



# Texas Authorized Personnel Program (TAPP) – Module 3

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



# 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





# 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. Crochet, USDA-APHIS-VS-WSL



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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

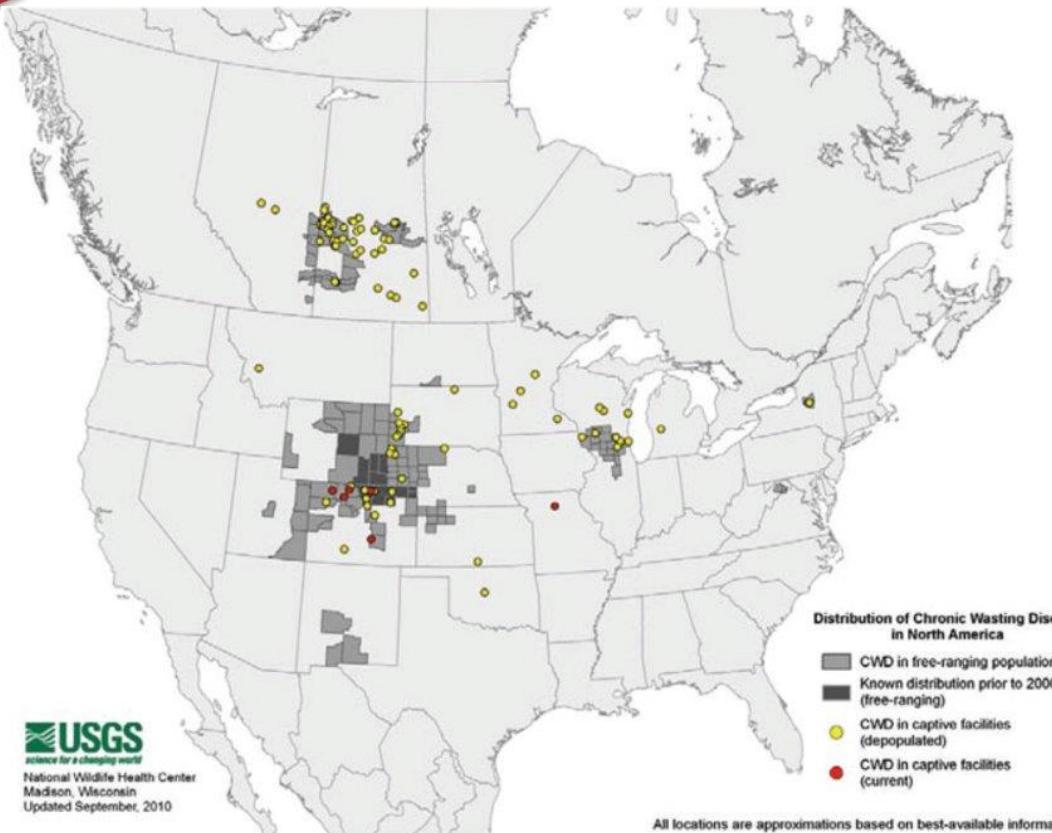




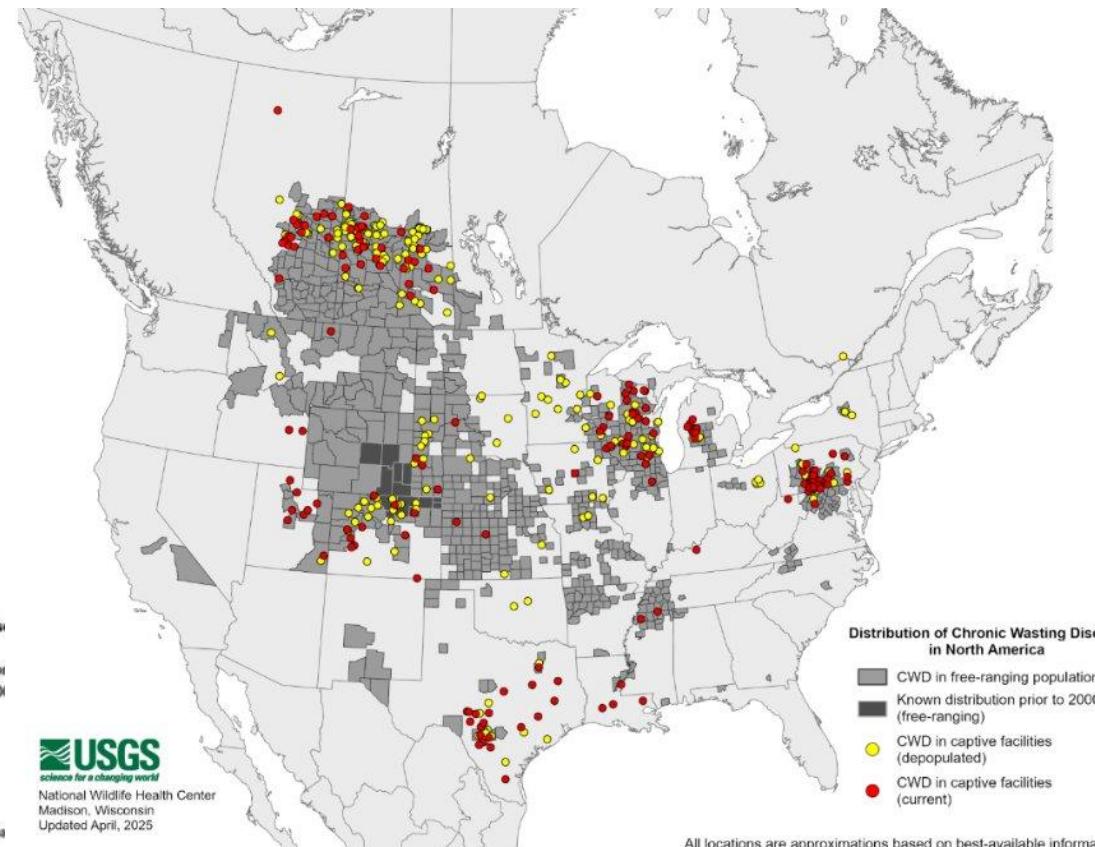
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# CWD Distribution in North America

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

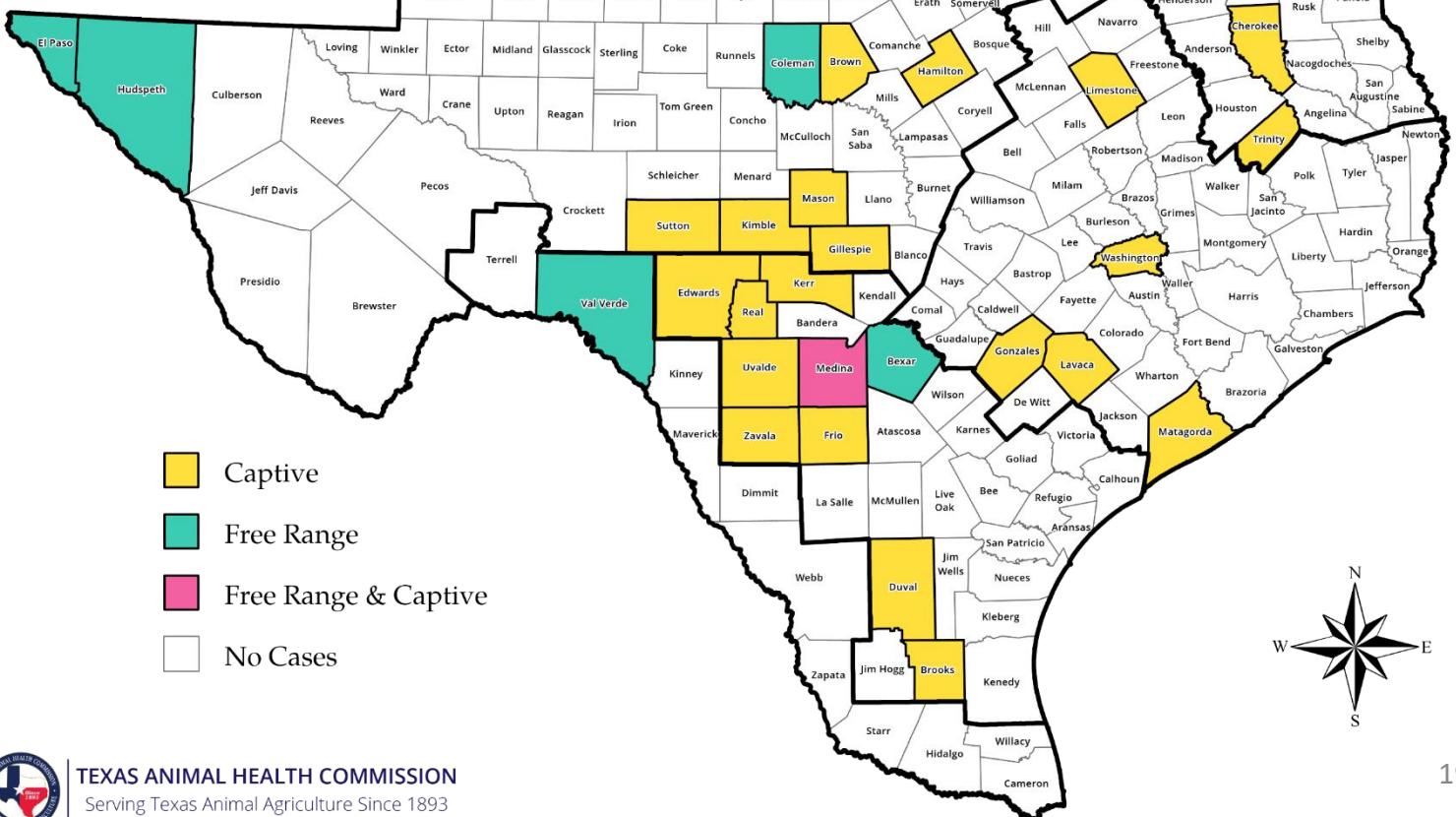
- 2024
  - 7 captive breeder facilities and 2 release sites positive
  - Real, Edwards, Zavala, Trinity, Sutton, Medina, Kerr, and Brown county
    - 172 direct traces
  - Free ranging WTD in Roberts County
- 2025
  - 2 captive breeder facility and 2 release sites positive
  - Kaufman, Sutton, Zavala,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



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# CWD in Texas

Dallam	Sherman	Hansford	Ochiltree	Lipscomb
Hartley	Moore	Hutchinson	Roberts	Hemphill
Oldham	Potter	Carson	Gray	Wheeler
Deaf Smith	Randall	Armstrong	Donley	Collingsworth
Parmer	Castro	Swisher	Briscoe	Hall
Bailey	Lamb	Hale	Floyd	Motley
Cochran	Hockley	Lubbock	Crosby	Dickens
Yoakum	Terry	Lynn	Garza	Kent
Gaines	Dawson	Borden	Scurry	Fisher
Andrews	Martin	Howard	Mitchell	Nolan



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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>

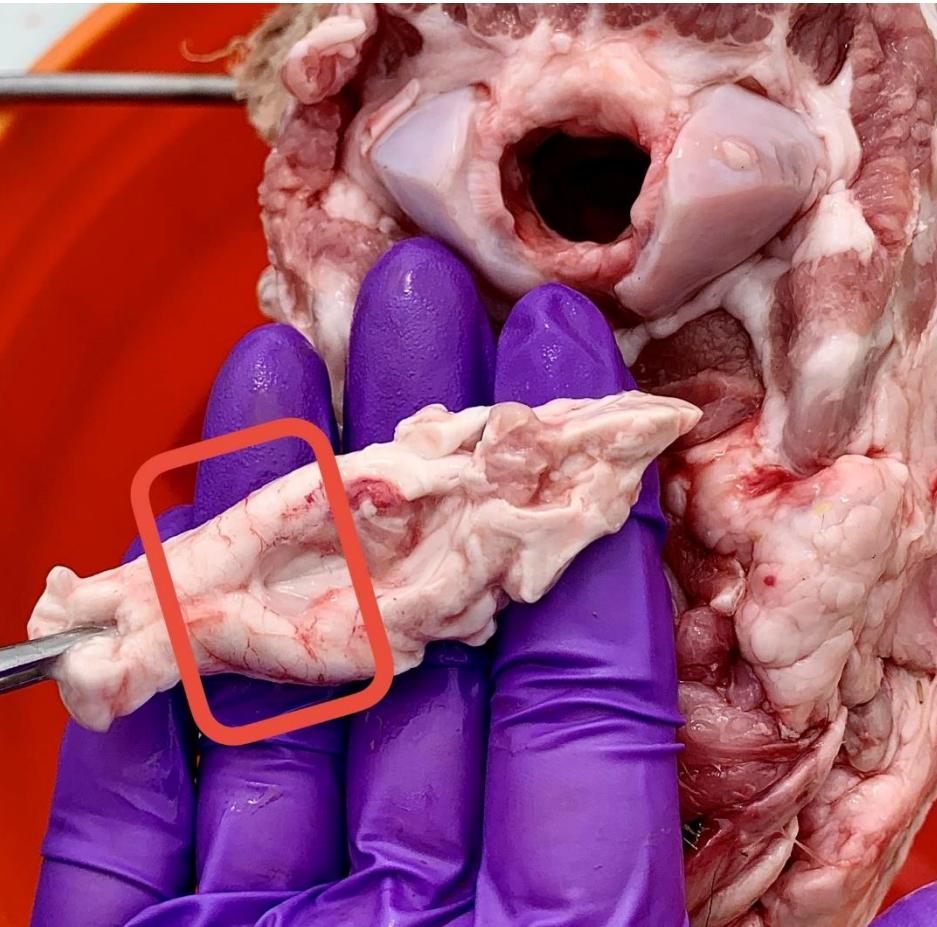
\*As of January 2025



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# CWD Postmortem Sampling

- Obex portion of medulla oblongata

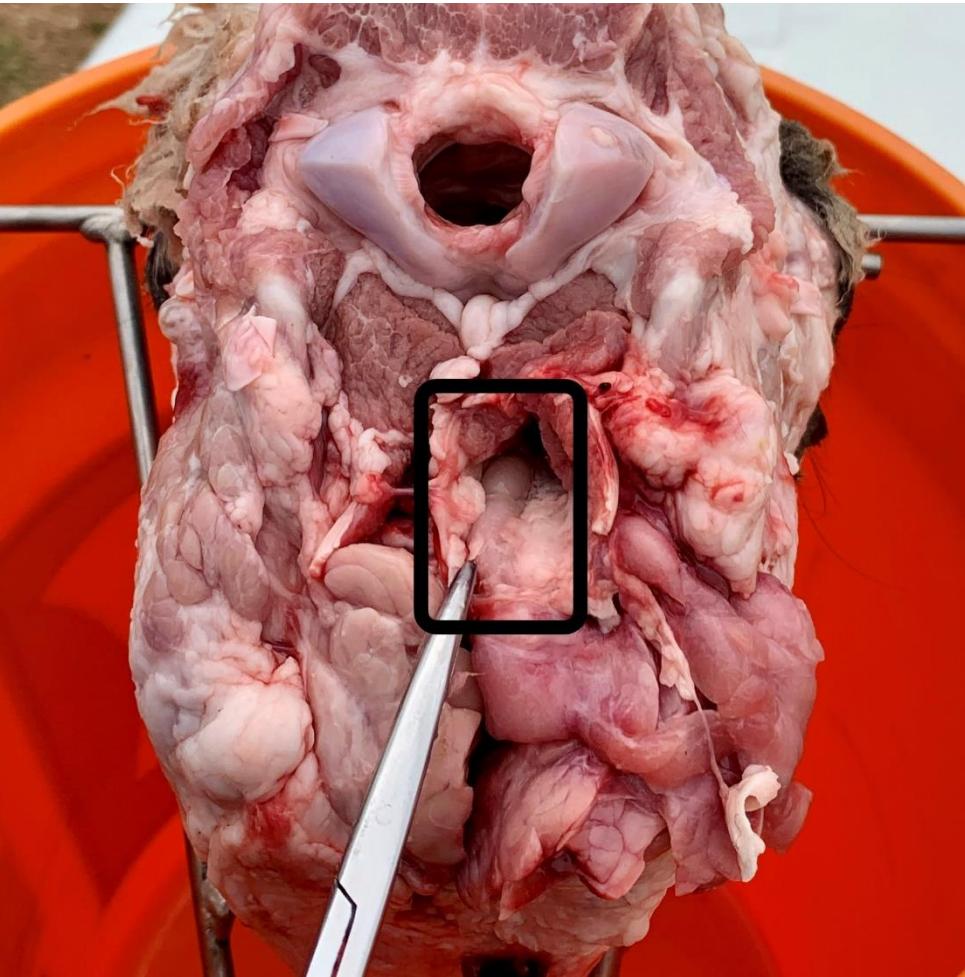




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# CWD Postmortem Sampling

- 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

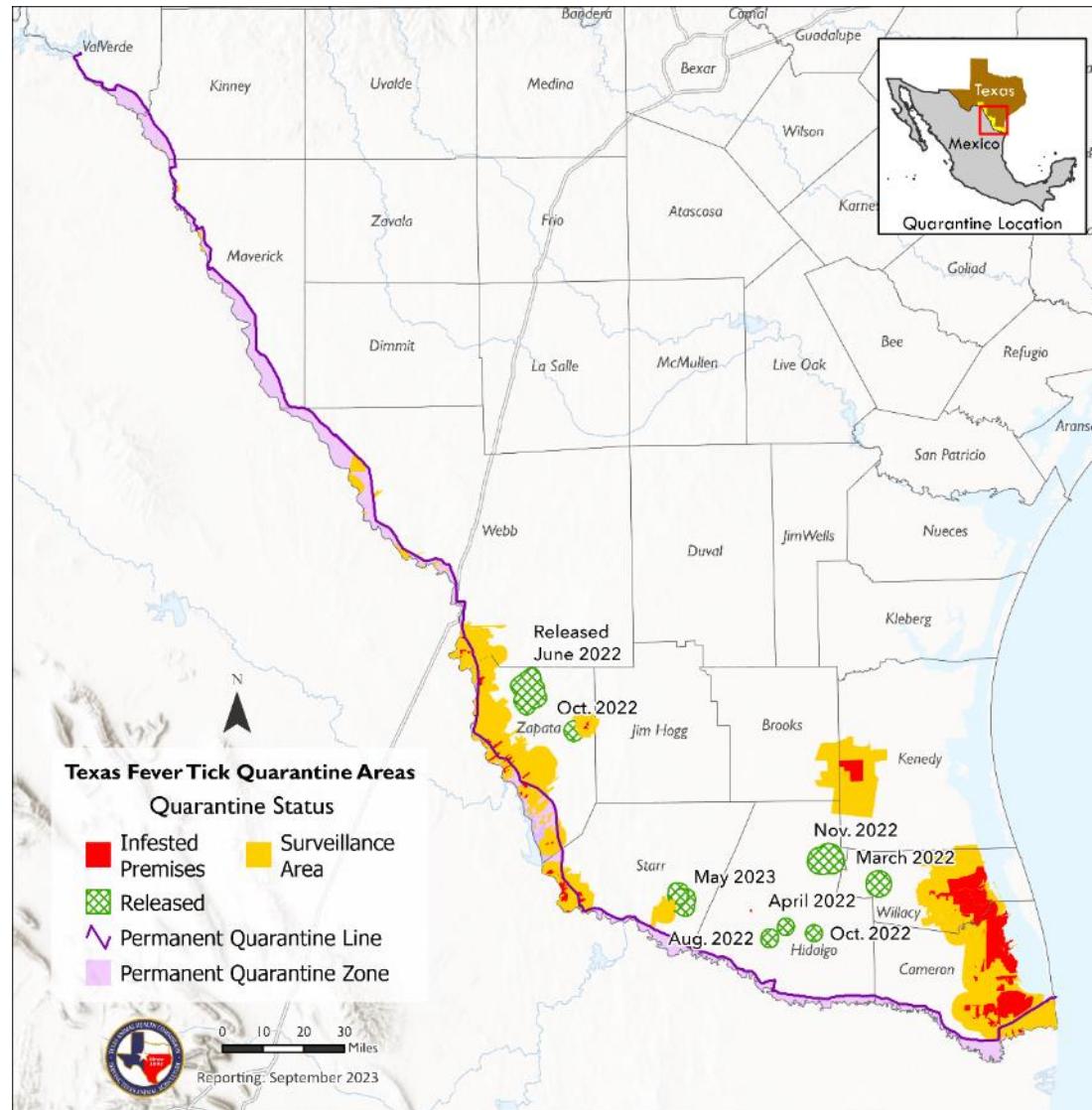
- USDA's Control Program in the Permanent Quarantine Zone
  - River, range inspection
  - Livestock movement control
  - Scratch, dip livestock
  - Apprehend stray animals
  - Systematic treatment of animals on infested premises





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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.

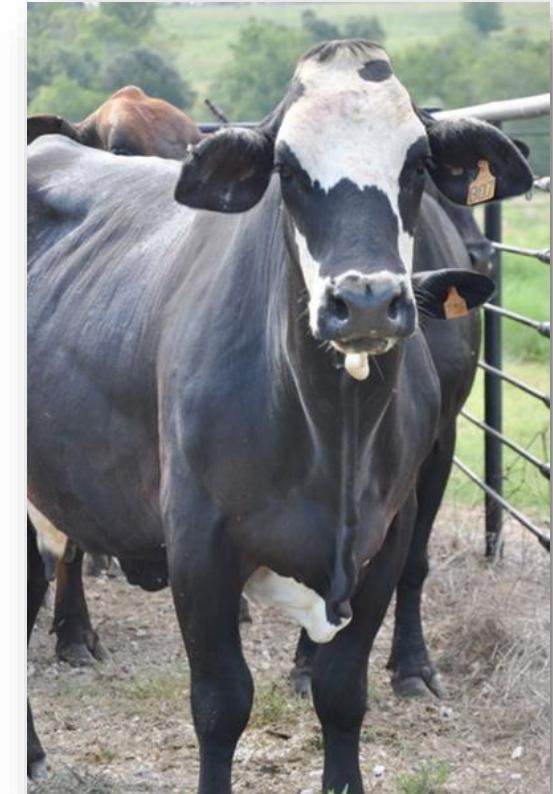




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# Scenarios for Disease Introduction

- 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)

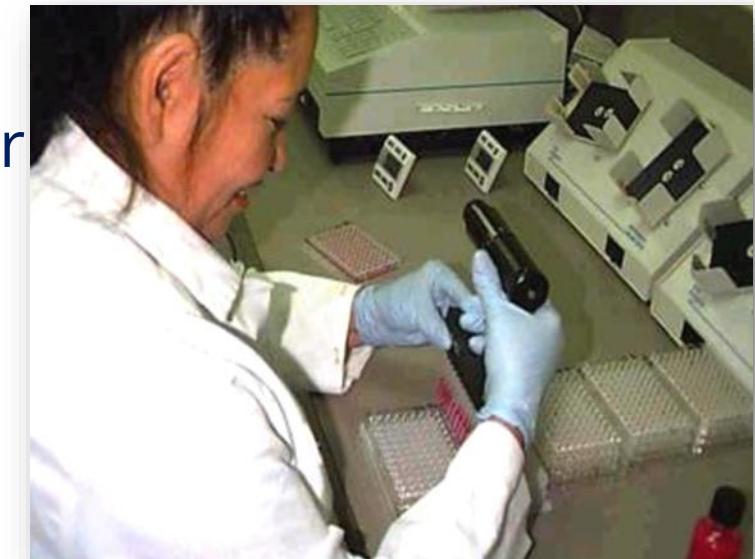




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# Diagnostic Infrastructure

- 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



Incident  
Command  
System (ICS)

State/Local  
Response structure  
intrastate



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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

