical signs. Test LDC within 7 days of the event.
- **During the event:**
 - Implement biosecurity. Monitor for clinical signs. Report and isolate.
- **Post event:**
 - Isolate for 30 days. Monitor for clinical signs.



Colorado Response

- Agency coordination - CDPHE, CSU, USDA, CPW, others
- Town halls, public communication, direct outreach
- Case Management - field response and quarantine
- Emergency rule (USDA federal order)
- Show/Fair guidance
- Voluntary testing program
- Biosecurity/biocontainment
- USDA financial support for producers



Next Steps

- USDA Cooperative Agreements
- USDA Financial Support - for producers
- Implementing enhanced biosecurity
 - to protect both poultry and dairy facilities
 - prevent spillover into swine
- Voluntary Surveillance Programs
 - Commercial dairies
 - Raw milk dairies
- Continued strong coordination with CDPHE to protect PH



Thank you



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