

# Highly Pathogenic Avian Influenza Update



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# 2015 US HPAI\* Outbreak

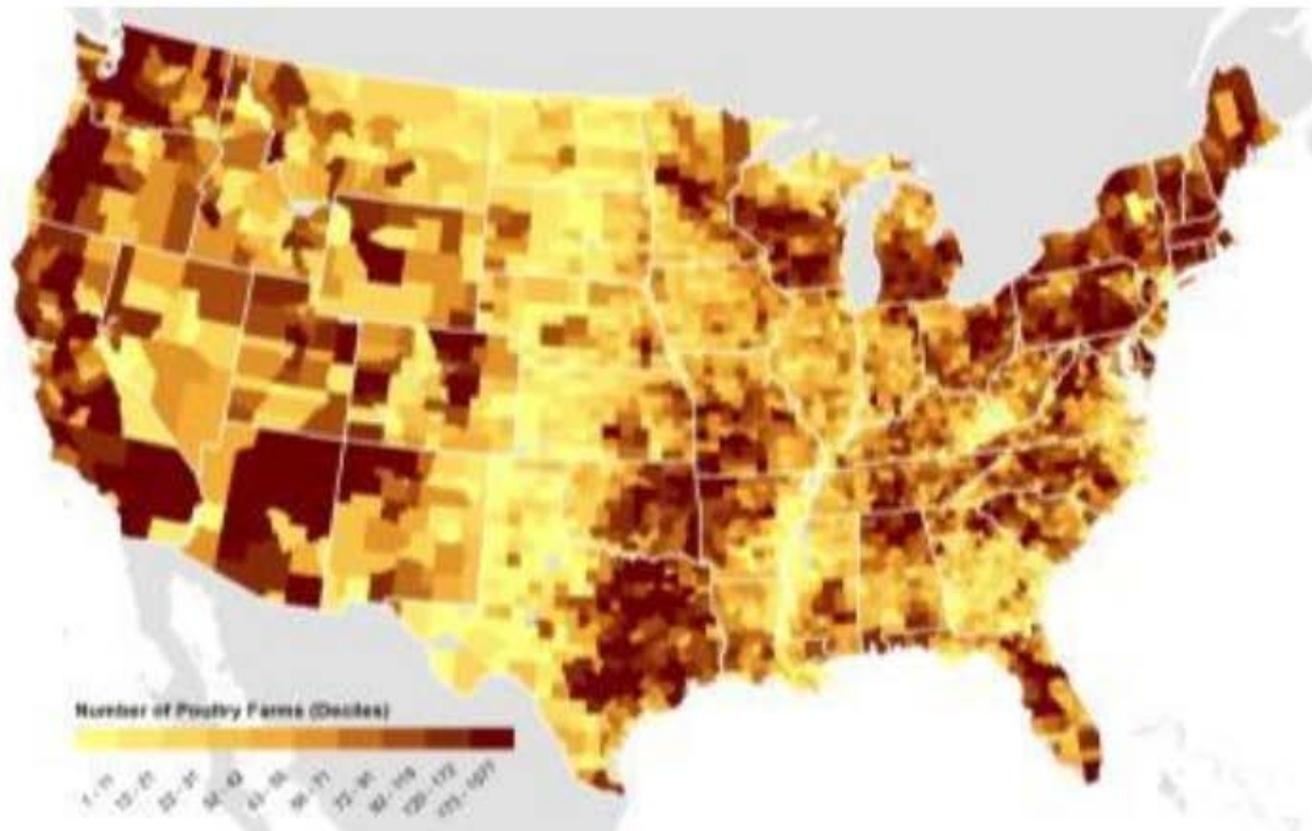
- Influenza viruses: H5Nx
- Index case: wild birds in WA, December 2014
- Total states affected: twenty-one (21)
  - Commercial poultry premises
  - Backyard flocks
  - Wild birds

\*Avian influenza A viruses are designated as highly pathogenic avian influenza (HPAI) or low pathogenicity avian influenza (LPAI) based on molecular characteristics of the virus and the ability of the virus to cause disease and mortality in chickens in a laboratory setting.

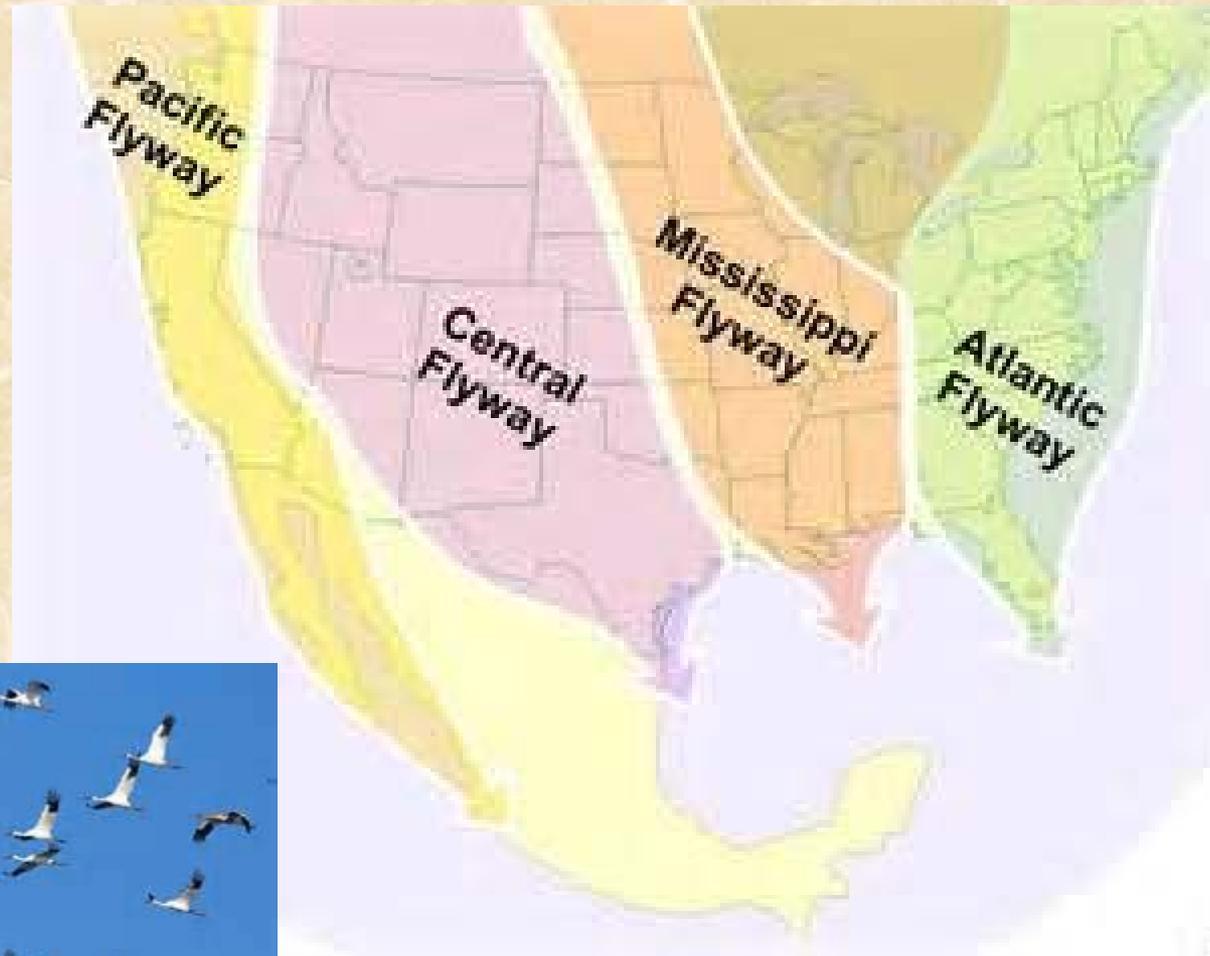


# Poultry Concentrations

**Figure 8. Distribution of U.S. poultry production in the United States. (Top) Number of poultry farms per county; (Bottom) Mean number of birds per farm. Data from National Agricultural Statistics Service (NASS).**



# Migratory bird flyways



# 2015 HPAI Outbreak

- December 2014 - January 2015
  - H5N2 and H5N8 viruses found in wild birds in several states
- January 2015
  - H5N1 virus detected in a wild duck
  - new re-assortment, genetically different from the Asian avian H5N1 viruses that have caused human infections with high mortality in several other countries (notably in Asia and Africa).
  - No human infections with this new re-assortment H5N1 virus have been reported.



# HPAI in domestic poultry

- H5N8 in OR backyard poultry December 2014
  - Additional cases H5N8 and H5N2 in NW US (aligned with Pacific flyway) subsequent 3 months



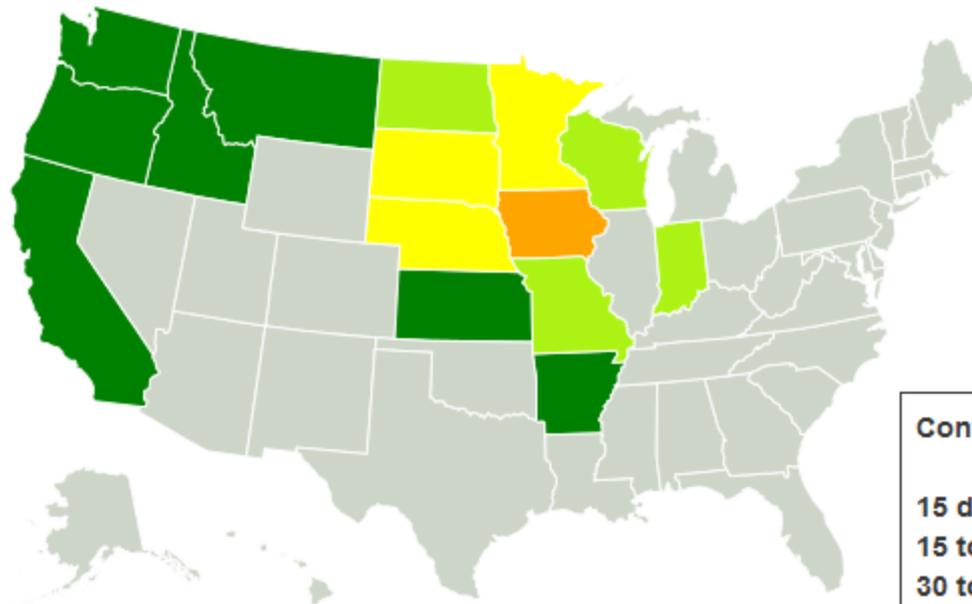
# HPAI in domestic poultry

- H2N2 in commercial turkeys in MN, MO, AR beginning March 2015
  - HIGH (80-90%) mortality
  - Many commercial flocks affected (MS flyway)
- H2N2 in Midwest egg-laying hens beginning April 2015
  - Additional turkey, backyard, chicken and layer flocks through June 2015
- Central flyway – NE and SD all flock types
  - Smaller numbers affected than in MS flyway area



# Update on Avian Influenza Findings

## Poultry Findings Confirmed by USDA's National Veterinary Services Laboratories



Confirmed in the past

15 days:	
15 to 30 days:	
30 to 60 days:	
60 to 90 days:	
90 plus days:	

**223**  
Detections Reported

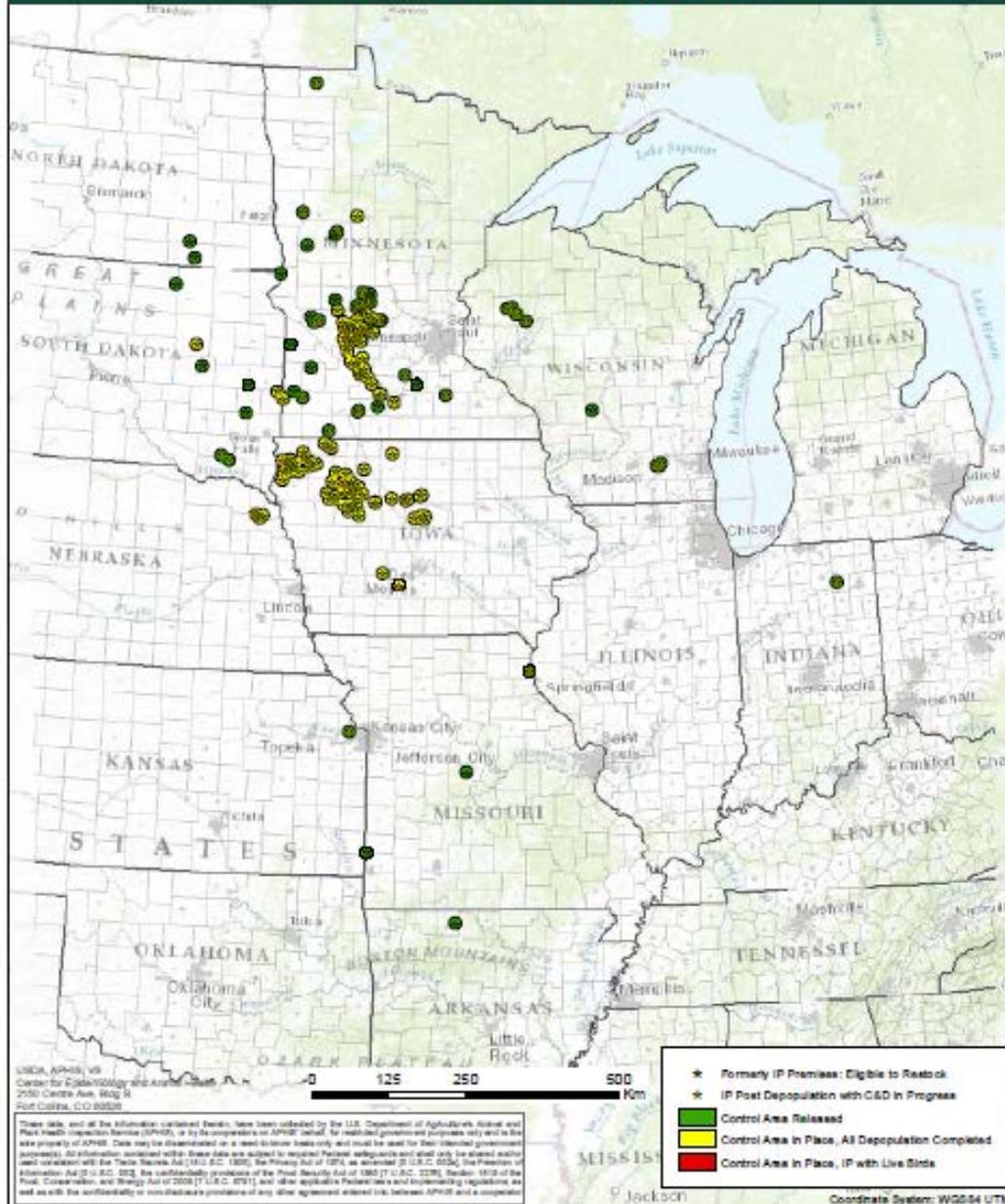
**48,091,293**  
Birds Affected

**12/19/14**  
First Detection Reported

**6/17/15**  
Last Detection Reported



# HPAI Control and Containment Status Central US as of 7/9/2015



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# 2015 HPAI Outbreak Depopulation

- Turkeys: approximately 7.5 million
  - 0 % pending depopulation
- Layer chickens and pullets: approximately 42.1 million
  - 2.0 % pending depopulation –1 premises in IA



# 2015 HPAI Outbreak

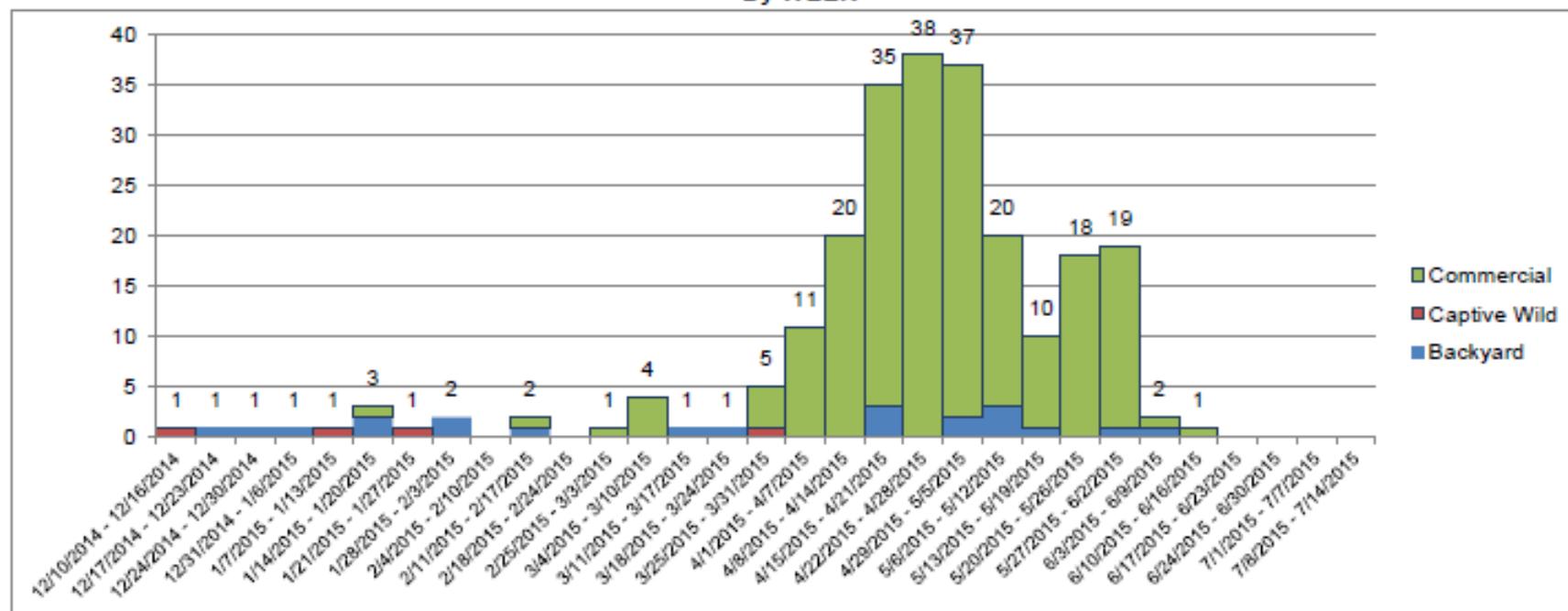
## Impact as of 6/22/2015

- 3.16% of U.S. annual turkey production, or 7.46% of average U.S. turkey inventory
- 10.01% of U.S. average layer inventory
- 6.33% of U.S. average pullet inventory
- Broiler infection has been quite limited and represents less than 0.01% of U.S. broiler inventory.





**Figure 1. Premises Detected for ALL STATES 12/10/14 to 7/16/2015**  
Captive Wild, Backyard, Commercial  
By WEEK



- Earliest available date indicating clinical signs is used for figure. For most premises, this is the date of clinical signs if known, a suspect status, or a presumptive positive status. Some premises may only have a confirmed positive status date.
- All data are from EMRS.
  - 238 premises (4 captive wild bird; 21 backyard flocks; 211 commercial flocks).
  - This graph only represents full 7-day weeks; in addition to the dates pictured, there have been no detections since 7/14/2015.
  - This represents 80% of the captive wild detections, 100% of the backyard flock detections, and 100% of the commercial flocks to date.
  - Figures may change slightly as data is added or updated in EMRS (e.g., date of clinical signs).

# 2015 HPAI Outbreak Epidemiology

- First cases likely introduced by wild birds
- Recent USDA report
  - No specific pathway, but genetic analysis → independent introductions AND transmission between farms
  - Insufficient application of recommended biosecurity practices
  - Environmental factors – spread by wind?

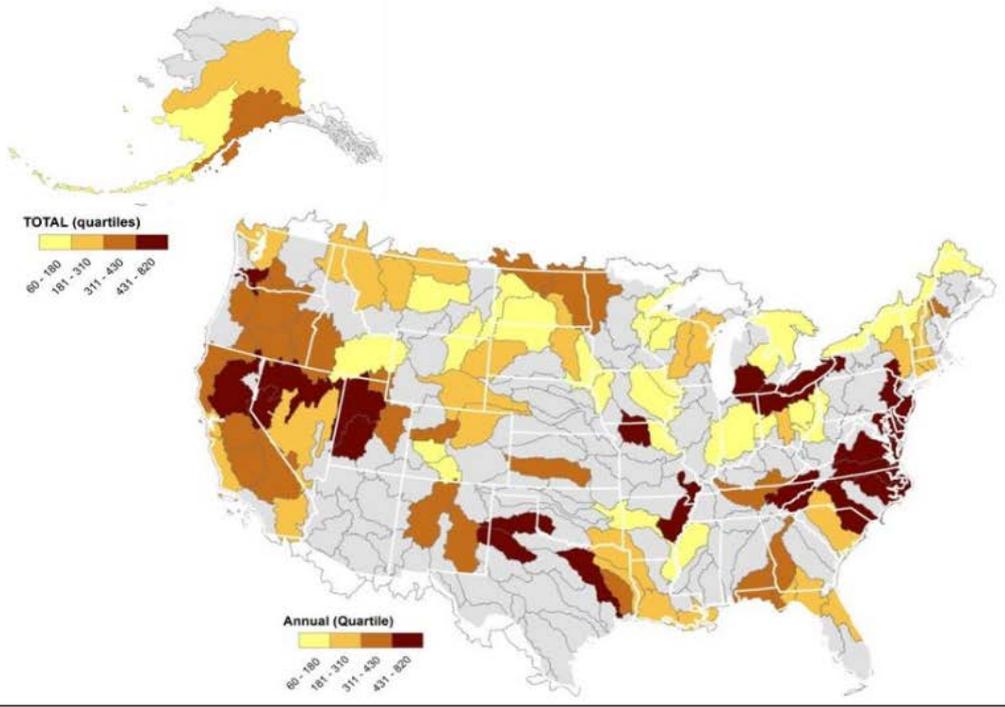


# National Surveillance Plans

- Wild Birds
  - USDA/USGS National Surveillance Plan 2015
- Poultry
  - National Poultry Improvement Plan
  - Live bird markets
  - Foreign animal disease investigations



**B) Targeted Priority Watersheds** were further prioritized by identifying watersheds in the upper 50<sup>th</sup> percentile of dabbling duck network mixing importance or with a historically significant influenza A cluster. Sampling would vary seasonally.



# Wild bird surveillance

State	County	Species	Avian influenza subtype*	Confirmation date
MT	Flathead	Captive gyrfalcon	EA/AM-H5N2	March 27, 2015
MO	St. Louis	Captive falcon (hybrid)	EA/AM-H5N2	March 27, 2015
ID	Kootenai	Captive gyrfalcon (2)	EA-H5N8	January 29, 2015 February 6, 2015
ID	Canyon	Captive falcons, Great horned owl	EA/AM-H5N2	January 16, 2015 February 2, 2015
WA	Whatcom	Captive gyrfalcon	EA-H5N8	December 14, 2014

\* References to EA and AM under avian influenza subtype indicate Eurasian and American strains of the virus.

# Texas Situation

- No HPAI in Texas to date – in this US outbreak
- Poultry and poultry products are safe to eat/use
- Permitted movement in place for birds and products from affected areas
- Tracing and disposal of exposed eggs/birds
- Weekly national coordination calls
- Biosecurity awareness and contingency planning



# Texas Poultry Industry

- Total Value: \$4 billion
- Total employment: approx. 18,000 jobs
- Sectors:
  - 14.4 million laying hens; 3.8 billion eggs
    - Sixth nationally
  - 640 million broilers
    - Sixth nationally



# HPAI Preparations in Texas

- **Texas Emergency Disease Management Committee**
  - Texas Animal Health Commission
  - USDA APHIS Veterinary Services
  - Texas Poultry Federation
  - Industry representatives
  - Texas A&M University System Veterinary Medical Diagnostic Laboratory
  - National Poultry Improvement Program
  - Texas A&M Agrilife Extension



# HPAI Preparations in Texas

- Outreach
  - Biosecurity
  - Backyard and non-typical poultry producers
  - Encourage reporting
- Surveillance
  - National Poultry Improvement Plan
  - Live bird markets
  - Foreign animal disease investigations



# HPAI Preparations in Texas

- Regulation
  - Birds and products coming from infected states
  - Testing requirements
  - Entry permit requirements
    - Routine movement from other states
    - Movement from HPAI-affected states



The essential elements to avoid the introduction of avian influenza include:

- Avoid direct contact between all other avian species and poultry (waterfowl, etc.).
- Allow no visitors on to poultry premises.
- Assure that permit requirements are closely followed.
- Train all personnel regarding biosecurity and monitoring practices.
- Monitor for avian influenza
- Promptly react to any suspected outbreak.



# National Veterinary Stockpile

- National repository of critical veterinary countermeasures
  - (i.e. supplies, equipment, test kits, vaccines, and commercial response support services)
- Similar in form to Strategic National Stockpile

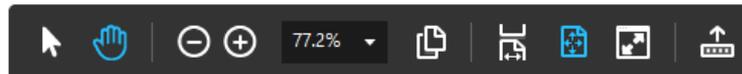


# National Veterinary Stockpile



## Deployable Countermeasures

- 24 Hour Push Packs of Personal Protection Equipment (PPE) and decon supplies
- PPE individual kits
- Antiviral medications
- Vaccine
- Poultry depopulation foaming units, CO2 carts
- Portable vaccine shipment / storage containers
- Large animal handling equipment
- Response support services



# USDA planning resources

## FAD PReP Materials and References

Last Modified: Jul 15, 2015



### [HPAI Response Information: 2014-2015 Outbreak](#)

#### Policy

- [First HPAI Confirmation in a New State](#)
- [HPAI Zones and Premises](#)
- [Movement Control](#)
- [Indemnity Procedures](#)
- [UPDATED 7/2: Processing Indemnity Payments](#)
- [Surveillance Activities around HPAI Infected Backyard Flocks](#)
- [Surveillance Sampling for Commercial Premises in Control Area](#)
- [UPDATED 5/22: Timeline to Restocking & Environmental Sampling Procedures](#)
- [Control Area Release](#)
- [Contact Premises](#)
- [Restocking Criteria for Previously Infected Premises](#)

#### Health & Safety Information

- [Quick Response Card](#)
- [Responder Health Alert–Influenza Like Illness](#)

#### For More Information on HPAI & Response

- [General Resources and Information](#)

### Related Links

[Foot-and-Mouth Disease \(FMD\)](#)

[National Veterinary Stockpile \(NVS\)](#)

[FAD PReP Training and Educational Materials](#)

[Animal Health Emergency Management](#)

[Emergency Management Response Services \(EMRS\)](#)





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