Management of Bovine Tuberculosis in Minnesota’s Wild Deer

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Where do we have TB in deer?

- 3,077 deer sampled in surveillance zone in northwestern MN from 2005 to 2007
- 18 TB-positive deer found
- Annual prevalence remains low (0.2-0.5% +/- 0.2%)
- Geographic distribution of positives contained within 164 sq-mi core area
2006 Statewide Bovine TB Surveillance

• USDA required sampling of 3,000 hunter-harvested deer north of Brainerd and 1,000 south

• Sampling design based on deer density & distribution, as well as proximity to intensive TB zone

• Staffed 58 stations; $400k pricetag
Statewide Surveillance

TOTAL SAMPLES: 5,000

South of Brainerd: 1,164
(CWD Zone: 376)

North of Brainerd: 2,874
Intensive Zone: 942
Close-up of infected lungs

Pus-filled nodules on lungs of a deer infected with bovine TB
How is MNDNR Managing Bovine TB in Deer?

- Reduce deer densities
  - Special hunts, sharpshooting, landowner shooting permits, aerial gunning
- Restrict recreational feeding of deer
  - Ban recreational feeding
- Address risk mitigation at the cattle-deer interface
  - Deer-proof fencing program
New Bovine TB Management Zone:

Outer circle: 605mi²
- Encompasses a 10-mile radius around TB-positive deer from 2005-2006

Inner core: 140mi²
- Encompasses a 2-mile radius around each TB-positive deer and included 5 formerly TB-positive farms
Fall 2007 Hunting Seasons

• New Bovine TB permit area

• Reduce deer densities in critical areas

  • Early Antlerless Hunt: Oct 13-14th, 2007

• Issue unlimited $2.50 bonus permits for antlerless deer

• Venison donation program

  • Special January Hunt: Dec 29, 2007-Jan 13, 2008
Aerial Survey of Deer in the Core Area of the Bovine TB Management Zone
February 12-14 2007

Legend

- Surveyed Plots and Totals Observed
- Deer Observations
- TB-Positive Deer
- TB-Positive Farms
- Townships
- Township Roads
- County Roads
- State Highways
- County Boundaries
- Core Area
- Management Zone
- Public or Tribal Lands

About This Map

Randomly selected PLS sections in the Bovine TB Management Zone were surveyed via helicopter to estimate the deer population of the Core Area, where management efforts are focused. Deer per section ranged from 0 to 30, averaged 6.6 and summed to 478 for 72 sections. Using this information, the population in the Core Area is estimated to be at least 935-150 deer. This is necessarily a minimum estimate because the number of deer undetected during the survey is unknown.

Scale: 0.5 1 2 3 4 5 Miles
Winter (Feb-Apr) 2007 Deer Removal Project

- 488 deer removed (42-63% of deer population in core area)
- All deer were tested for bovine TB
- 6 positives identified
Results from Fall 2007 and Special Hunt

- 1,166 deer sampled
- 5 TB-suspects identified
  - 3 adult males, 2 female
  - All within the core
- Prevalence remains low (0.4%)
- Geographic distribution did not change
Aerial Survey of Deer in the Core Area of the Bovine TB Management Zone January 23-25 2008

Legend

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About This Map

Randomly selected PLS sections in the Bovine TB Management Zone were surveyed via helicopter to estimate the deer population of the Core Area, where management efforts are focused.

Deer per section ranged from 0 to 23, averaged 4.9 and summed to 354 for 72 sections. Using this information, the population in the Core Area is estimated to be at least 506 +/- 133 deer. This is necessarily a minimum estimate because the number of deer undetected during the survey is unknown.
Interpretation of Deer Survey Results from 2007 to 2008

• Feb 12-14, 2007 Survey
  • 639 deer observations; population estimate of 950 deer (± 150). Deer numbers ranged 0–30 in a PLS section, averaged 6.6 deer/section

• Jan 23-25, 2008 Survey
  • 354 deer observations; population estimate of 806 deer (± 133). Deer numbers ranged 0–23 in a PLS section, averaged 4.9 deer/section

• Why are deer numbers not statistically different in the core?
  • Mild winter 2007 did not significantly impact survival or reproduction
  • Deer recruitment and immigration into the core was likely high
  • Feeding ban likely resulted in redistribution of deer on the landscape

• Continued pressure on deer herd within the core is needed to reduce overall deer densities and yield a significant long-term reduction in the local population
Sharpshooting and Aerial Deer Removal Project
Winter 2008
Winter Deer Removal Project Report

- 546 deer removed by sharpshooters
- 416 deer removed by aerial gunning
- 125 deer removed by land owners
- All deer sampled for bovine TB
- 8 suspects identified (6 clinical suspects, 2 nonclinical suspects)
- Carcasses salvaged for venison or landfilled
- Test results pending……
Landowner Shooting Permits

- Landowners/tenants can shoot unlimited number of deer on private land from March 31st through August 31st, 2008
- All deer must be tested for bovine TB
- Carcasses must be utilized
- Thus far, about 125 deer sampled.
2005-2008

Adults: 4,946
Yearlings: 2,572
Fawns: 448
Unknowns: 232
Total: 8,198

(includes statewide surveillance)
Alive in 2005

• 18 confirmed TB cases, all would have been born by June 2005:
  16 deer >2.5 years old
  2 deer 1.5 years old in 2006

• 8 suspect TB cases from 2008:
  7 adults, 1 yearling
Proposed location of deer and elk supplemental feeding ban in NW MN
Managing the Deer-Cattle Interface is KEY!!
2008 Cattle Buy-out and Fencing Initiative

- 56 total herds
- Buy-out program
  - Sign-up by July 15, 2008
  - $500/animal + slaughter
  - Slaughter by Jan 31, 2009
  - $75/animal stipend
- Mandatory fencing
  - $75k cost-share
  - BAH now managing project, not DNR
- Application for Split-State Status is pending
Next steps for DNR….

- Stay the course!
  - Keep pressure on deer to keep densities low through liberalized hunting this fall
  - Conduct surveillance in TB zone and wherever else USDA might require for Split-State-Status
  - Conduct another survey of deer numbers in the TB core in Jan 09
  - Depending on outcomes of deer sampling in fall and survey results, another intensive deer removal effort may begin in winter 2009
  - Continue to enforce the recreational feeding ban
  - Continue to coordinate all efforts with BAH, MDA, and USDA
2007 and 2008 Hunting Seasons

• **New Deer Area 101** (Bovine TB permit area)
  • Help reduce deer densities
  • Early antlerless hunt - October
  • Unlimited disease management permits for antlerless deer
  • Special late-season hunt
2007 vs 2008 Deer Permit Area Designations

2007

- Early Antlerless - 7 deer
- Intensive - 5 deer
- Lottery - 1 deer
- Managed - 2 deer
- No Limit Antlerless

2008

- Early Antlerless - 7 deer
- Intensive - 5 deer
- Lottery - 1 deer
- Managed - 2 deer
- No Limit Antlerless
Fall 2008 Surveillance

• Goal is 1,000 samples within the bovine TB surveillance zone

• Given the proposed MA zone, additional samples will be collected on the western and southern boundaries
QUESTIONS??

For More Information
Visit the MN DNR website at:
http://www.dnr.state.mn.us