

Highly Pathogenic Avian Influenza Update

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Colorado Parks and Wildlife



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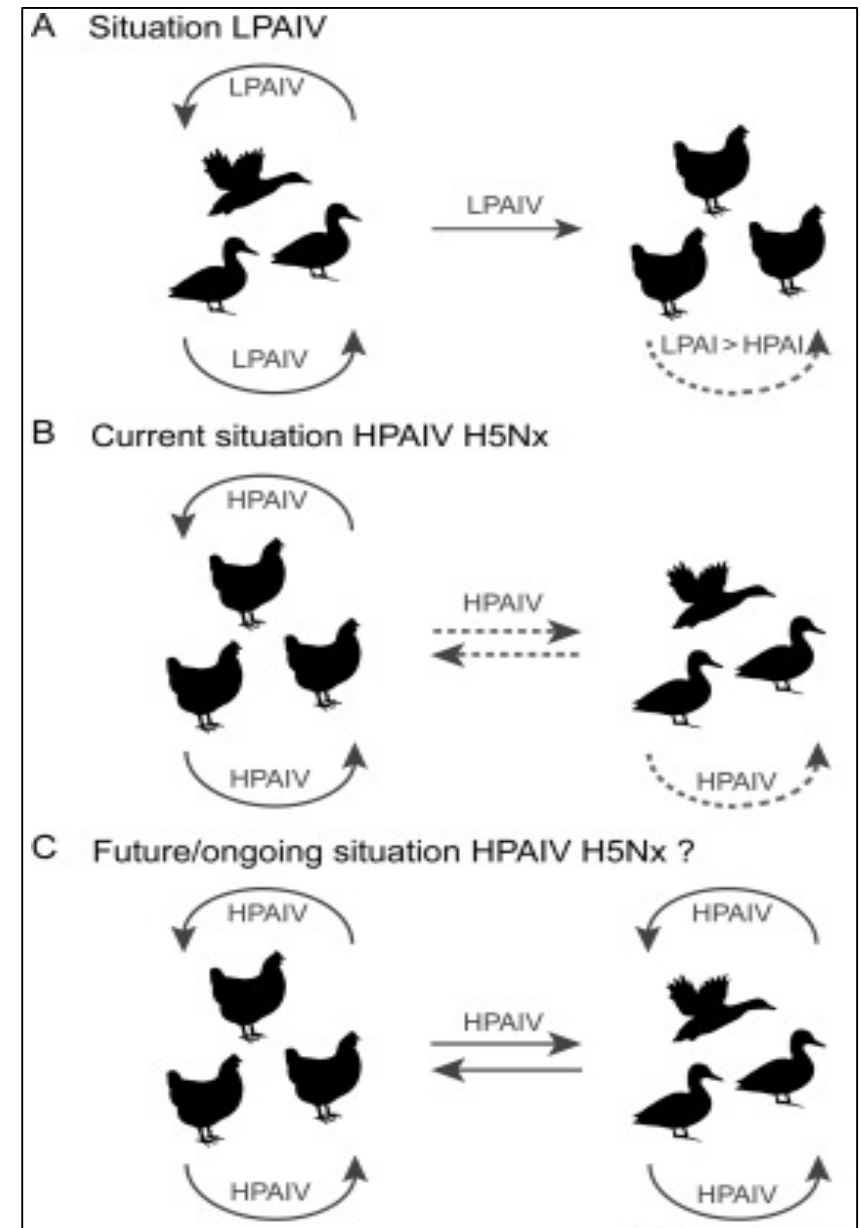
Avian Influenza - New Paradigm

Wild birds have co-evolved with avian influenza viruses. These viruses naturally circulate in wild waterfowl and shorebirds.

Historically, avian influenza viruses caused minimal disease in wild birds, no significant HPAI circulation

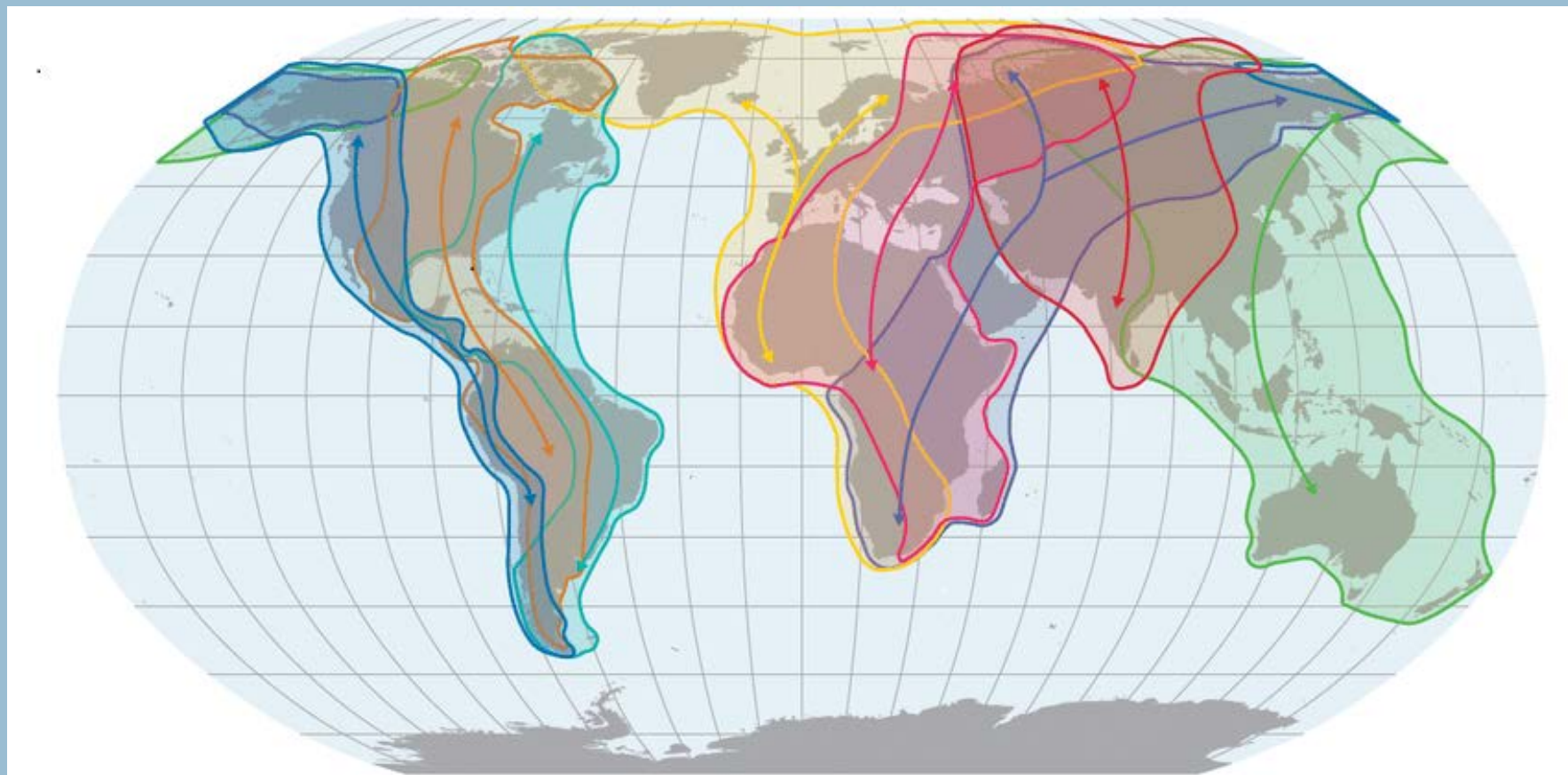
Emergence of H5N1 virus (1996) and subsequent diversification

- Circulation among wild bird populations
- Large scale movement through migrations



Eight Major Migratory Bird Flyways

- Pacific Americas
- Central Americas
- Atlantic Americas
- East Atlantic
- Central Asia
- Black Sea, Mediterranean
- East Asia, East Africa
- East Asia, Australasia



North American Flyways

North American waterfowl have diverse migration patterns

- Limited only to North America
- North and South America
- North America and Europe or Asia



Image Credit: North Dakota Game and Fish Department, accessed via <https://www.fws.gov/media/migratory-bird-flyways-north-america>



Surveillance

CPW Passive/Targeted Surveillance

- Monitor by species, county, and season
- Reports from public and field personnel
- Suspect case for submission
 - 3 or more dead within a two-week period
 - Live bird seen with clinical signs of illness
 - Collared animals/research

Active Surveillance

- USDA Wildlife Services
- National surveillance program

Other Partners

Wildlife Rehabilitators

Raptor Programs



2022-2023 HPAI Activity

First detection – March, 2022

Sporadic detections throughout spring and early fall

Large snow goose mortality events seen in November

Continued mortalities throughout winter

Cases/Reports slowing in March/April



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Wild Mammal Surveillance

Clinical signs reported: seizures, lethargy, unresponsive to hazing, incoordination, walking in circles, wobbly.

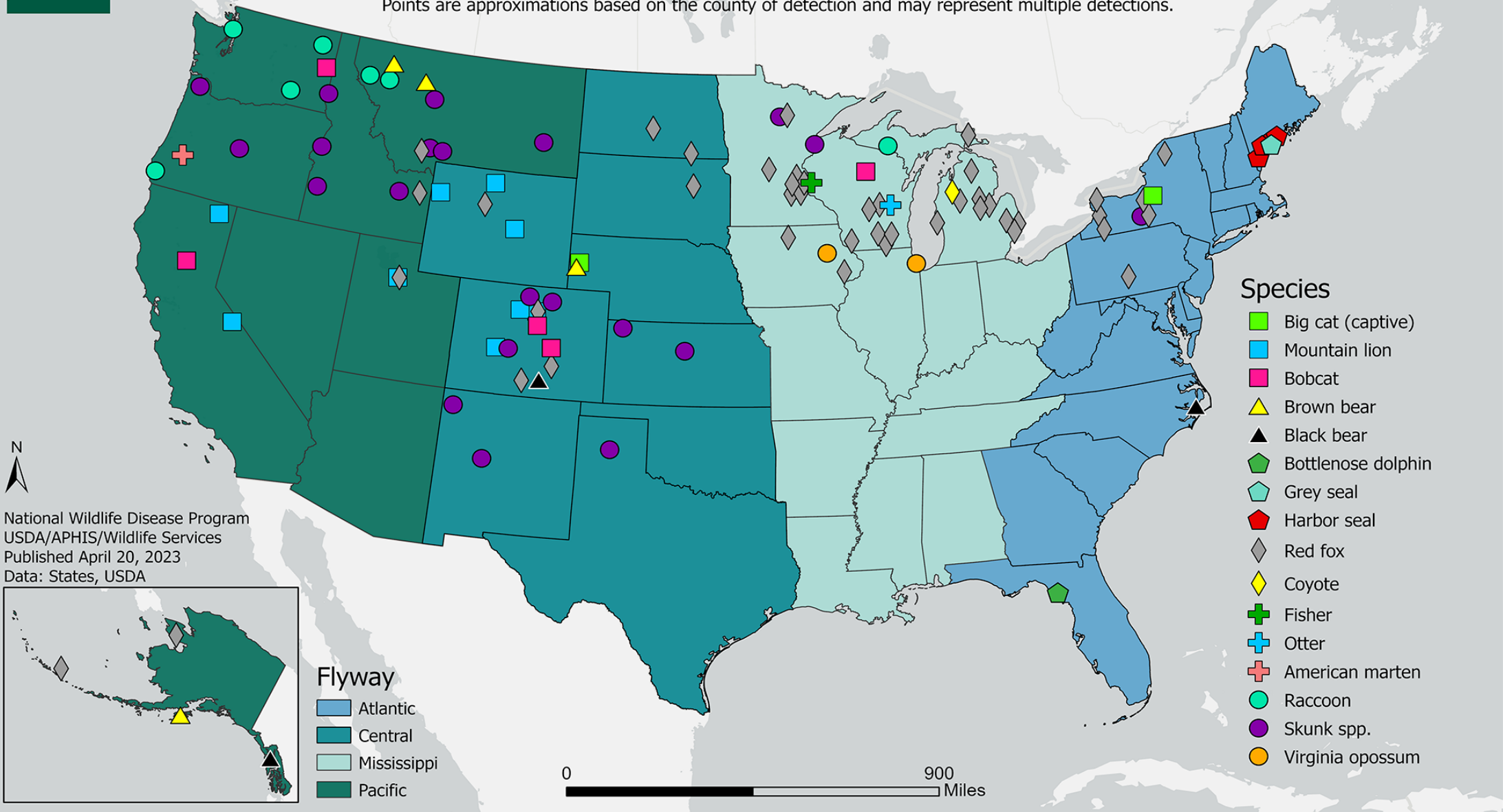
Species	Confirmed Positive	Total Tested
Black Bear	1	1
Bobcat	2	2
Mountain Lion	4	12
Raccoon	0	1
Red Fox	4	5
Striped Skunk	7	7



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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 April 20, 2023
 Data: States, USDA

Wild Bird Surveillance

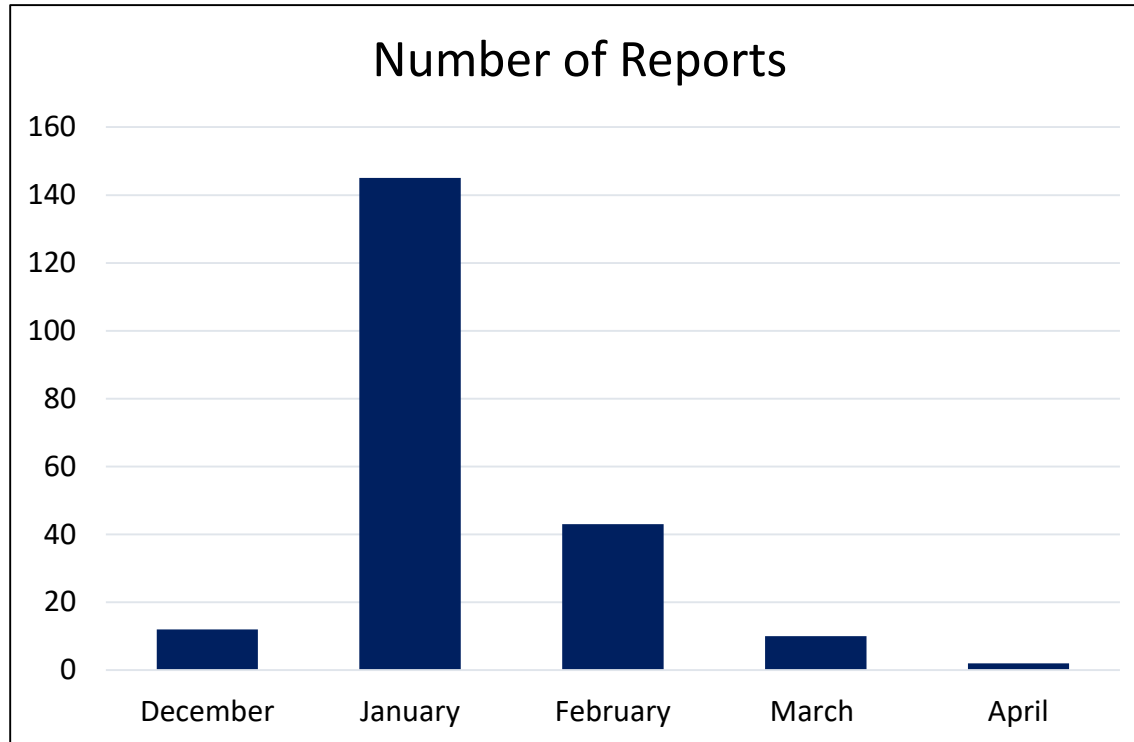
Common Clinical Signs Reported

- Swimming/walking in circles
- Incoordination, stumbling, flailing, flopping, “looks drunk”
- Bobbing head, “crooked neck”, unable to lift head
- Not moving, lethargic
- Shaking, head tremors



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Avian Mortality Reports



Species	Reports	Estimated # Sick/Dead
American Crow	2	24
Black-Billed magpie	1	3
Canada Goose	177	1835
Common Merganser	1	10
Common Raven	2	7
Great Horned Owl	7	10
Red-tailed Hawk	19	20
Mallard	1	2
Swainson's Hawk	1	1



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Species Confirmed HPAI+

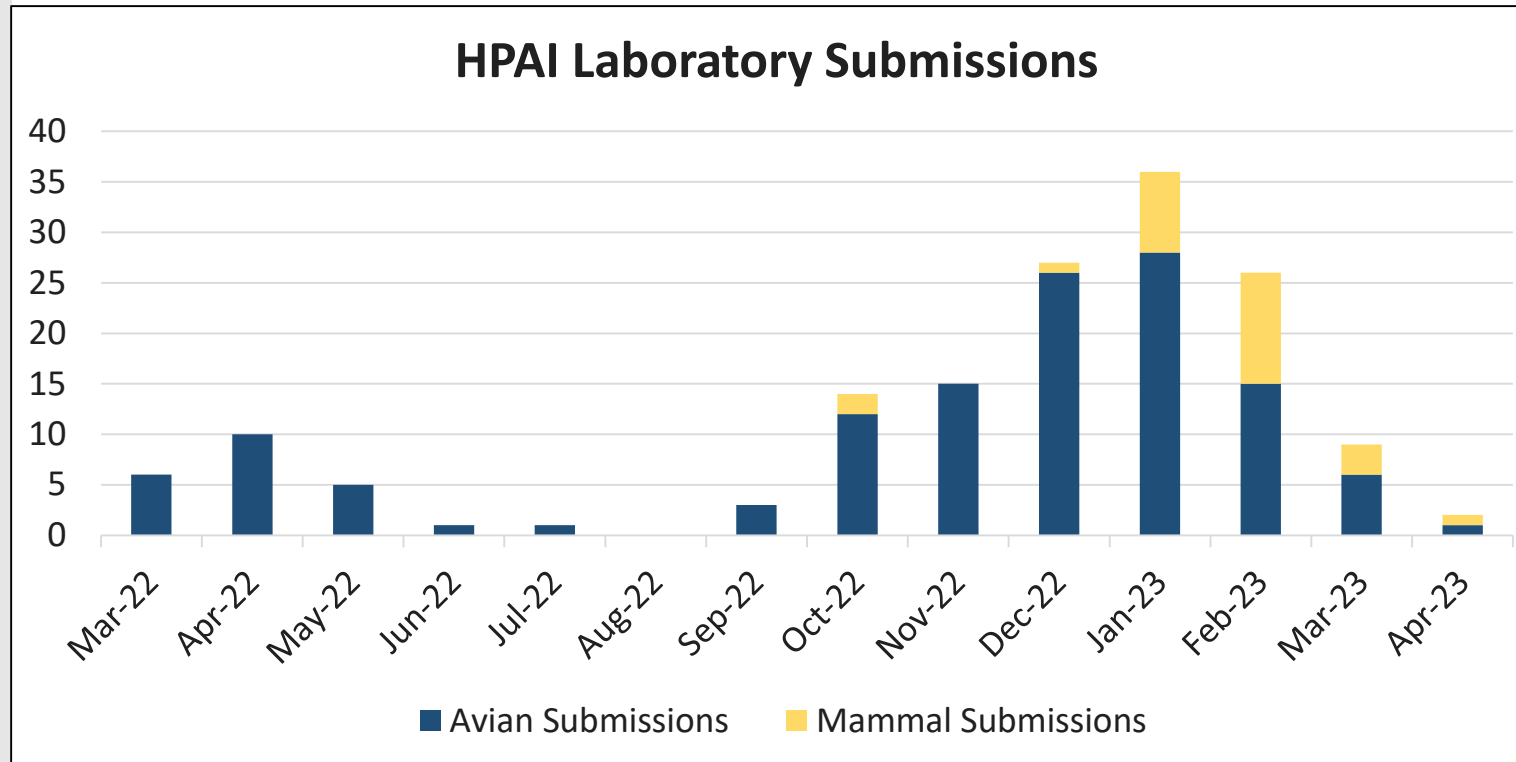
American Crow
American White Pelican
Bald Eagle
Black-billed Magpie
Blue-winged Teal
Cackling Goose
Canada Goose
Common Merganser
Common Raven
Great Horned Owl
Green-winged Teal
Mallard
Red-tailed Hawk
Ross's Goose
Snow Goose
Swainson's Hawk
Turkey Vulture
Wood Duck

CO Wild Bird Testing

Other Species Tested

(not detected)

Golden Eagle
Eurasian Collared Dove
Greater Scaup
House Finch
House Sparrow
Merriam's Wild Turkey
Prairie Falcon
Steller's Jay



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Colorado Waterfowl Migration

Spring Migration

- March-May
- Likely some continued HPAI activity

Most water-associated birds on breeding grounds by May

- Less HPAI activity over the summer (June-August)

Fall Migration

- Aug-December
- HPAI activity???



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Ongoing Monitoring

Continued surveillance

Response framework for
wildlife disease outbreaks

Continued collaboration with
state and federal partners



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Questions?



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