



# Chronic Wasting Disease in Southeast Minnesota

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**Preston Public Meeting**

**December 18, 2018**

# Agenda

- Opening Remarks
- Brief overview of Chronic Wasting Disease (CWD)
- 2016-18 surveillance results in SE MN
- MNDNR plans for this winter (Dec 2018-March 2019)
- Q&A

# Before we get started ...

- The 2017 and 2018 efforts have NOT eliminated CWD in the Preston-Lanesboro area
- Although there has been some recent disease spread, 75% of all cases were found between Preston and Lanesboro, referred to as the CWD Core Area
- The positive deer found outside the Core Area are all adult males, except 1 new adult female near Bucksnot
- Eliminating the disease in Preston may not be realistic, and our goal is to reduce disease prevalence and minimize spread to new areas
- Our ability to achieve our goal hinges on reducing risk of disease transmission among deer - This means limiting deer-to-deer contact through a feeding/attractant ban and reducing deer numbers
- WE ARE NOT ATTEMPTING TO ERADICATE DEER. It's not practical, feasible, or necessary.

# Chronic Wasting Disease: What is it?

- CWD is a slowly progressive, brain disease of deer, elk, moose, and reindeer
- CWD belongs to the family of diseases known as transmissible spongiform encephalopathies (TSE) or prion diseases
- Not caused by a virus, fungus, or bacteria – mis-shapen protein
- Spread animal-to-animal, mostly through saliva, feces, urine



Photo by J. Skukrud

## Both Deer are CWD-Positive

Top Photo: Pre-clinical disease

Bottom Photo: Clinical disease



Photo by Terry Kreeger



# *Characteristics of CWD*

- Neurologic clinical signs: dementia, in-coordination, abnormal behavior, loss of body condition
- No treatment or vaccine, always fatal
- Prions persist in the environment and remain infectious for an undetermined length of time
- Incubation of disease is 1.5 to 3 years from exposure to development of clinical signs
- Infected animals begin to shed prions soon after exposure
- There is no genetic immunity
- CWD not shown to infect humans or cattle, but health agencies recommend NOT to eat an infected animal



CWD Positive Deer – Pine Island - 2010

# Things are NOT OK in areas with CWD

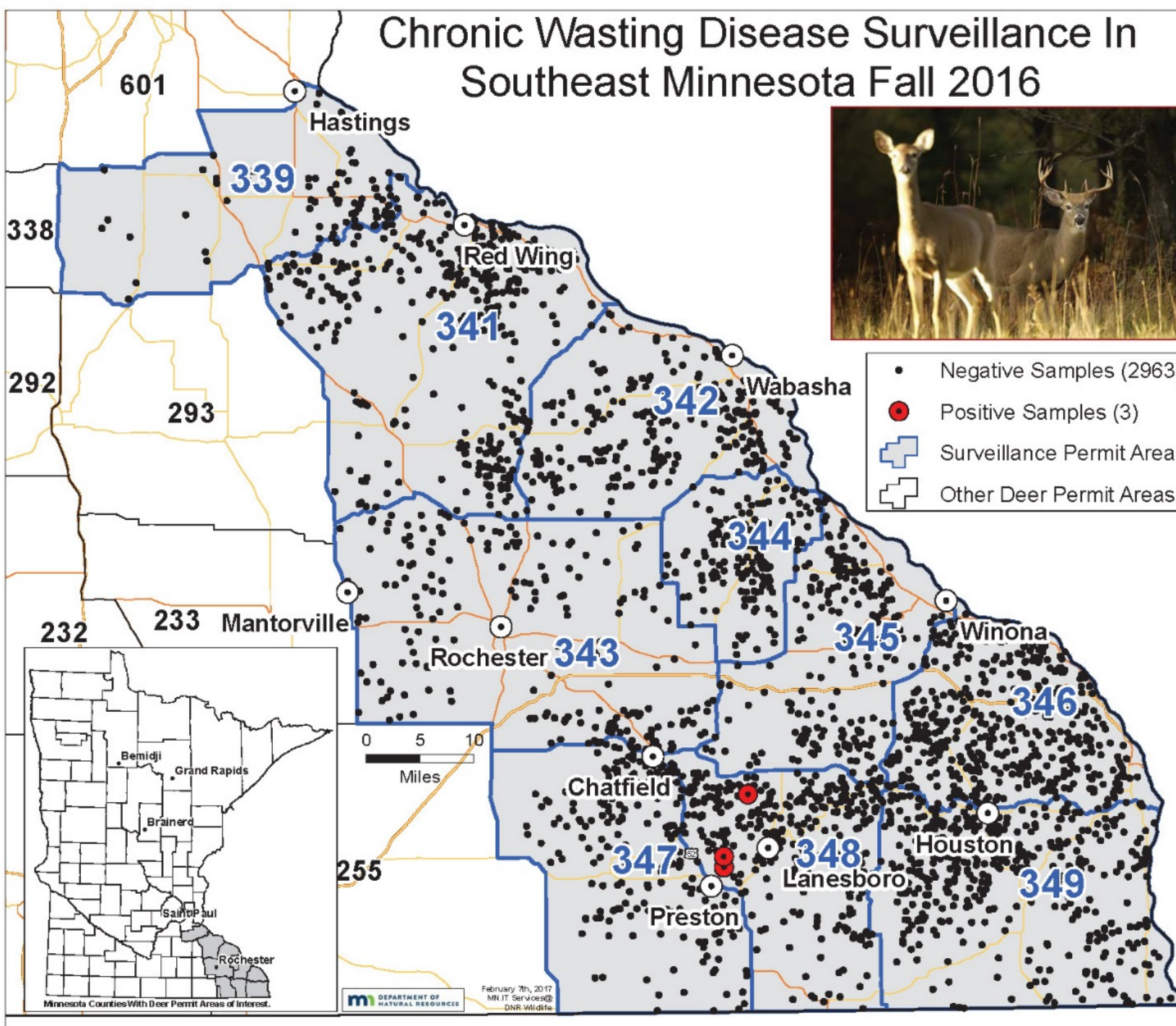
What we know ...

- Disease is 100% fatal
- Deer that are infected (but not symptomatic) have higher mortality rates than uninfected deer
- Bucks are 3x more likely to have the disease
- Yearling males are CWD delivery systems
- The percentage of infected deer increases annually, in addition to a larger geographic area
- The disease is having a negative effect on long-term deer densities in other states



# Chronic Wasting Disease Surveillance In Southeast Minnesota Fall 2016

## Fall 2016 CWD Testing



- Initially found 2 positives from voluntary fall sampling
- Added 3<sup>rd</sup> case from our taxidermist network
- All 3 cases were in Fillmore County
- All were adult males



# MNDNR CWD Response Plan, Winter 2017

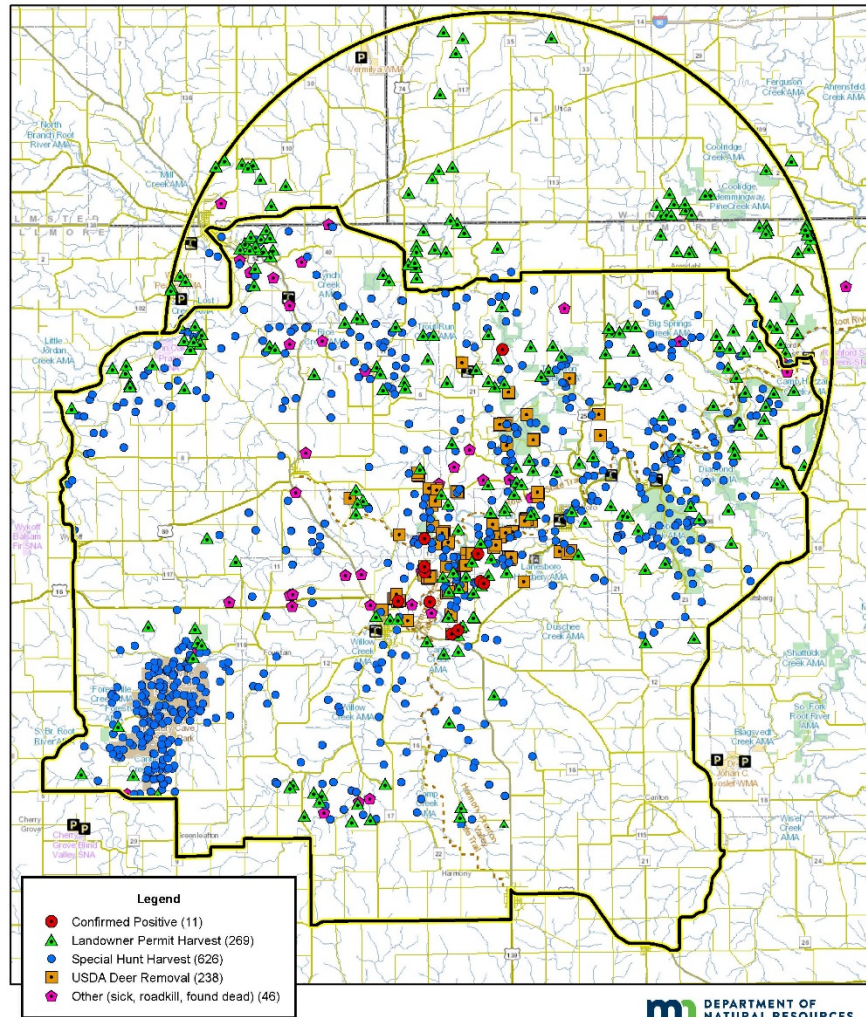
## Short-term, Initial Response (Dec 2016 through April 2017):

- Established a new CWD Management Zone in Fillmore Cty - Deer Permit Area 603
  - Mandatory CWD testing and carcass export restrictions out of Zone 603
- Recreational deer feeding ban – Fillmore, Mower, Olmsted, Houston, and Winona Counties
- Conducted aerial survey of Zone 603 & a northern buffer zone around 3<sup>rd</sup> positive – 11,600 deer (31 deer/mi<sup>2</sup>)
- Special Hunt: December 31 to January 15<sup>th</sup>
- Landowner Shooting Permits: Working with landowners individually for permission to obtain samples (Jan 16 to Feb 12<sup>th</sup>)
- USDA deer culling contract, focused in our core areas (Feb 20 to Mar 19<sup>th</sup>)



# Test results from the Special Hunt, Landowner Shooting Permits, and USDA Wildlife Services Deer Removal Phases, Winter 2017

Special Hunt/Landowner Shooting Permit/USDA Deer Removal  
Deer Harvest Update Mar 20, 2017



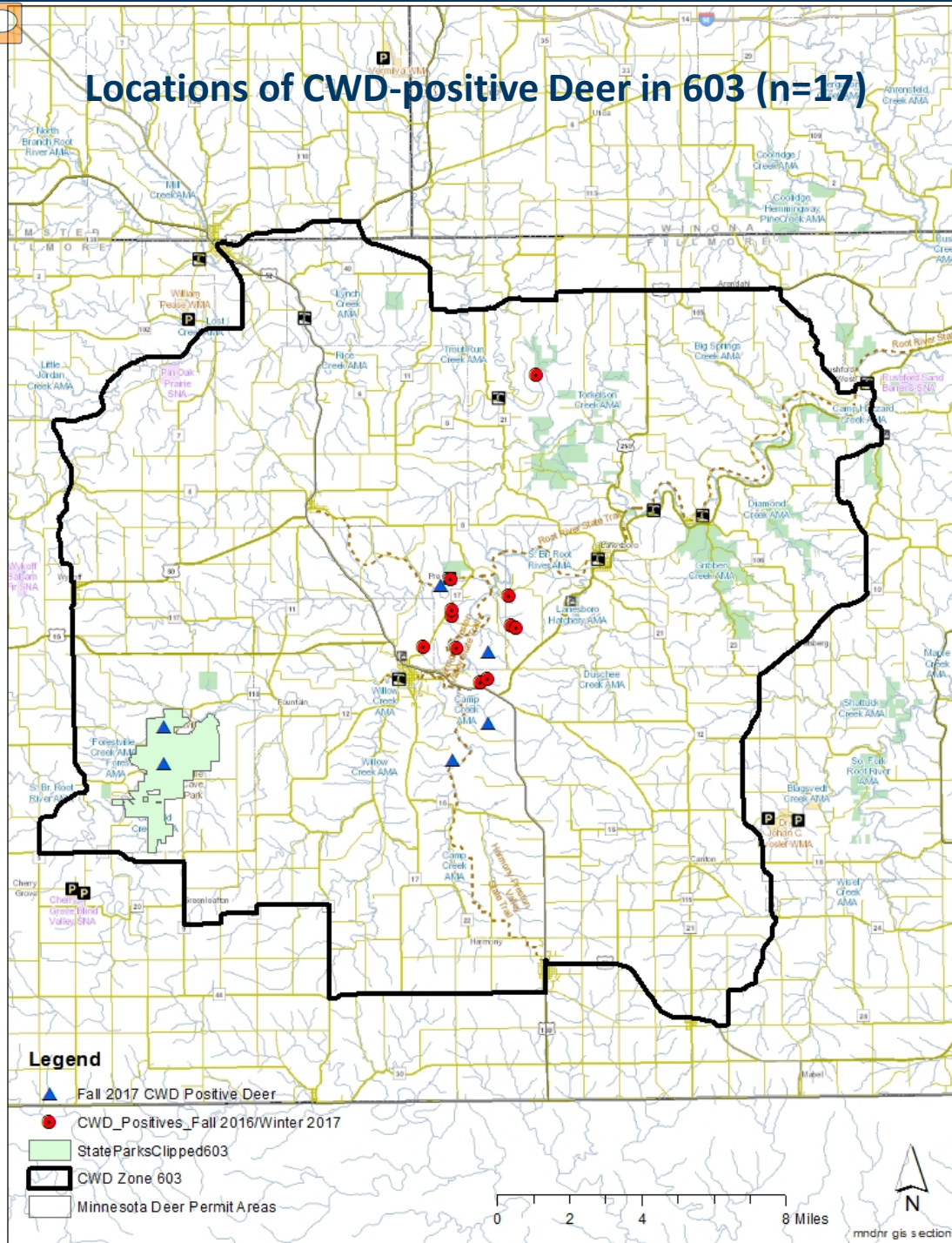
## Cumulative test results from Dec. 31, 2016 to March 31, 2017

Sample Type	Samples Collected	CWD-Negative	Confirmed CWD-Positive
Landowner Shooting Permit Zone	269	267	2
Special Late Hunt, Zone 603	626	623	3
USDA Deer Removal	238	236	2
Road kill	30	30	0
Found dead	13	12	1
Sick/injured/euthanized	3	3	0
Totals	1179	1171	8 (plus 3 from fall 2016)

**\*\* Additionally 252 and 105 fawns were harvested during the special hunt and by landowners, respectively. Fawns were not tested. Grand Total: 1,536 deer.**

**\*\*2016 apparent CWD prevalence estimate: 11/1,679 or 0.65%.**

## Locations of CWD-positive Deer in 603 (n=17)



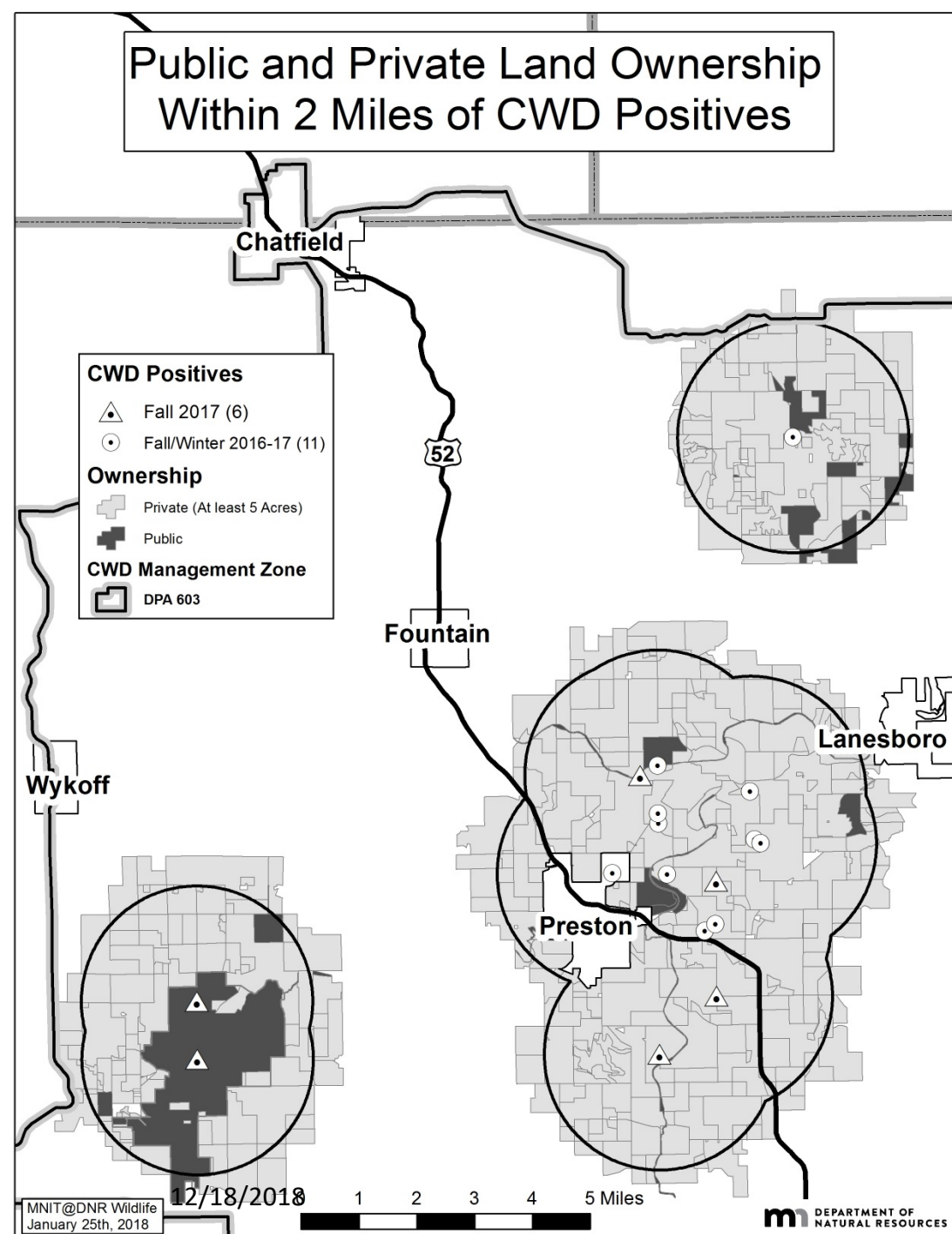
## Results of Fall 2017 Sampling: 603

- SE sampling around 603: 1,124 samples, no CWD detected
- Zone 603: 1,183 deer tested, 6 new CWD detections
  - 4 adult males shot in main CWD core area
  - 2 adult males shot in Forestville State Park, westward expansion of disease or a sink?
- Late Hunt (Jan 6-14, 2018): 275 additional samples, no CWD detections
- **2017 CWD prevalence estimate:  $6/1,458 = 0.41\%$**
- Taxidermist Network contributed 481 samples in all CWD surveillance zones combined



# Landowner Shooting Permits, Winter 2018

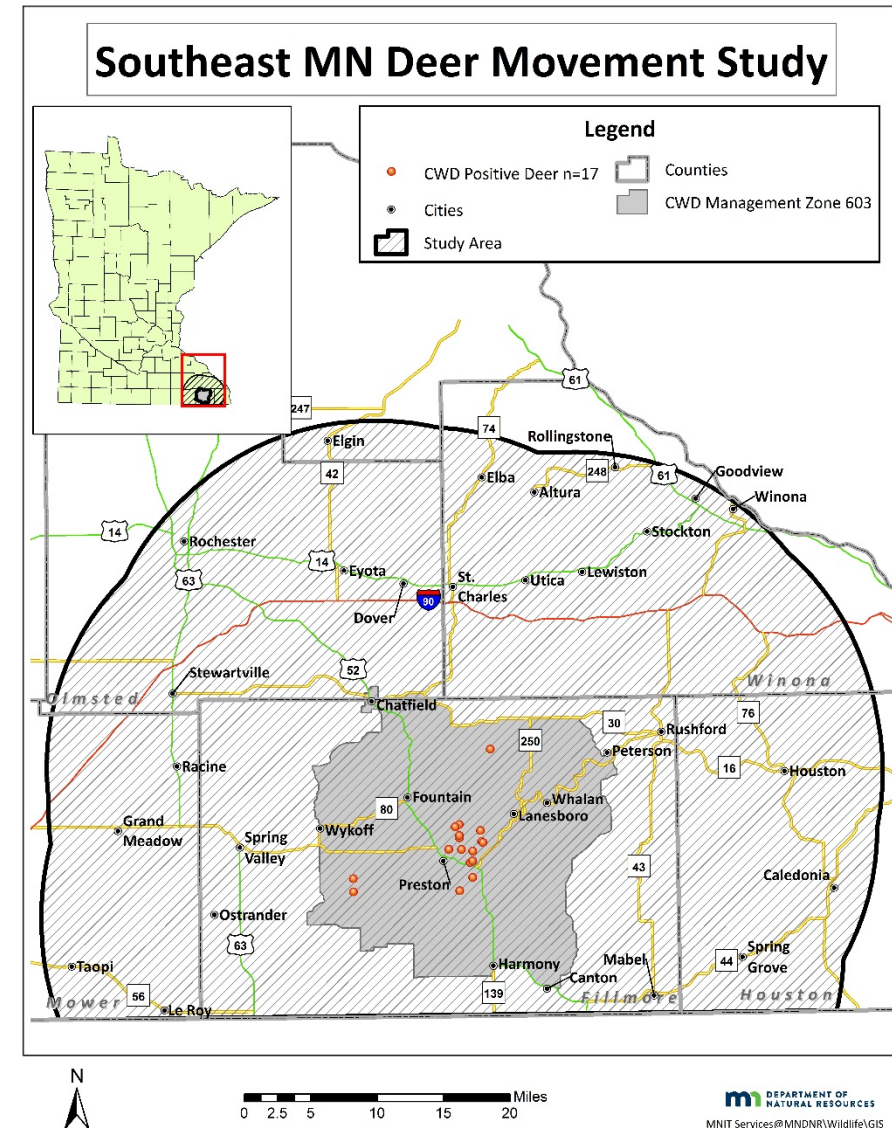
- Landowner permits were available to any private landowner within 2 miles of a known CWD+ deer
- Permits lasted 4 weeks, 10-Feb to 9-March 2018
- Unlimited take, testing all deer (including fawns)
- 68 permits issued; 19 deer sampled, no CWD detections
- Did not utilize USDA-WS for a deer removal contract in 2018



# Southeast Deer Movement Study

## Objectives

1. Document dispersal patterns and estimate activity ranges of juvenile males and females ( $\approx$  1-year-old), and adult males ( $>2$ -years-old).
2. Utilize information on juvenile dispersal (in particular) to map and inform corridors of possible CWD spread.
3. Determine cause-specific mortality for population modeling.





# Southeast Deer Movement Study

## Preliminary Results

- Average dispersal distance for juvenile females was 18.9 miles and 9.1 miles for juvenile males.
- Juvenile females have higher probability of dispersing in spring and traveled twice that of males.
- Longest trek was from a juvenile female - 124km or 77mi
- This is only Year 1 of the study, several more years of monitoring movements of juveniles are planned.





**Legend**

**Positives by Year**

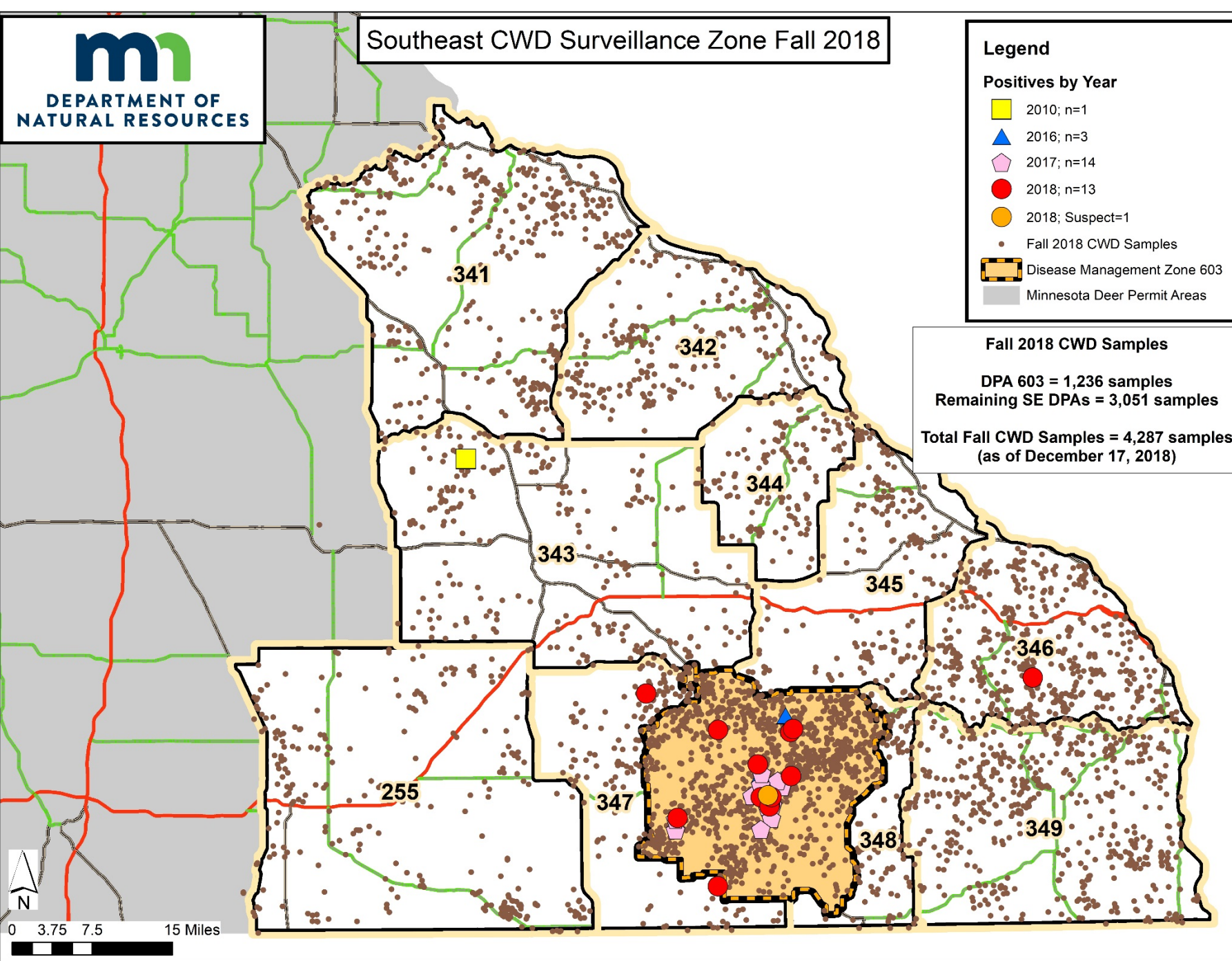
- 2010; n=1
- 2016; n=3
- 2017; n=14
- 2018; n=13
- 2018; Suspect=1
- Fall 2018 CWD Samples
- Disease Management Zone 603
- Minnesota Deer Permit Areas

**Fall 2018 CWD Samples**

DPA 603 = 1,236 samples  
Remaining SE DPAs = 3,051 samples  
Total Fall CWD Samples = 4,287 samples  
(as of December 17, 2018)

# Southeast Zone, Fall 2018

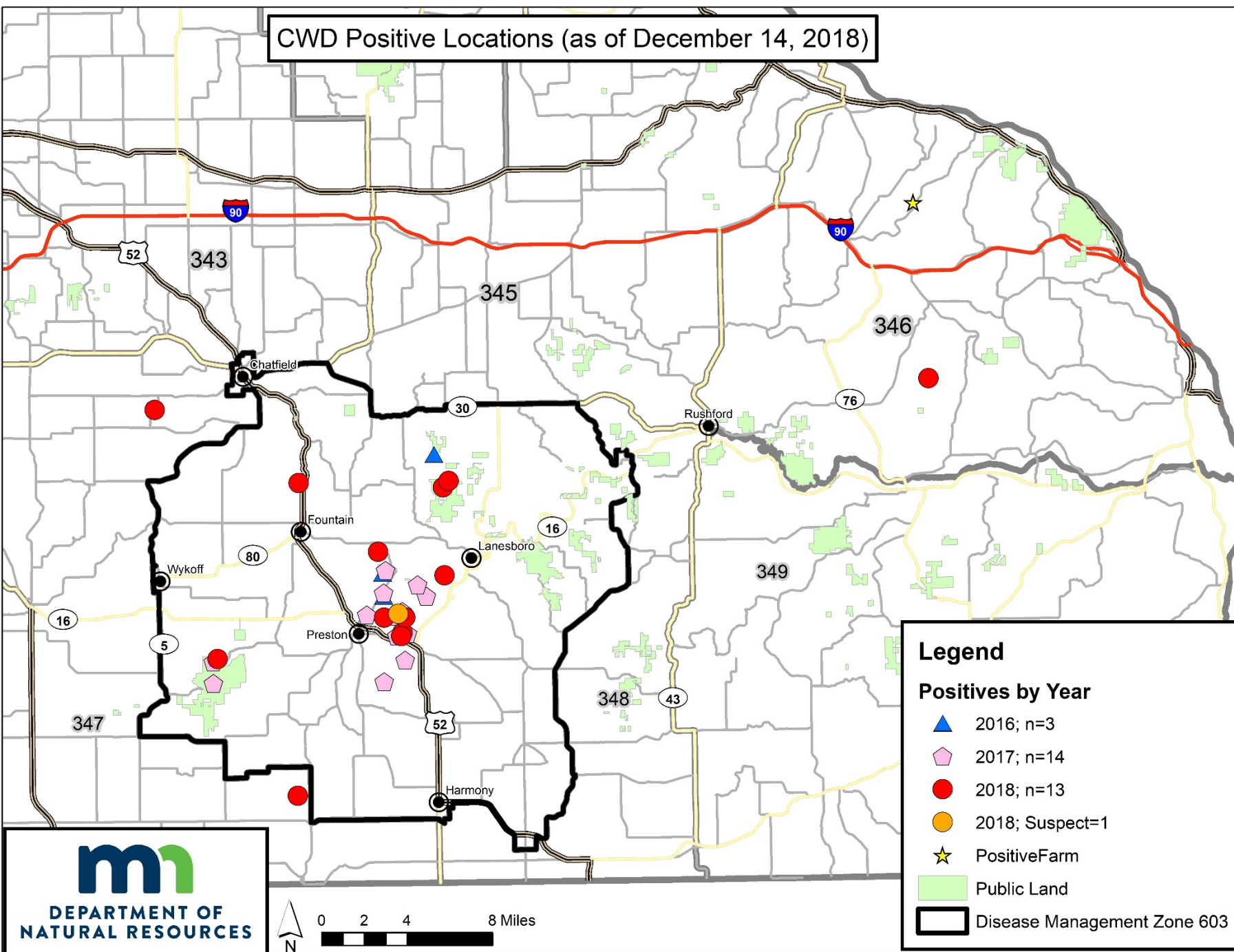
- Goal was to collect 3,150 samples, opening weekend of 3A and 3B firearm season
- We collected 3,051 to date, collections are on-going
- We have 2 deer that tested CWD-Positive in DPA 347; 1 CWD-Positive in DPA 346



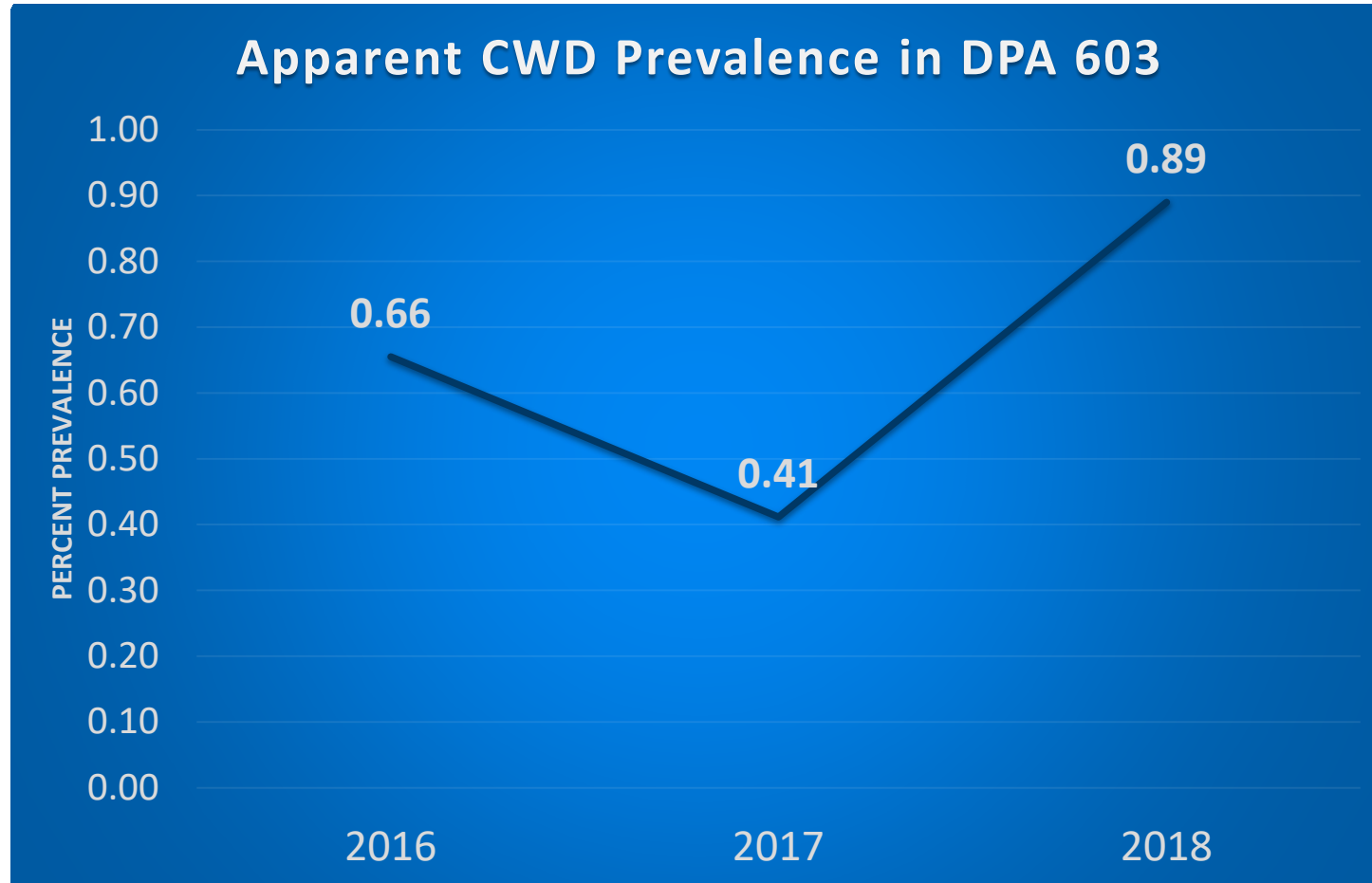
# CWD Management Zone, Fall 2018

- All testing in mandatory for deer >1 year of age
- We collected 1,236 to date, collections are on-going
- We have 10 deer that tested CWD-Positive and 1 current CWD-Suspect in DPA 603
- We also tested 82 opportunistic deer; 2 of those were confirmed CWD-positive and both were found dead animals in 603

CWD Positive Locations (as of December 14, 2018)



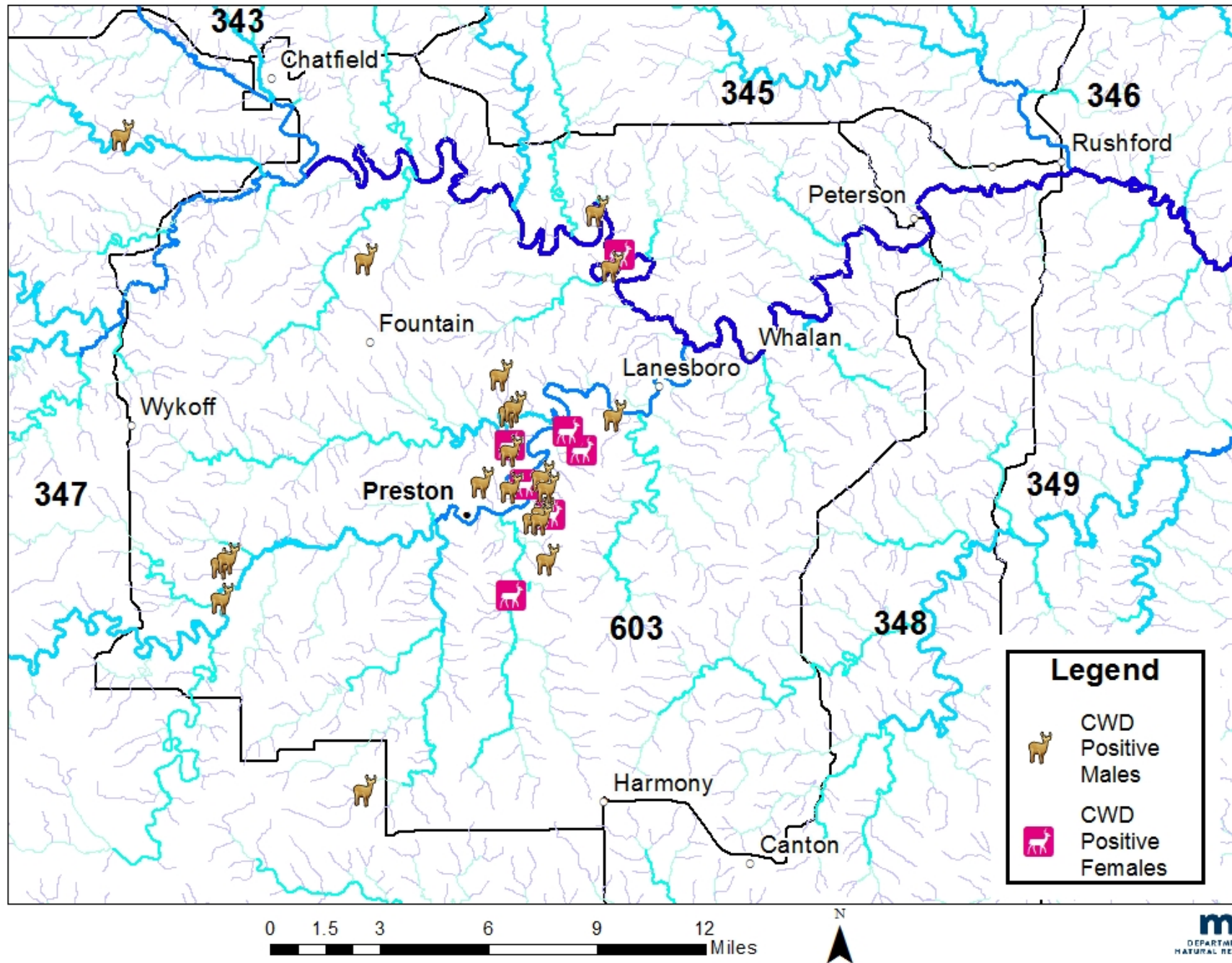
# CWD Prevalence in DPA 603



- CWD prevalence is still low in DPA 603; however, increased from 2017 to 2018
- This infection appears to be persisting in the Preston-Lanesboro area and spreading outward



## CWD Positives With Streams and Rivers



## Riparian Corridors

- All these new detections outside the primary core are adult males, and 1 adult female near Bucksnot
- Males use riparian areas as travel corridors during the mating season
- Adult females serve as disease “anchors”, males as dispersers
- Focal area of disease remains between Preston and Lanesboro

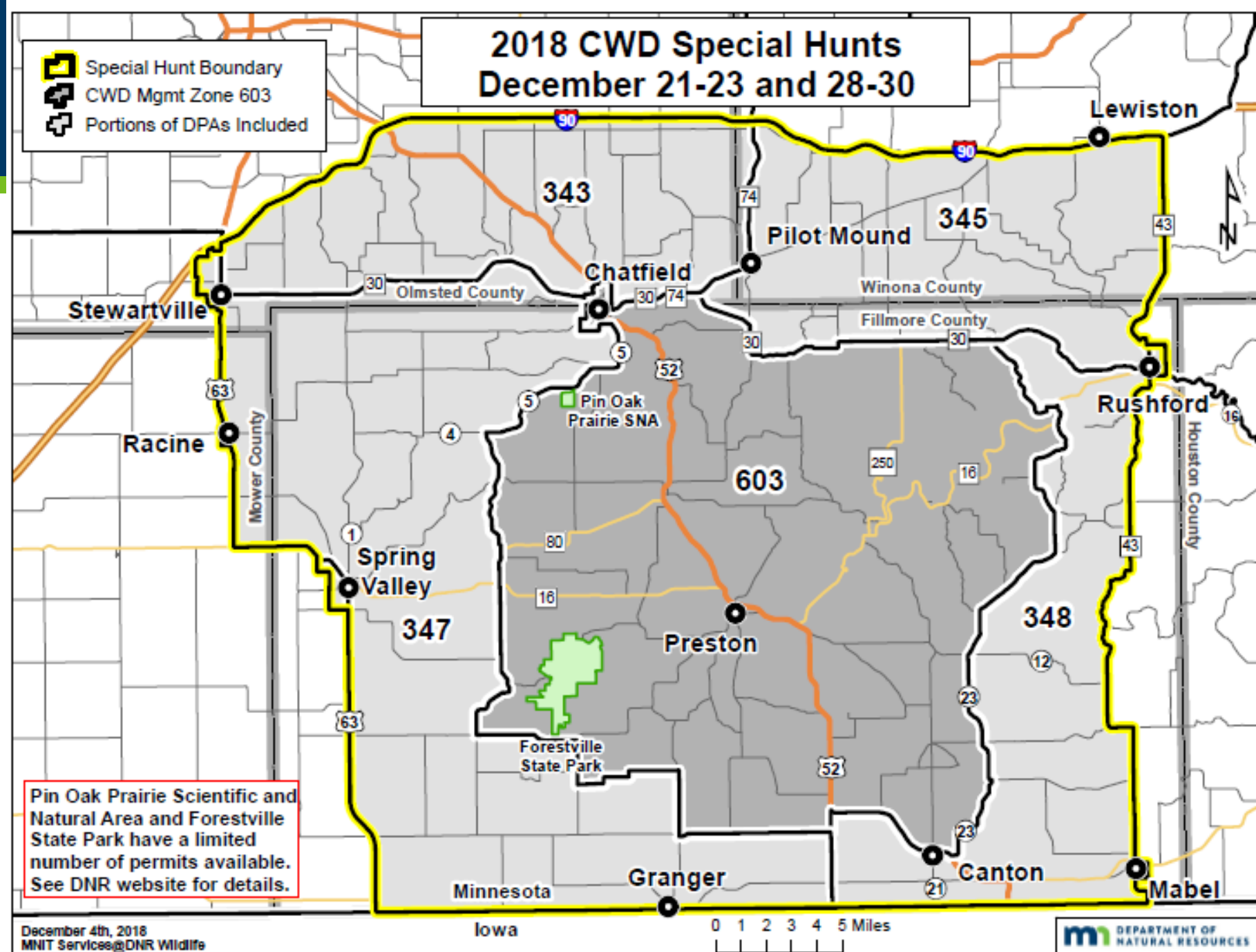


# Upcoming Winter

- Two Special late season hunts open to the public taking place **Friday, Dec. 21, through Sunday, Dec. 23 and Friday, Dec. 28, through Sunday, Dec. 30**. These hunts are open to everyone on public and private lands with appropriate permission. Any unused license with the proper weapon selection or \$2.50 either-sex disease management tags are available.
- Landowner deer shooting permits for landowners and their designated shooters. The landowner deer shooting permits will be valid from **Tuesday, Jan. 1 through Sunday, Jan. 13**.
- USDA Wildlife Services contract to conduct culling in our high risk core areas from approximately **Jan. 14 through Mar. 15**. Specifically, areas within 3 miles of a cluster of confirmed positives will be the focus – Hope is to control further spread.

# Special Hunt Zone

- Current landscape has 13 newly confirmed cases in fall 2018;
- In total, we have 30 confirmed cases in and around DPA 603
- Two late hunts are planned in December to help reduce deer densities in this area and remove additional CWD-positives

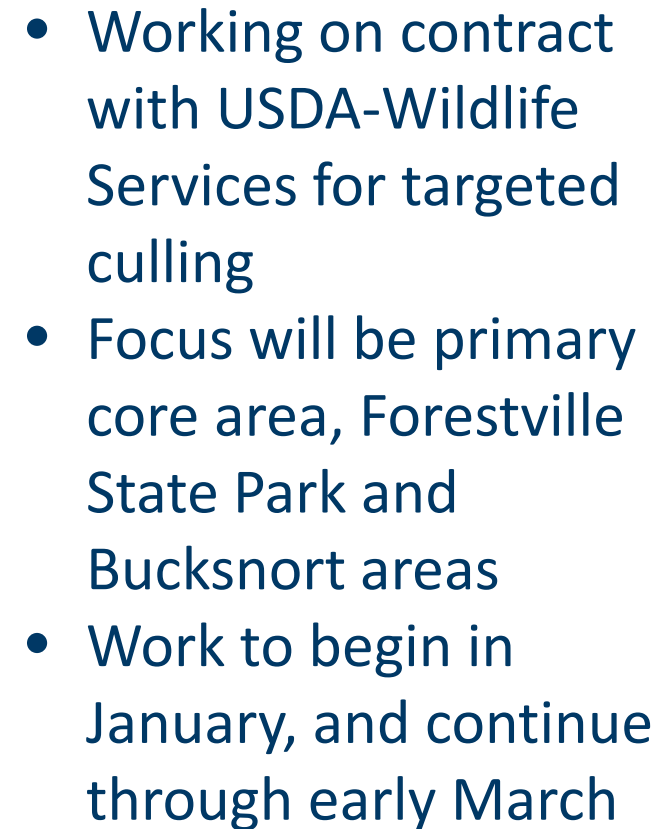


# Landowner Shooting Permits, Winter 2019

- Permits will be mailed to all landowners in the late hunt boundary who own 20 or more acres. People with <20 acres can still receive a permit by emailing [cwd.dnr@state.mn.us](mailto:cwd.dnr@state.mn.us) with your name, address, and phone #.
- Permits issued to landowners who can then designate shooters.
- Permits will be valid from January 1 to January 13, 2019.
- Rifles will be allowed at landowners discretion, blaze orange recommended.
- Mandatory testing of all deer (including fawns) by providing the head and 3 inches of neck attached at a drop box.
- Head drop boxes will be available at 8 locations throughout the zone.
- Carcass movement restrictions apply to all deer until test result is received (landowners check on DNR website by entering their big game possession tag # received with their permit).

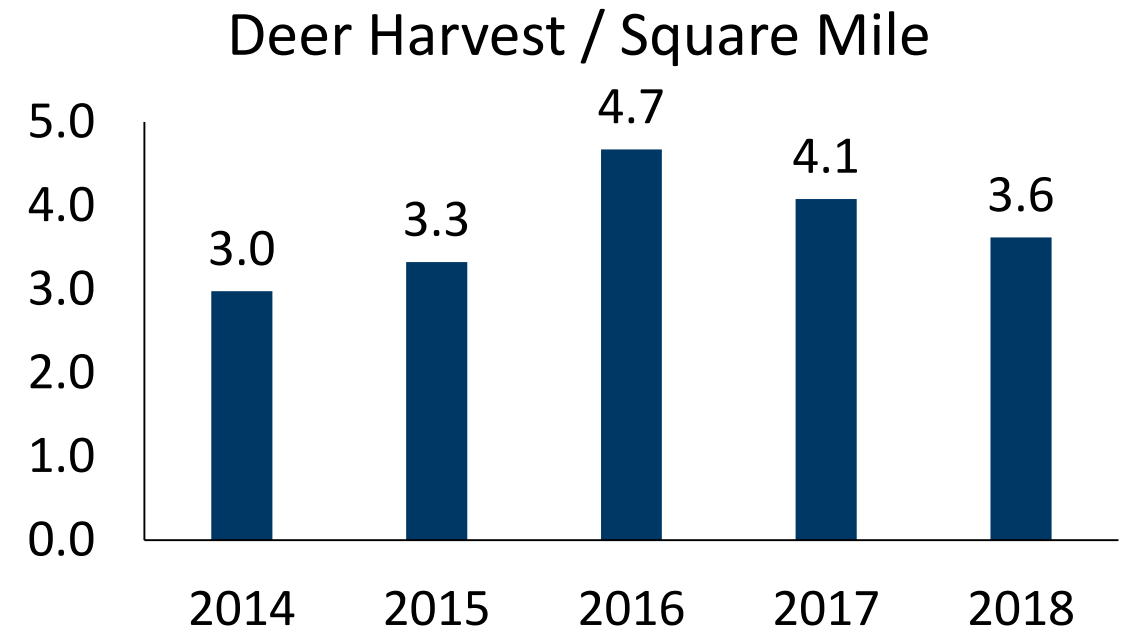


# Targeted Culling



# Small Increase in Overall Harvest Rates

Year	Harvest	Deer/mi2	DPA's
2014	2,280	3.0	347, 348
2015	2,547	3.3	347, 348
2016	3,579	4.7	347, 348, 603*
2017	3,125	4.1	347, 348, 603
2018	2,772	3.6	347, 348, 603
Average	2,861	3.7	
*Includes Special Hunt			



# Share the Harvest

- The public can sign up to receive donated venison from the special hunt, landowner shooting permits, and deer removal efforts this winter
- This is a partnership with Bluffland Whitetails Association to utilize deer taken through efforts to manage CWD
- Only deer with “Not-Detected” test results will be released into donation program
- Interested people can sign-up through DNR website: <https://www.dnr.state.mn.us/cwd/share-harvest.html>
- Venison will available either as whole carcass or boxed quarters and backstraps





# Road to Success

- The potential to eliminate CWD from SE MN requires aggressive and swift actions – may be too late
- This goal will NOT be attainable without the cooperation of hunters and landowners
- If CWD becomes established here, it will remain a significant health threat to the deer herd locally and statewide
- Only through working together can we hope to successfully fight CWD and maintain a healthy and productive deer herd for future generations

# KEEP MINNESOTA'S DEER HERD HEALTHY

STOP THE SPREAD  
OF CWD

