



# Chesapeake Farms

A Case Study in Quality Deer Management

## History

- Formerly Remington Farms
  - Steel shot development
  - Research projects
    - Wood ducks
    - Black rat snakes
    - White-tailed deer
- Purchased by Dupont, Inc.
  - Agricultural demonstration area
  - Wildlife management and research



## Location

- Maryland's Eastern Shore – a “mini-Midwest”
- Kent County, Maryland
- 3,200 acres
  - Cash crops
  - Forest
  - Waterfowl impoundments
  - Wildlife cover and plantings



## Hunting

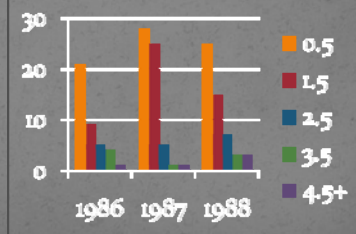
- Guest hunting by DuPont executives and customers
- Opportunities
  - Waterfowl
  - Pheasant
  - Rabbit
  - White-tailed deer
- Shotgun slug hunt



Photo courtesy of Illinois Game and Fish

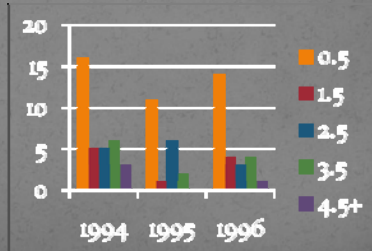
## Pre-QDM Deer Hunting History

- Buck-only harvest until 1984
  - “If it’s brown, it’s down!”
  - One week shotgun season
- Doe harvest increased in late 1980s
- Buck harvest is still a “free for all” into the early 1990s



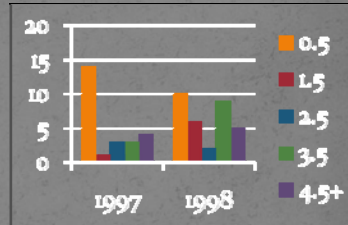
## 1994-1996 – Early QDM Efforts

- Shotgun season extended to 2 weeks (1993)
- 7-point antler restriction
  - 79% - 1.5-year olds
  - 56% - 2.5-year olds
  - 32% - 3.5-year olds
- Numbers of eligible bucks crash temporarily



## 1997 – Advancements in QDM

- Outside spread harvest restriction – 16 inches
  - 100% - 1.5-year olds
  - 25% - 2.5-year olds
  - $\geq 3.5$ -year olds 'Fair Game'
- Increased antlerless harvest



## 1998 – Reaping the first fruits

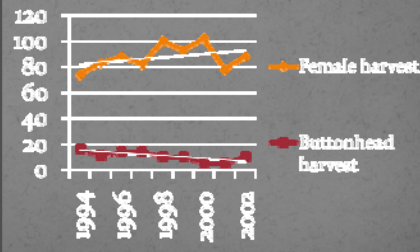
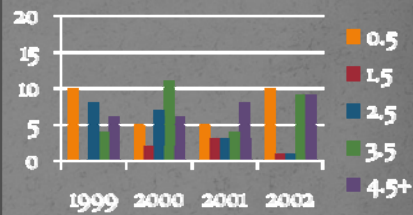
- 4 years from 1<sup>st</sup> antler restrictions
- BIG BUCKS!!!
- Evolution of buttonhead ID
  - Education is a process
  - “Shoot, don’t shoot!”
- Be patient
- Long-term commitment



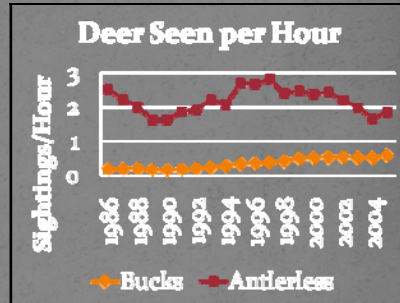
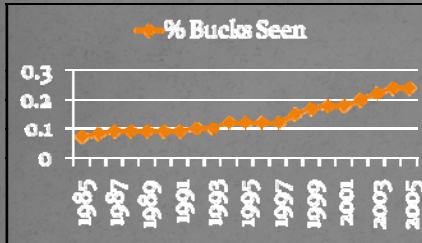
# "Shoot, Don't Shoot"



# QDM Hitting its Stride-1999



## QDM Prospers- 2000-present



## Past research and implications for QDM

- Home range
- Core area
- Dispersal
- Breeding hierarchy
  - J. Tomberlin
  - J. Shaw



## Home Range

- Methods
  - GPS collars (60, 20, 5 minute fixes)
  - Capture by darting
  - Automatic drop-off
- Average home range = 740 acres
- Seasonal differences
  - Peaks in breeding season (728 acres)
  - Smallest in summer (284 acres)

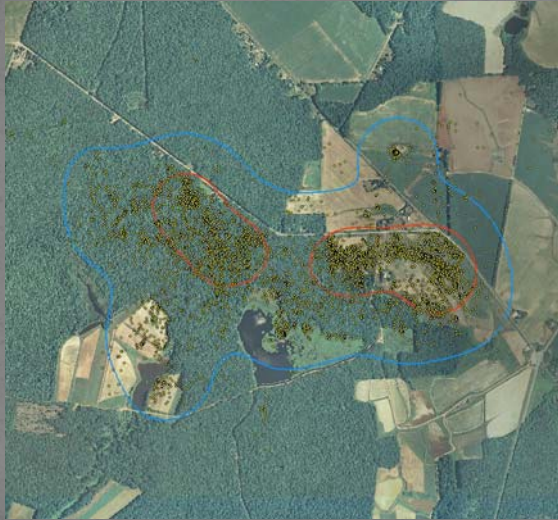


## Core Area

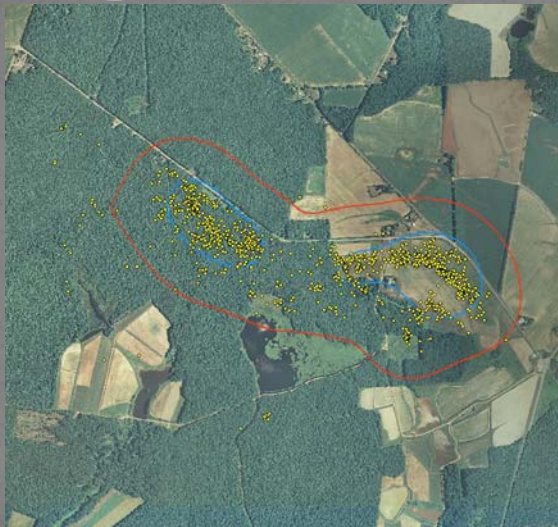
- Follows same pattern of home range
- Average core area = 116 acres
- Smallest seasonal core area = summer (37 acres)
- Summer = most intense
- Post-breeding season = least intense



## Home Range and Core Areas...



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## Minimum Acreages???

- 1,000 acres minimum
- Obviously, bigger = better
  - But how...
    - Leasing
    - Cooperatives!
- Some bucks don't fit the mold though
  - Multiple home ranges
  - Jaunts



## Breaking the Mold...



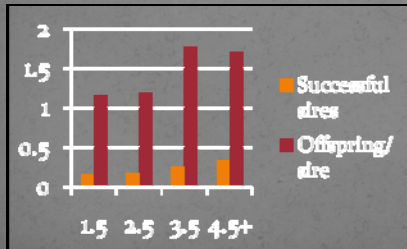
## Dispersal

- Center of activity
- 70% yearling bucks disperse
- Range: 1-30 miles
- Median = 3 miles
- High risk
- Characteristics of yearling bucks are not a good yardstick for local management



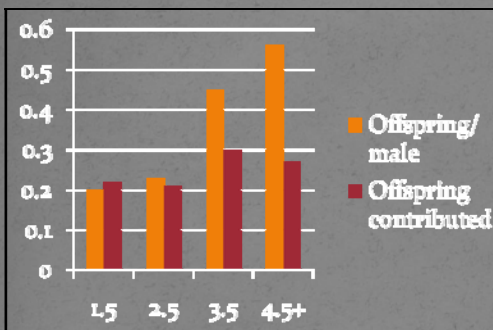
# Breeding Hierarchy

- Dominant bucks do most of the breeding
- Yearling buck breeding is suppressed especially in QDM populations



- Age is correlated with breeding success, *BUT...*
  - Yearling bucks sire a comparable number of fawns to 'trophy' bucks
  - Older-age class buck don't dominate the breeding

# Breeding Hierarchy...



So what about Culling?

## Current Research

- Brain abscess
- Movement
- Influence of hunting pressure



## Brain Abscess

- Affects predominantly older-age class bucks
- 62% of 4.5+ mortality (n=13)
- *A. pyogenes* – the culprit
- How? Breeding activities
- 5-10% of male natural mortality (SCWDS)
- BIG *obstacle* to QDM!



## How can you tell?



## Movement

- Jaunts
  - Food/Resource Scouting
  - Pre-breed patrol
  - Chasing/tending
- About 50% of bucks take 1-2 day jaunts
  - Unpredictable
  - Vulnerable
    - Vehicle collision
    - Hunter harvest



## Influence of Hunting Pressure



- Three options:
  - Ignore it
  - Hunker down
  - Run-and-gun
- As usual, individual personality of the bucks vary greatly!

## World Class White-tails!!!



# Final Questions

Thanks to:  
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