

The background of the slide features a large, faint seal of the State of Texas on the left side. The seal is circular with a five-pointed star in the center, surrounded by a wreath. The words "STATE OF TEXAS" are inscribed around the perimeter of the seal.

# Texas Authorized Personnel Program (TAPP) – Module 3

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- *Transmissible Spongiform Encephalopathies (TSEs)*
- *Fever Ticks*
- *Foreign Animal Diseases (FADs)*



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# Transmissible Spongiform Encephalopathies (TSEs)

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# Transmissible Spongiform Encephalopathies (TSEs)

- Bovine Spongiform Encephalopathy (BSE) – Cattle
- Scrapie – Sheep and Goats
- Chronic Wasting Disease (CWD) – Cervids







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# Clinical Signs

- Progressive and fatal neurological issues, causing changes in behavior
- Bovine Spongiform Encephalopathy
  - Difficulty rising, coordination issues, weight loss
- Scrapie
  - Chronic weight loss despite normal appetite, compulsive wool scraping
- Chronic Wasting Disease
  - Progressive emaciation, loss of awareness, drooling





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# Bovine Spongiform Encephalopathy (BSE) in the USA

- Dec. 2003 – 1st case; 6-yr-old dairy cow; WA; imported from Canada in 2001
    - Only classical BSE case identified in US
  - Nov. 2004 – 2nd case; atypical; 12-yr-old beef cow; TX
  - Feb. 2006 – 3rd case; atypical; 10-yr-old beef cow; AL
  - April 2012 – 4th case; atypical; 10-yr-old dairy cow; CA
  - July 2017 – 5th case; atypical; 11-yr-old beef cow; AL
  - Aug. 2018 – 6th case; atypical; 6-yr-old beef cow; FL
  - May 2023 – 7th case; atypical; 5-yr-old beef cow; SC
- “Atypical” = spontaneous form of disease



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# Importance of BSE

- Approximately 14% of U.S. beef production is exported
- Approximately 90% of the exports go to 4 countries (Japan, Korea, Mexico, Canada)
- U.S. beef exports dropped 80% in 2004
- Estimated loss approximately \$3 billion
- Effects on consumer confidence
- Ongoing surveillance in Texas slaughter plants



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# Scrapie Program in Texas

- Premise and animal identification
- Testing of “suspects”
- Genetic testing







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# Your Role in Scrapie

- Educate clients:
  - To recognize clinical suspects
  - To use official ID
    - 1-866-USDA-TAG
  - To practice prevention strategies by:
    - Using genetic resistance in sheep
    - Maintaining closed ewe flocks
    - Enrolling in SFCP
- Report all scrapie suspects!







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# Your Role in Scrapie

- Collect & submit samples to USDA-approved lab
  - Live animals:  
Federal/State vet, usually
  - Dead animals:  
Accredited vet
    - brainstem, lymph nodes, tonsil
  - Submission forms and instructions
- Conduct genetic testing





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Courtesy of Dr. Michelle L. Crocheck, USDA-APHIS-VS-MSL





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# Chronic Wasting Disease (CWD)

- Affected Species:
  - White-tailed deer
  - North American Elk
  - Mule deer
  - Muntjac
  - Black-tailed Deer
  - Moose
  - Sika deer
  - Red deer
  - Reindeer
  - Hybrids of above species





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# Chronic Wasting Disease (CWD)

- Incubation – average 2-4 years
- Symptoms include
  - Appetite loss
  - Emaciation
  - Excessive salivation, difficulty swallowing
  - Behavioral changes
  - Excessive urination
  - Increased water intake
  - Neurologic deficits – lack of muscle coordination and exaggerated wide posture
- Death often occurs within months of being symptomatic







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# Chronic Wasting Disease (CWD)

- Cervid Jurisdiction in Texas
  - Native species of cervids regulated by Texas Parks & Wildlife Department (white-tailed deer and mule deer)
  - Exotic CWD susceptible species regulated by TAHC (Elk, Red deer, Sika, Muntjac, Reindeer)
  - CWD management in Texas is shared between both agencies





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# Agencies

**TAHC Mission** - TAHC protects the health of all Texas livestock, including cattle, swine, poultry, sheep, goats, equine, exotic livestock

- Regulates non-native CWD susceptible species
- Regulates captive native cervids (shares authority with TPWD)



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**TPWD Mission** - to manage and conserve the natural and cultural resources of Texas

- Regulates free-ranging white-tailed deer and mule deer
- Administers the Captive Deer Breeder Program in Texas

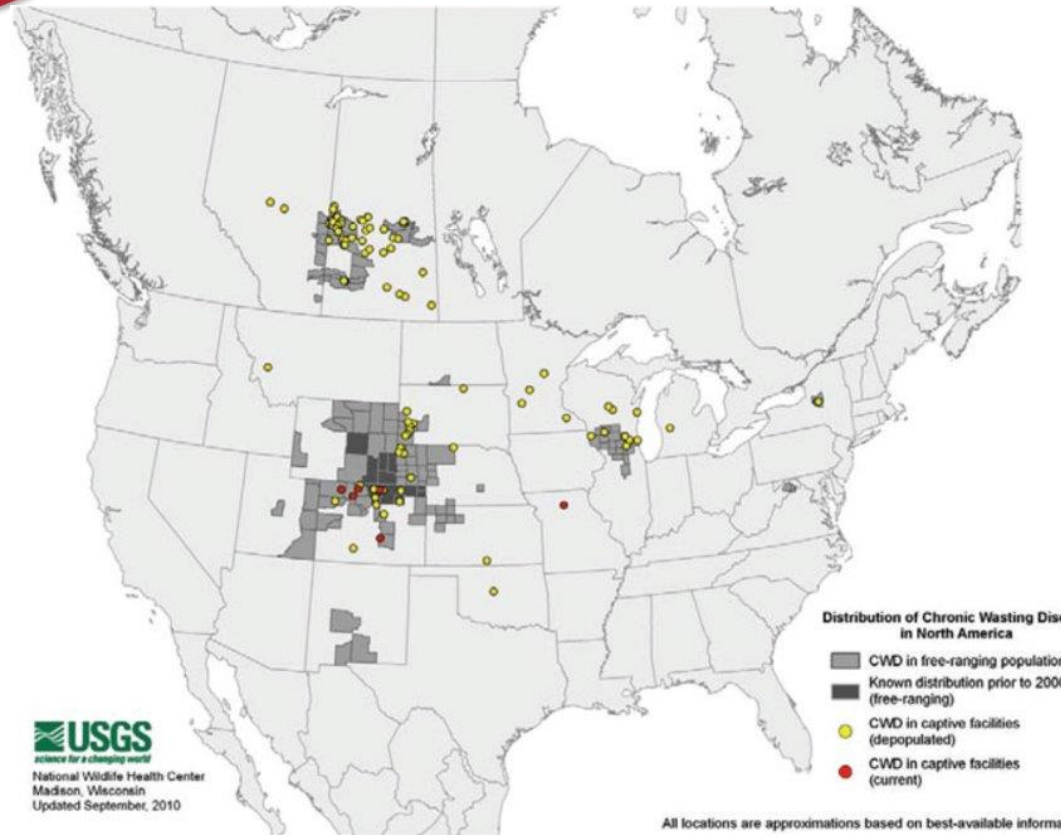




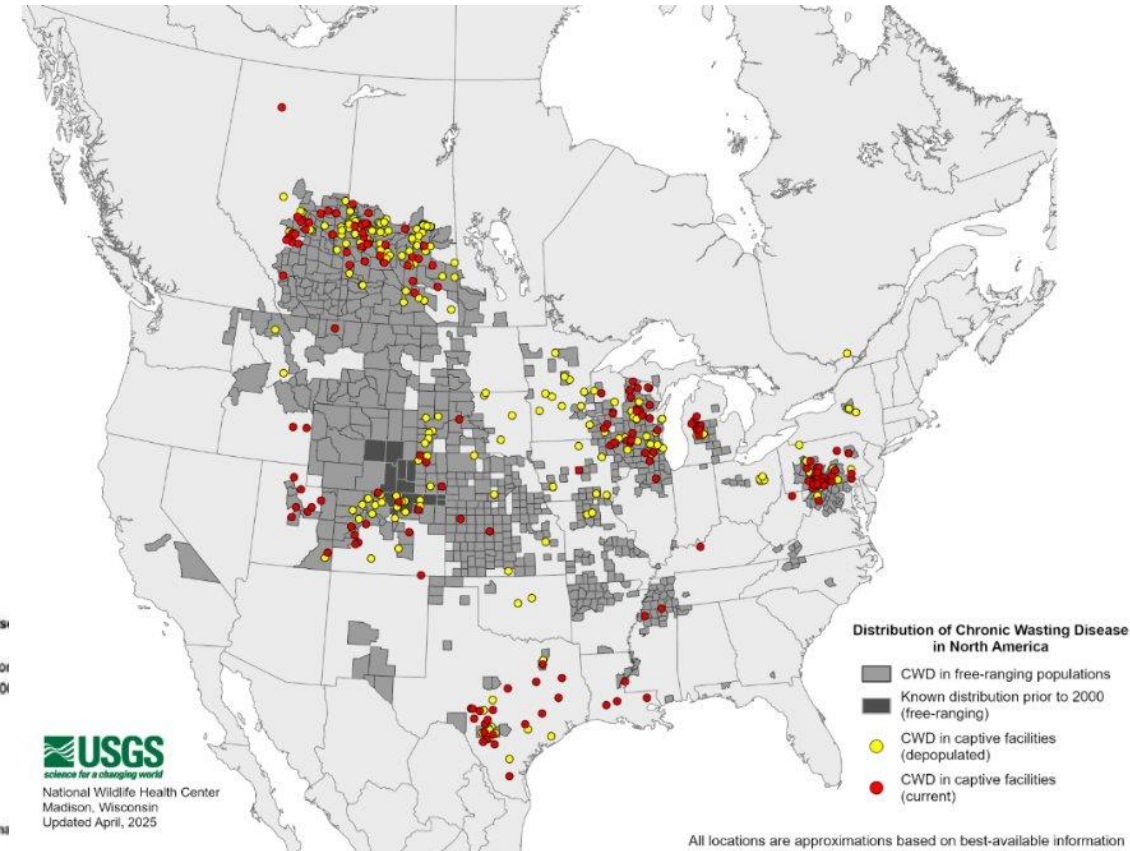
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# CWD Distribution in North America

September 2010



April 2025



**First discovered in Colorado Wildlife Research  
Facility in 1967**



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# CWD Progression in Texas

- 2012
  - Free ranging mule deer in far West Texas
- 2015
  - Captive WTD breeder in Medina County
- 2016
  - Free ranging mule deer in Texas Panhandle
  - Free ranging elk in Texas Panhandle
- 2017
  - Free ranging WTD in Medina County
  - Captive WTD
  - Captive Elk on previous positive WTD premises
  - Free ranging WTD in Texas Panhandle
- 2019
  - Free ranging WTD in Val Verde County





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# CWD Progression in Texas

- 2020
  - Captive WTD in Kimble County
- 2021
  - 7 captive breeder facilities positive
  - Hunt, Duval, Uvalde, Matagorda, and Mason County
    - 303 direct traces
- 2022
  - 2 captive breeder facilities and 2 release site positive
  - Gillespie, Limestone, and Hunt County
    - 81 direct traces
- 2023
  - 12 captive breeder facilities and 1 release site positive
  - Zavala, Washington, Gonzalez, Hamilton, Frio, Sutton, Brooks, Kimble, Medina, Cherokee County
    - 378 direct traces
  - Free ranging WTD in Bexar and Coleman County



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# CWD Progression in Texas

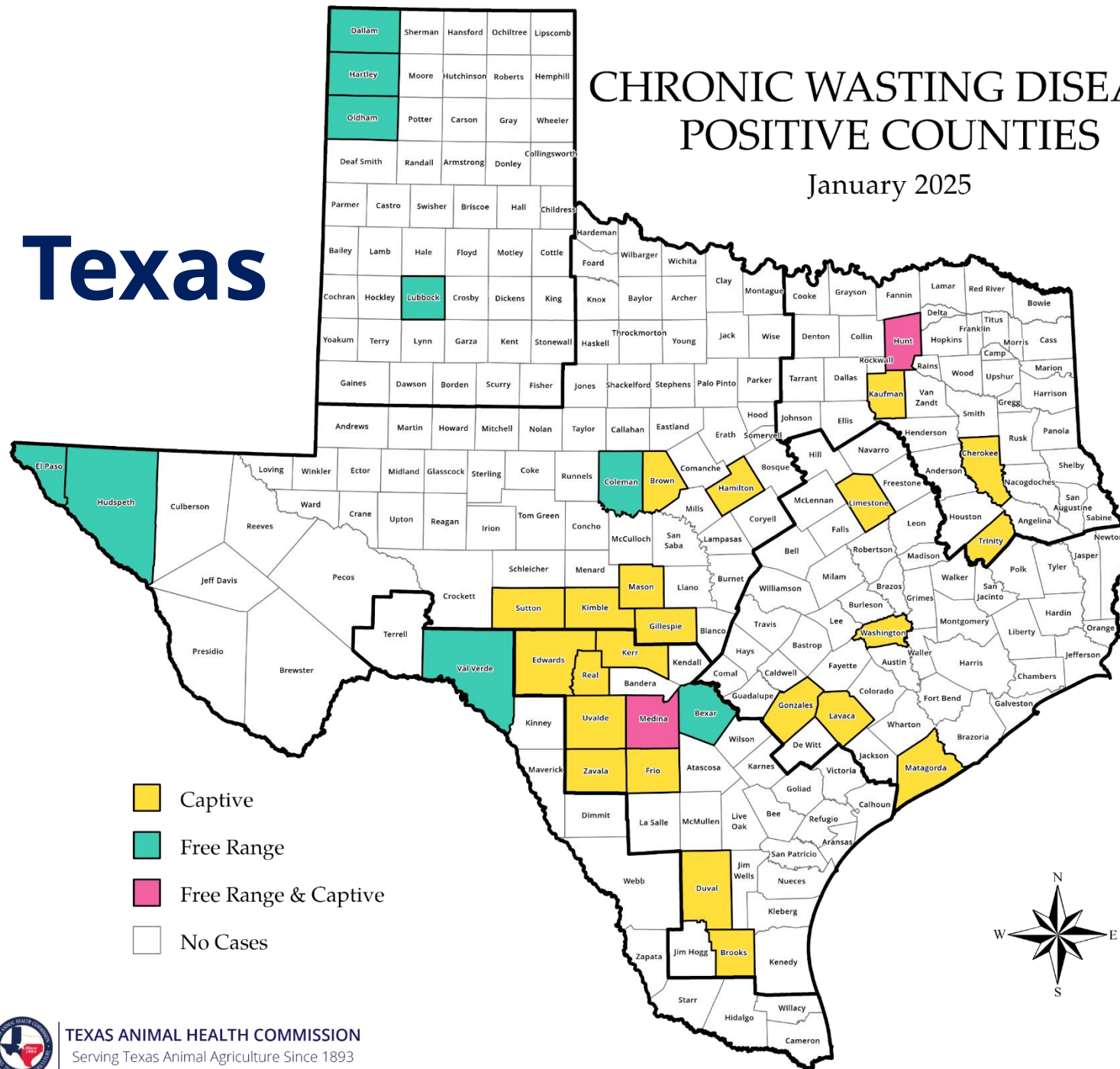
- 2024
  - 7 captive breeder facilities and 2 release sites positive
  - Real, Edwards, Zavala, Trinity, Sutton, Medina, Kerr, and Brown county
    - 172 direct traces
  - Free ranging WTD in Roberts County
- 2025
  - 2 captive breeder facility and 2 release sites positive
  - Kaufman, Sutton, Zavala, and Duval county



# CWD in Texas

## CHRONIC WASTING DISEASE POSITIVE COUNTIES

January 2025





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# Positive CWD Cases in Texas

Year	Number of CWD Detections (Captive & Free-range)
2012-2015	15
2016	32
2017	31
2018	61
2019	34
2020	35
2021	65
2022	170
2023	154
2024	467
2025	5
<b>Total</b>	<b>1069</b>

\*As of January 2025

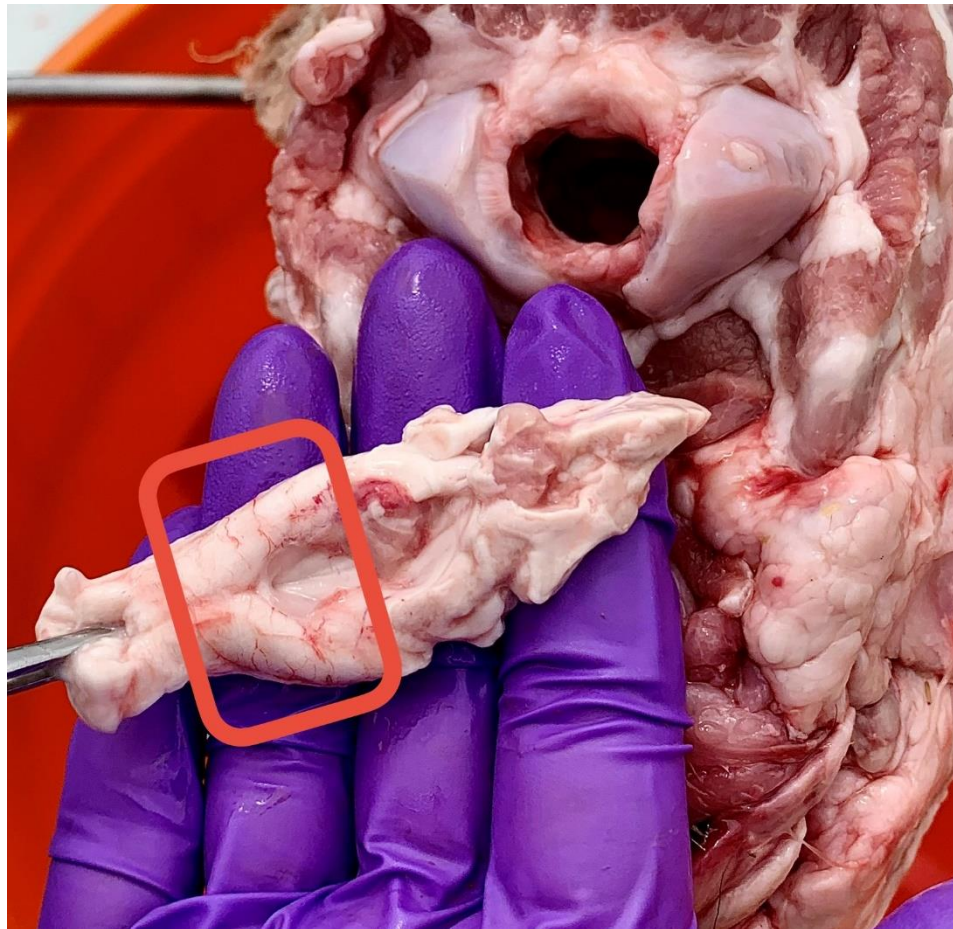




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# CWD Postmortem Sampling

- Obex portion of medulla oblongata



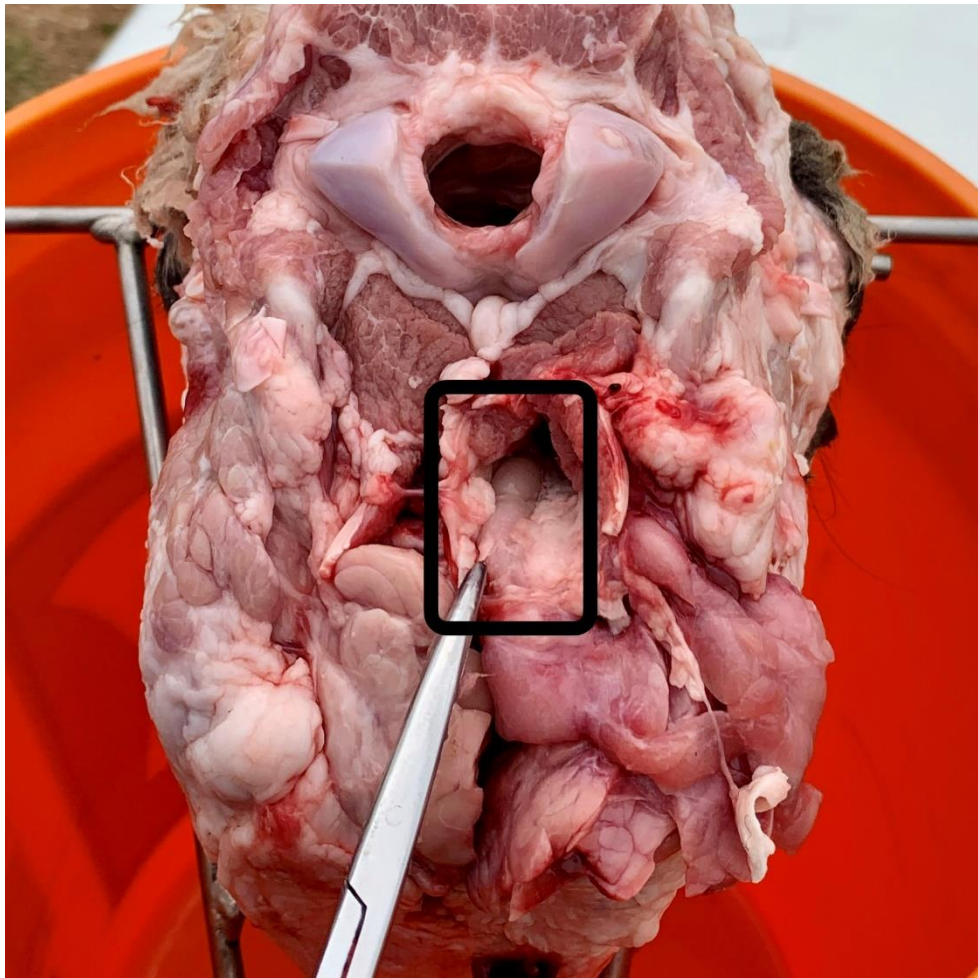




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# CWD Postmortem Sampling

- Medial Retropharyngeal Lymph Nodes





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# TAHC Reporting Requirements for Exotic CWD Susceptible Species

- Title 4 TAC 40.5
- Applies to all captive Exotic CWD Susceptible Species
- Reporting Requirements:
  1. Estimated Annual Inventory - Due by April 1<sup>st</sup> of each year
  2. Mortality Reporting – Due by April 1<sup>st</sup> of each year
  3. Movement Records – Must be reported within 48 hours of movement taking place, premise ID and individual animal Official ID required
  4. Test Submission – 3 mortalities must be tested annually, submit postmortem samples to TVMDL within 7 days





# Cattle Fever Tick Eradication Program

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# Cattle Fever Tick Eradication Program

- *Rhipicephalus (Boophilus) microplus*, and *R. (B) annulatus*
  - Introduced by Spanish colonists
  - One-host tick
- Vectors for bovine babesiosis (*Babesia bovis*, *Babesia bigemina*) – “Cattle Fever”

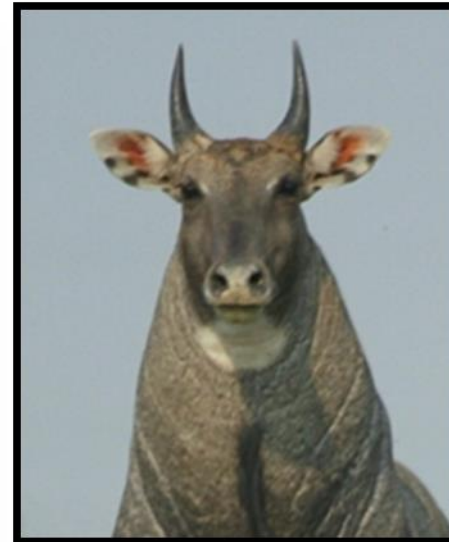




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# Cattle Fever Tick Eradication Program

- Hosts targeted by Fever Ticks
  - Cattle are the most efficient host, but horses, deer, and exotics also sustain tick populations



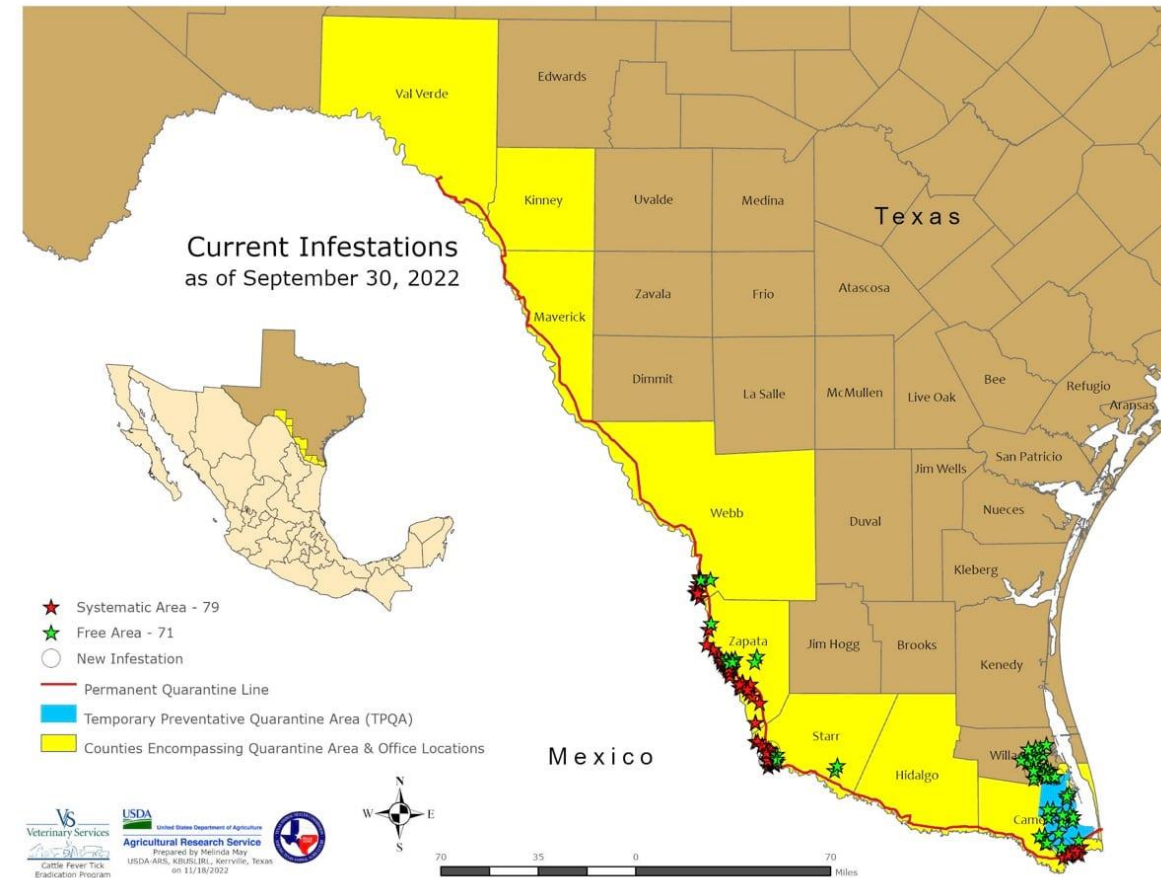




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# Cattle Fever Tick Eradication Program

- Permanent Quarantine Area (Systematic)
  - Del Rio to Brownsville
  - Spans 8 Counties
  - Approximately 600 miles long
  - 5 yards to 5 miles wide





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# Cattle Fever Tick Eradication Program

- USDA's Control Program in the Permanent Quarantine Zone
  - River, range inspection
  - Livestock movement control
  - Scratch, dip livestock
  - Apprehend stray animals
  - Systematic treatment of animals on infested premises

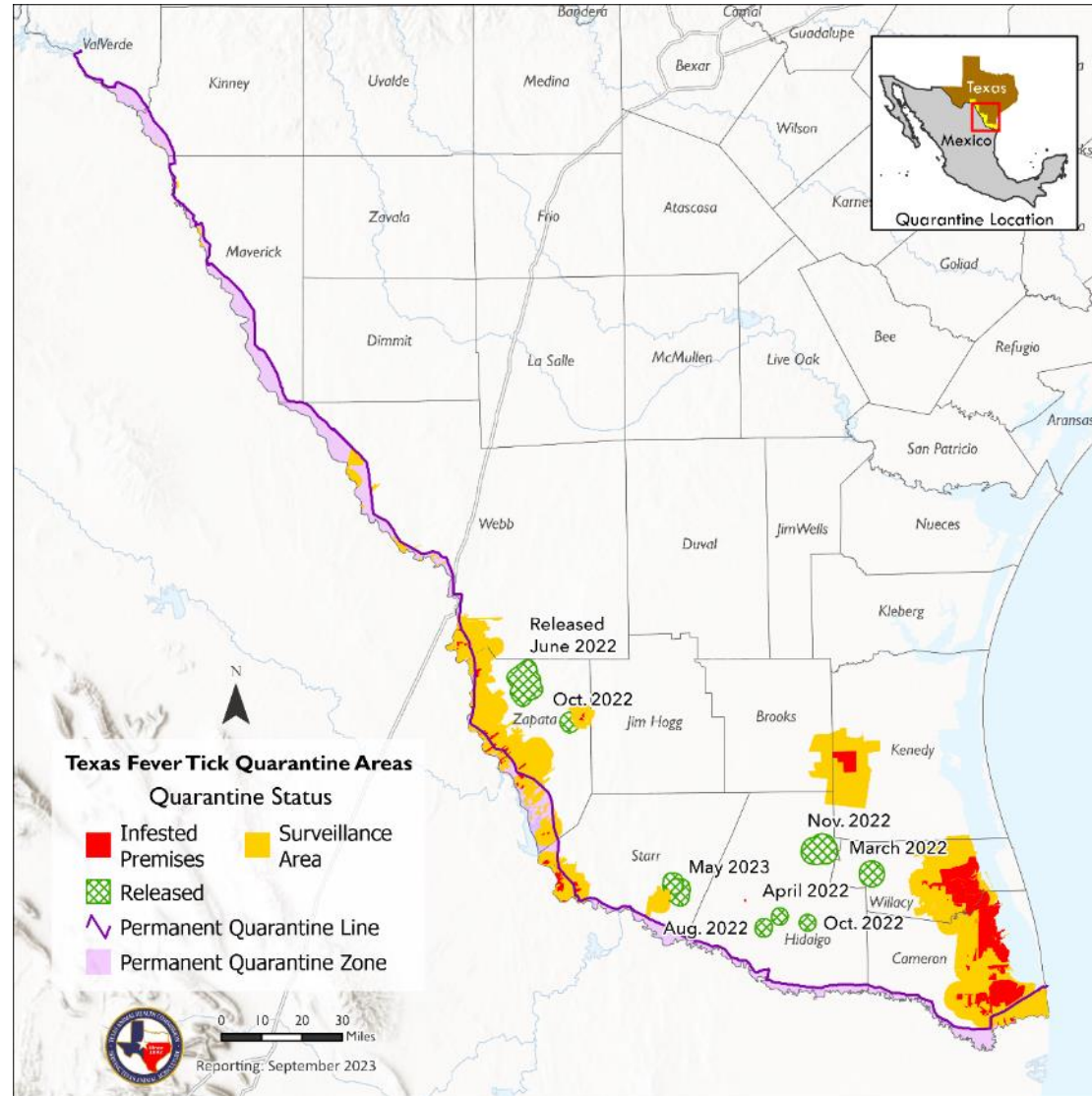




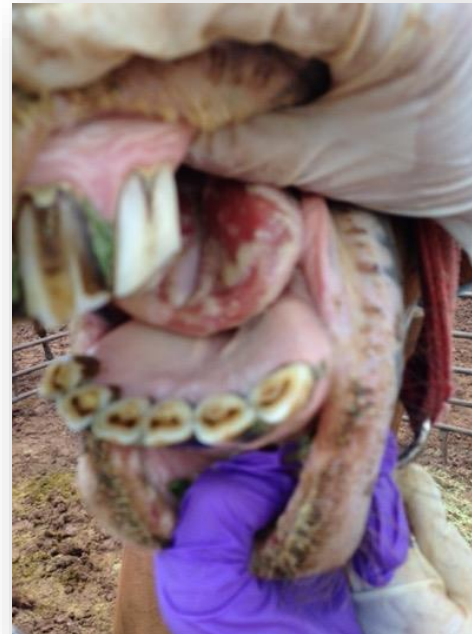


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# Control Program - Quarantine Zone



# Foreign Animal Disease (FAD) Response in Texas



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# Reportable Diseases

What should you report?

- Diseases on State or Federal lists

Whom should you notify?

- VS Area Office
- State Animal Health Official
- Described in 9CFR 161.4(f)





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# What is a Foreign Animal Disease (FAD)

- Disease not currently present in the USA
- Emerging Diseases
- As a general rule FADs have:
  - High morbidity (no herd immunity)
  - High mortality
  - Exceptions (some strains are not as virulent as the classical disease)





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# Characteristics of an FAD

- High morbidity, High mortality
- Does not fit classical picture
- Vesicular lesions
- Severe abortion storms of unknown etiology
- Hemorrhagic septicemia
- Severe respiratory conditions
- Pox or lumpy skin conditions
- Poor or no response to treatment when response is expected
- Suspicious necropsy findings



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# FADs Eradicated from U.S.

- 1892: CBPP
- 1929: FMD
- 1929: Fowl Plague
- 1934: Glanders
- 1942: Dourine
- 1943: Texas Cattle Fever
- 1959: Swine VE
- 1959: Screwworm (SE US)
- 1966: Screwworm (SW US)
- 1971: VEE
- 1973: Sheep Scabies
- 1974, 1998, 2003: Exotic Newcastle Disease
- 1978: Classical Swine Fever
- 1985 & 2002: Highly Pathogenic Avian Influenza





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# Risks Unique to Texas Agriculture

- 20 land ports
- 9 seaports
- 4 international airports
- Top importer of live animals – 1 million plus/yr
- Texas borders 8 states
- 1,237 mile border with Mexico





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# When to Look for a FAD?

- History of foreign travel, visitors, mail, gifts
- Importation of animals, embryos, semen
- Unusual/unexplained illness or symptoms
- CNS diseases
- Mucosal diseases
- Larvae in wounds
- Unusual ticks, mites, etc.



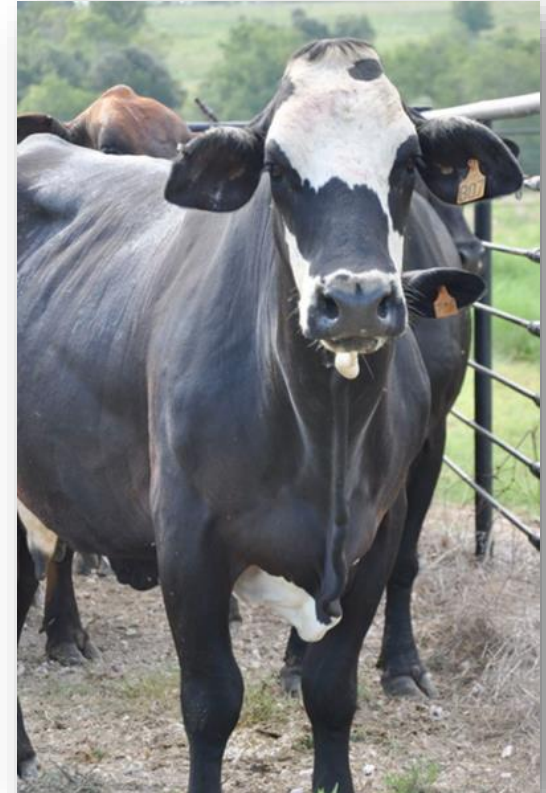




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# Scenarios for Disease Introduction

- Accidental - through normal visitor activities and trade
- Intentional - result of a bio-crime or bioterrorist attack
- Response same for both scenarios (except for crime scene activities)





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# Conditions That Should Tip Off a Veterinarian of a Possible FAD:

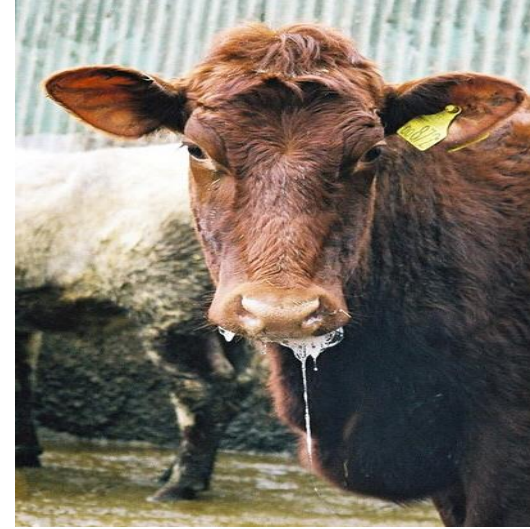
- Central nervous system signs
- Presence of unusual ticks/maggots
- Vesicles/Blisters
- Sudden illness
- Sudden death



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# Reportable Disease *Hot List*

- AI
- FMD
- CSF
- END
- Screwworms
- Heartwater Disease
- Fever Ticks



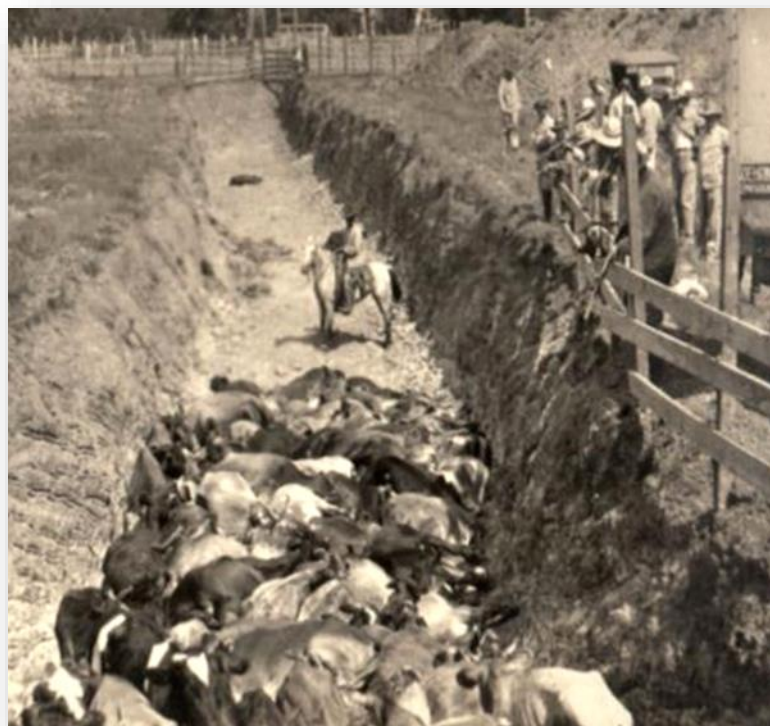




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# Foot-and-Mouth Disease (FMD)

## U.S. 1929





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# Foot-and-Mouth Disease (FMD)

- Quarantines
- Roads closed, movement restrictions
- Inspection and disinfection at checkpoints
- Continuous improvement in traceability (animal ID)





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# Foot-and-Mouth Disease (FMD)

- Consumer fear
- Meat producers, processors, distributors, and retailers out of work







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# United Kingdom FMD Outbreak 2001

- Failure to stop movement for three weeks allowed the disease to become widespread
- 6 million animals depopulated
- \$6 billion+ (US) direct cost
- Estimated 60 suicides associated
- Consumer fear
- Meat producers, processors, distributors, and retailers out of work





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# Most Important Foreign Animal Disease Threats to Texas

- Foot-and-Mouth Disease
- Classical Swine Fever (Hog Cholera)
- Heartwater Disease
- Screwworms
- Avian Influenza
- Fever Ticks
- Exotic Newcastle Disease



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# Report

- Whatever you do, don't ignore it and hope it goes away!
- Call
  - USDA 512-383-2400
  - TAHC 800-550-8242







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# Foreign & Emerging Animal Disease (FEAD) Investigation and Response

Owner calls  
private  
veterinarian



Veterinarian  
investigates  
and calls TAHC

**24 hours a day, 7 days a week**  
**Call 1-800-550-8242**



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# Foreign & Emerging Animal Disease (FEAD) Investigation and Response

- FAD Diagnostician (FADD) assigned to the premises
  - Conducts investigation
  - Collects samples
- TAHC & USDA personnel respond & implement biosecurity protocols as appropriate





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# Diagnostic Infrastructure

- USDA/Plum Island, NY(FADDL)
- USDA National Veterinary Services Lab (NVSL) – Ames, IA
- Texas A&M Veterinary Medical Diagnostic Lab (TVMDL)



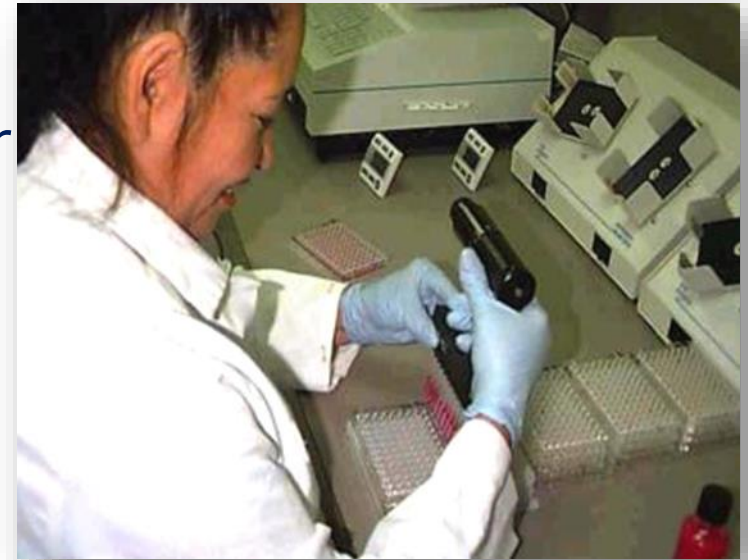




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# Diagnostic Infrastructure

- Lab choice dependent on status of U.S.
- 1<sup>st</sup> case goes to Plum Island Lab
- Must have virus isolation to confirm
- Follow up samples may go to TVMDL
- National Animal Health Laboratory Network (NAHLN) in place





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# US/Texas Response Plan for an FAD/FMD?

- Texas' Foreign & Emerging Animal Disease (FEAD) Plan – Annex O
  - Uses state emergency management system (Texas Office of Homeland Security & Division of Emergency Management)
  - Outlines agencies' responsibilities and tasks
  - TAHC/USDA/DPS are lead agencies



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# U.S. Highly Contagious Disease Response Plan Components

Federal quarantine  
on interstate commerce  
Federal Emergency Declarations

Industry input  
into policy  
development



State/Local  
Response structure  
intrastate

Incident  
Command  
System (ICS)





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# TAHC/USDA Area Command





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# Incident Command Post California END 2003







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All emergencies &  
natural disasters are  
“local” problems FIRST!







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# County Animal Issue Committees



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Local shelters, city,  
county, etc.



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## **Animal Issue Committees – examine local vulnerabilities and prepare for those first!**





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# Why is Animal Planning Needed?

- Animal issues are people issues
- Tex. Gov't. Code §418.043 (11)
- State law, TDEM & TAHC help local jurisdictions plan for animal issues
- PETS Act
- Federal law amending FEMA Stafford act and requiring locals to plan for household pets





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# State Animal Response Plan Partners

- TX Division of Emergency Management
- Texas A&M AgriLife Extension
- TAMU CVM VET team
- Industry – TSCRA, ICA, TCFA, TxFB
- USDA VS, NRCS, AC
- Texas Veterinary Medical Association (TVMA)
- Texas Department of Agriculture



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# Hurricane – Pre-Impact:

- Evacuation
- Shelter
- Interstate entry waivers
- Activation of Animal Response Operations Coordination Center (AROCC)





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# Hurricane – Post-Impact:

- Re-entry
- Damage assessments
- Veterinary clinics
- Livestock facilities
- Displaced livestock







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# Hurricane – Post-Impact

- Carcass disposal
- Animal health issues
- Dehydration, salt toxicity
- Displaced livestock ---- capture, shelter, owner ID
- Donations management





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# Veterinary Response Resources

- Texas A&M University College of Veterinary Medicine Veterinary Emergency Team (VET)
- United States Department of Agriculture Veterinary Services (USDA-VS)
- Emergency Management Assistance Compact (EMAC) or other mutual aid agreements; other states' response teams (U of FL, OK State)





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# Role of Local Veterinarian

- Community Planning
- Participate in local emergency management activities:
  - Animal issues planning
    - Be engaged in local animal issues committee
      - Know the local Emergency Management Coordinator (EMC)
      - Shelter planning advisement
      - Be written into animal plans as a resource!
      - Understand EM system and where to go for help (ICS training)
      - Encourage client preparedness
  - Animal issues exercises



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# Role of Local Veterinarian

- Community Response activities:
  - Triage injured animals
  - Treat animals, euthanasia decisions
  - Support animal sheltering issues
- Reimbursed?
  - If you are identified as a county resource and involved in your area animal issues committee, you are more likely to be reimbursed

