

Acorn Abundance Patterns and Their Implication for Wildlife

By
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Wildlife Biologist

Why Are Acorns Important ???

- Valuable Food Resource
- Highly Nutritious
- Survival
- Reproductive Output
- Population Dynamics
- Hunting Opportunities
- Hunter Success



Acorn Predators

Acorn Weevil



Acorn Moth



White-footed Mouse



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Eastern Chipmunk



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Gray Squirrel



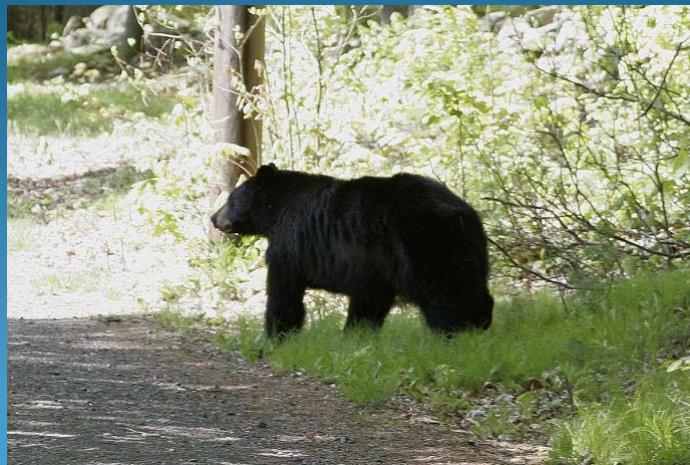
Wood Duck



Wild Turkey



Black Bear



White-tailed Deer



Acorn Surveys

- 1) Regional Mast Survey**
- 2) Deer Hunter Survey**



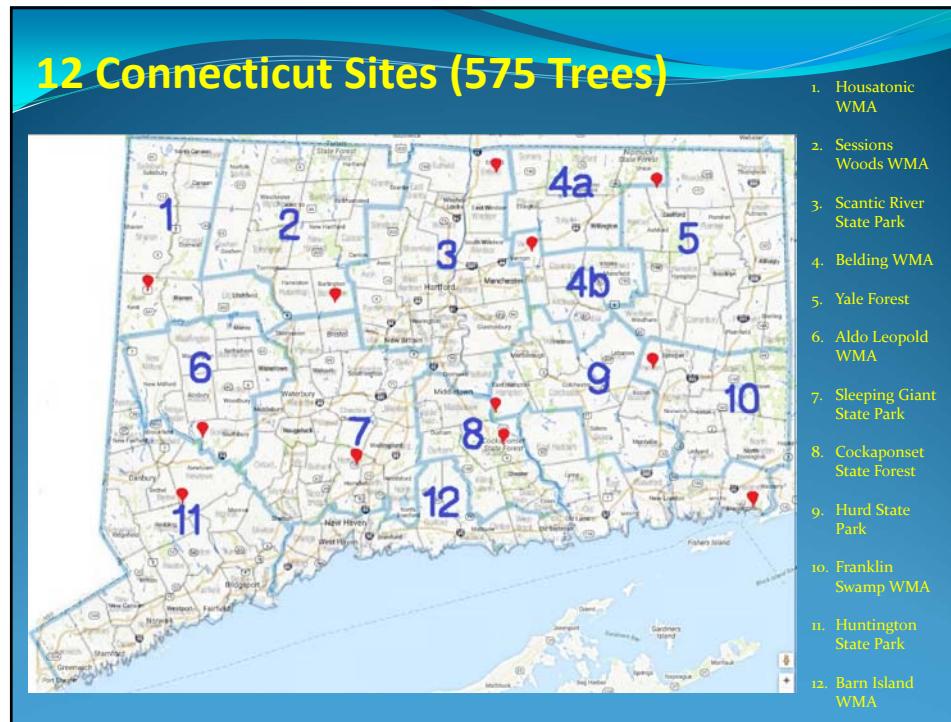
Regional Mast Survey

- Originated 2004
- NEWTTC
- NEWAA
- CT Implementation 2007



Cooperating States





Methods: Tree Selection & Marking

Healthy
Full Crowns
Full or nearly full sunlight
At least 12 inch DBH
GPS Locations

White Oak Group (white, chestnut, swamp)

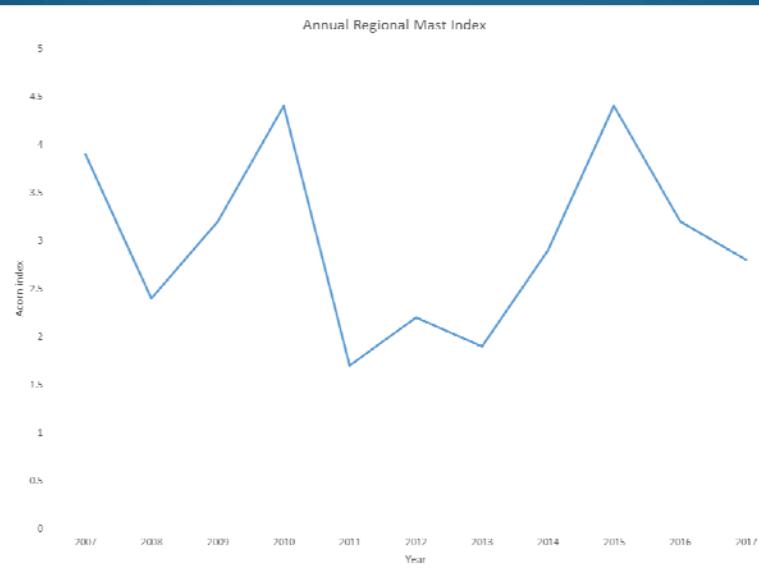
Red Oak Group (red, black , pin, scarlet)

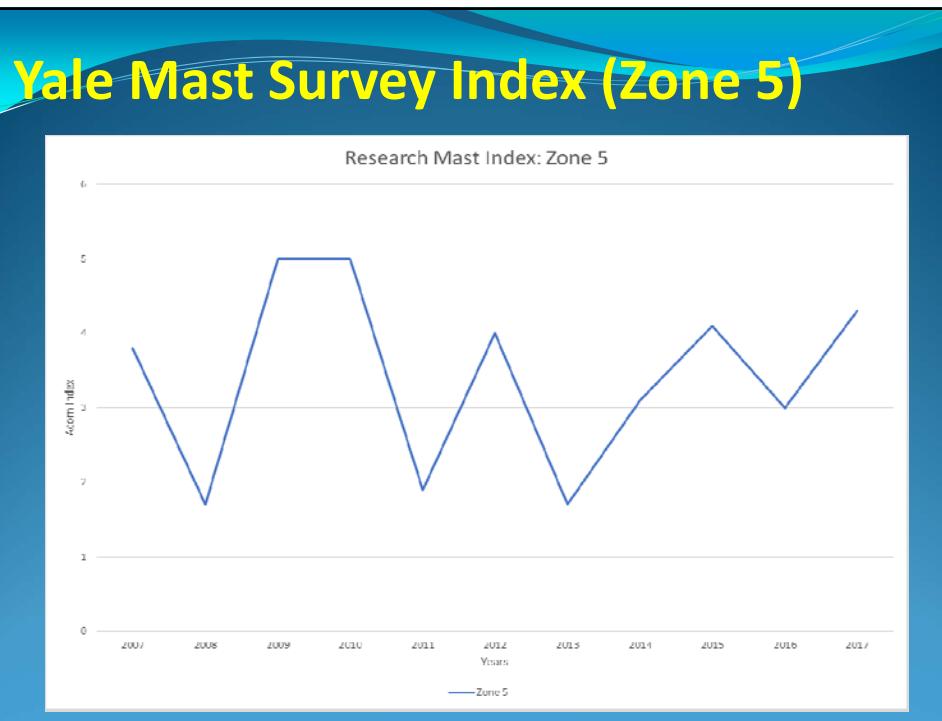
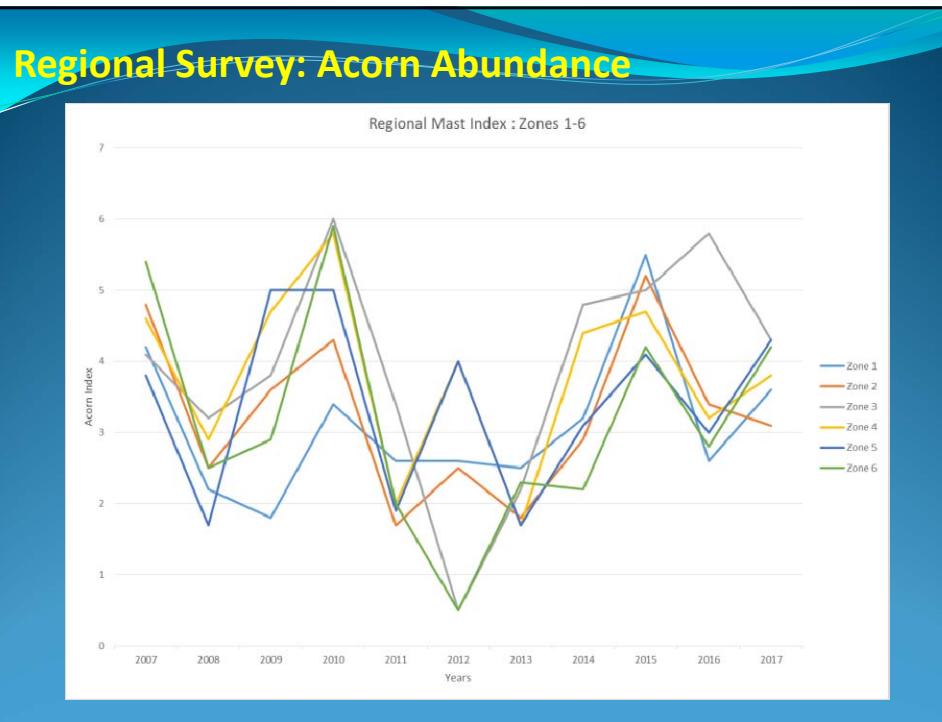
Methods: Data Collection

- August 15 – September 1
- 30 Seconds
- Presence /Absence
- Percent Crown



Annual Regional Mast Index





Deer Hunter Survey

2007 DEER HUNTER SURVEY

Submit only one card for the entire 2007 season, regardless of your success.

DEER SEASONS	Land Hunted	Check (x) Permit Obtained	No. of Days Hunted	No. of Deer Killed	Expenses Exclude permit & license costs
ARCHERY	State				
SHOTGUN / RIFLE	Private				
MUZZLE-LOADER	State				
POWDERHORN	Private				
CONTROLLED HUNT					

1. In what ZONE (see map on page 10) of the 2007 Hunting District did you do the MAJORITY of your deer hunting? (Circle one).

ZONE: 1 2 3 4a 4b 5 6 7 8 9 10 11 12

2. In what ZONE (see map on page 10) of the 2007 Hunting District did you see the most deer? (Circle one). How were they? (Circle one). Status of the deer population from last year to this year? (Circle one)

Slightly Increasing Slightly Decreasing

3. In the zone circled in QUESTION 1, how would you rank the 2007 fall acorn crop? (Circle one)

Scarce Moderate Abundant No opinion/No oak trees

4. Did you see any moose in CT during the 2007 deer hunting season? (Circle one)

YES NO If YES, in what town?

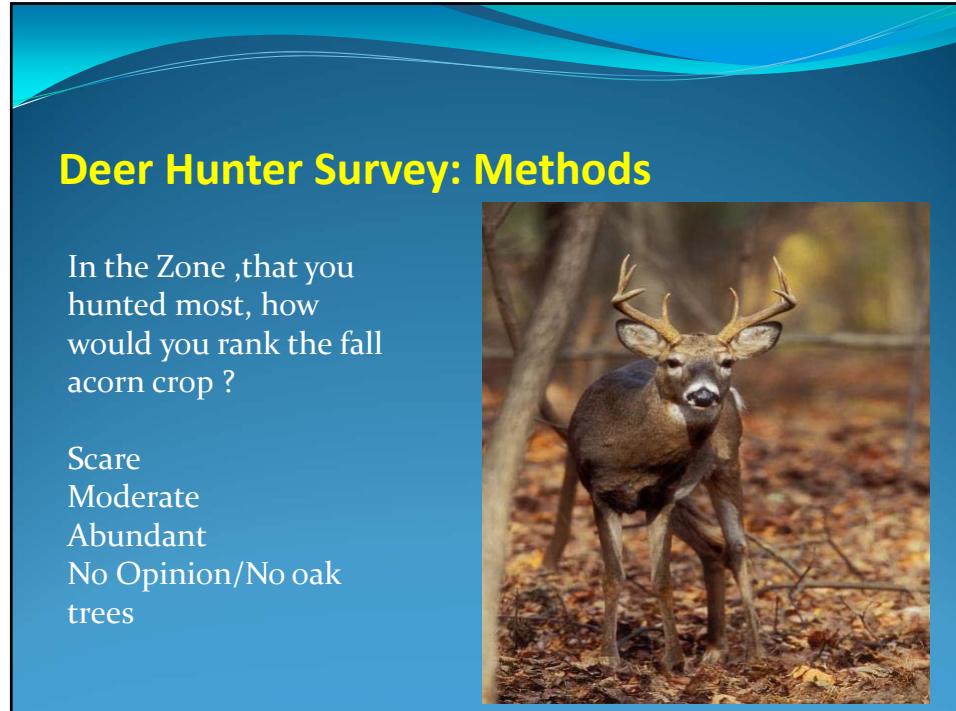
5. Would you support a very limited moose hunting season in CT? (Circle one)

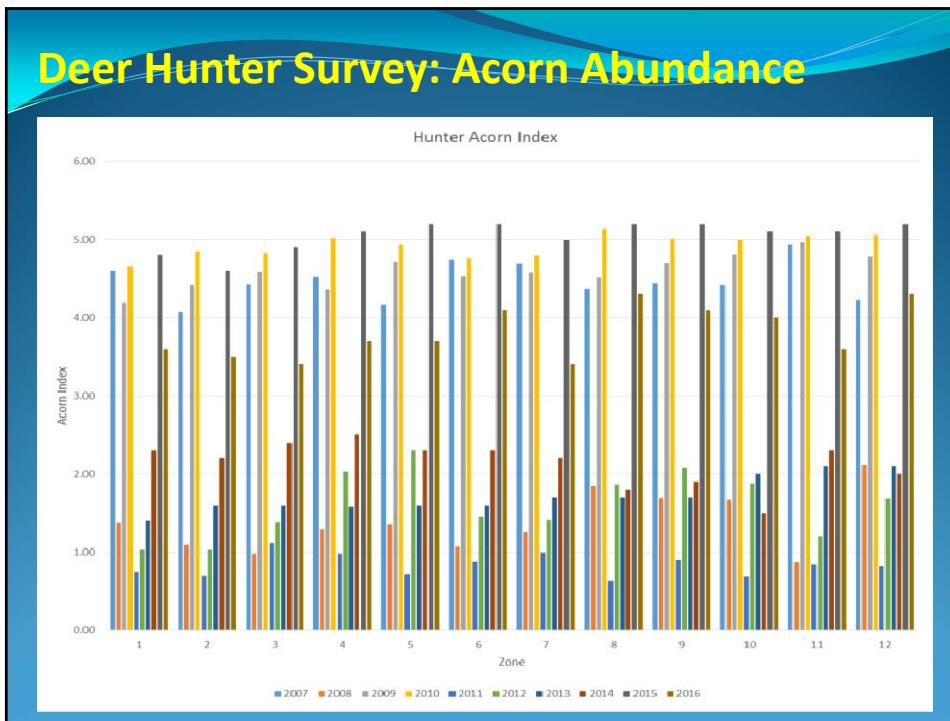
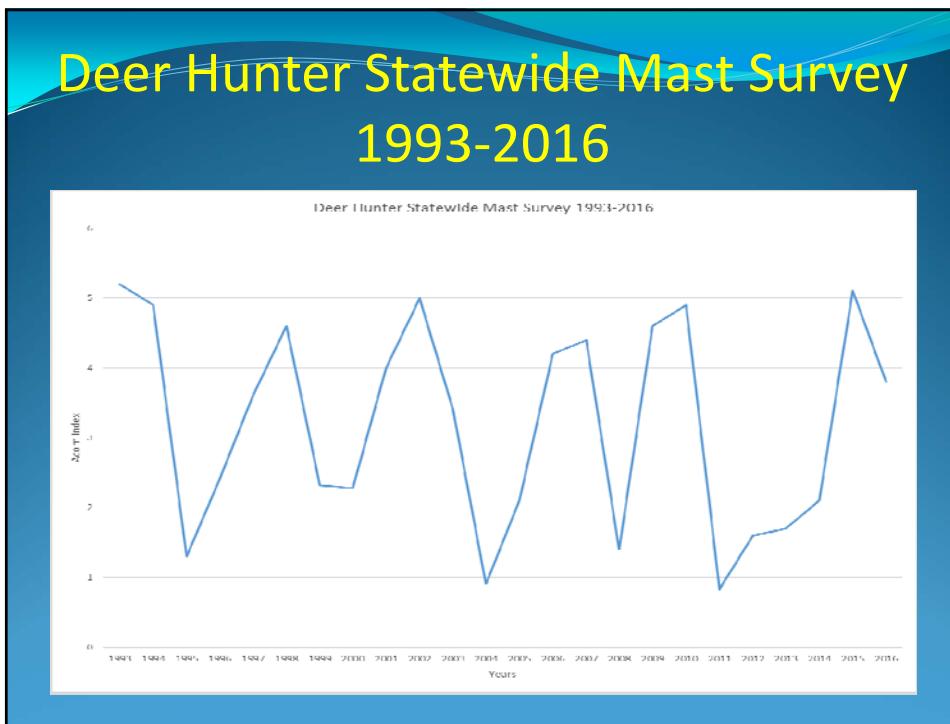
YES NO

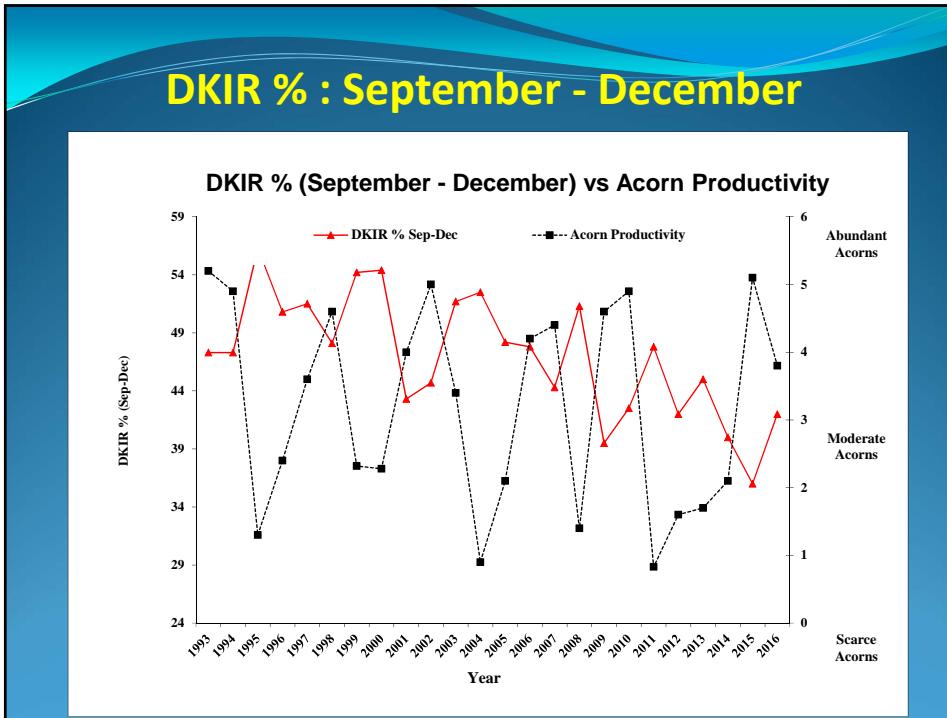
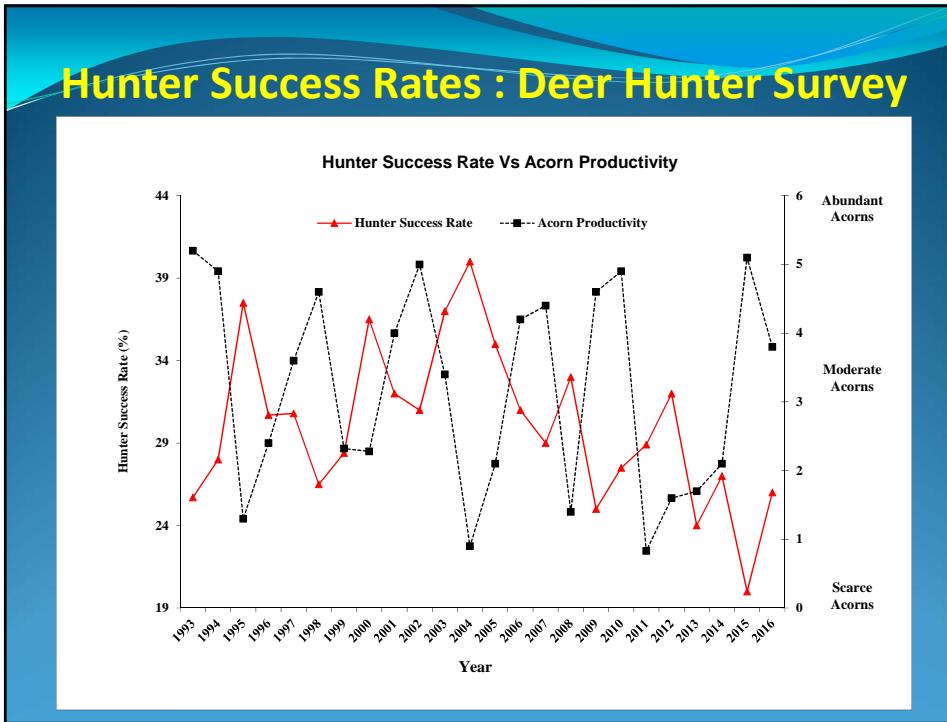
PRINT YOUR OR TURM ADDRESS BELOW IF YOU WOULD LIKE TO RECEIVE A 2007 CT DEER SEASON SUMMARY:

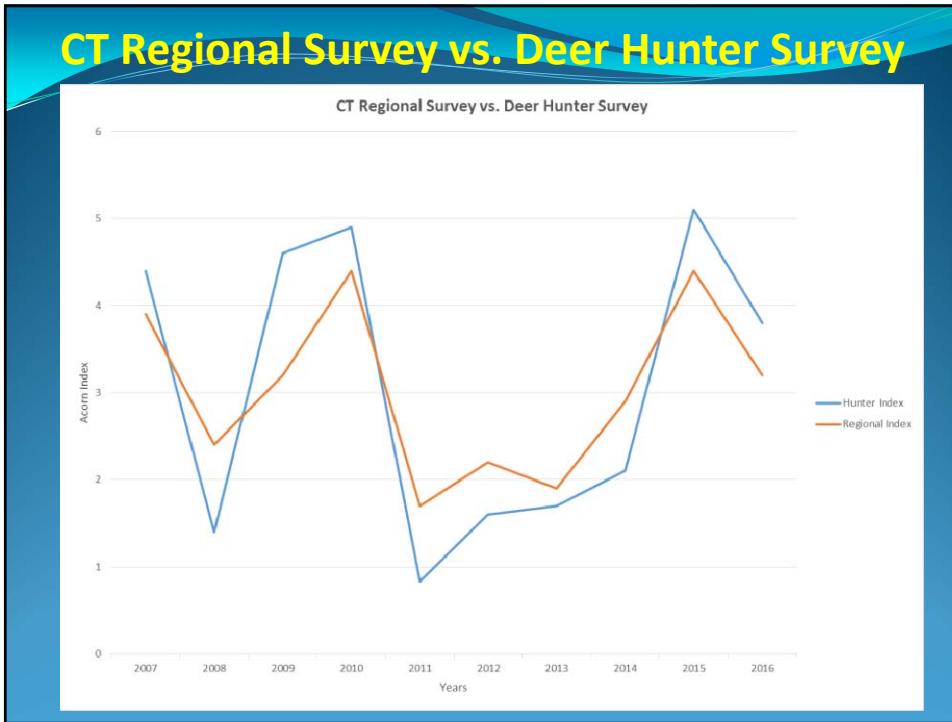
Name: _____
Address: _____
Town: _____ State: _____ Zip: _____

Rev. 4/07









Take Home Messages

- Predict Wildlife Population Dynamics
- Insights into best Hunting Opportunities
- Predict Deer Hunter Success rates
- Predict Deer/Vehicle Collision rates

Future Research

- Timing timber harvest during abundant acorn years
- How acorn abundance affects CT black bear populations
- Relationship of acorn abundance and wild turkeys
- How does acorn abundance affect other avian species e.g. ruffed grouse, wood ducks and blue jays
- Track individual oak tree productivity
- Interactions of acorns, ticks and Lyme disease

Predator Satiation Hypothesis



Predator Satiation Hypothesis



Predator Satiation Hypothesis



Predator Satiation-Synchronization



Masting



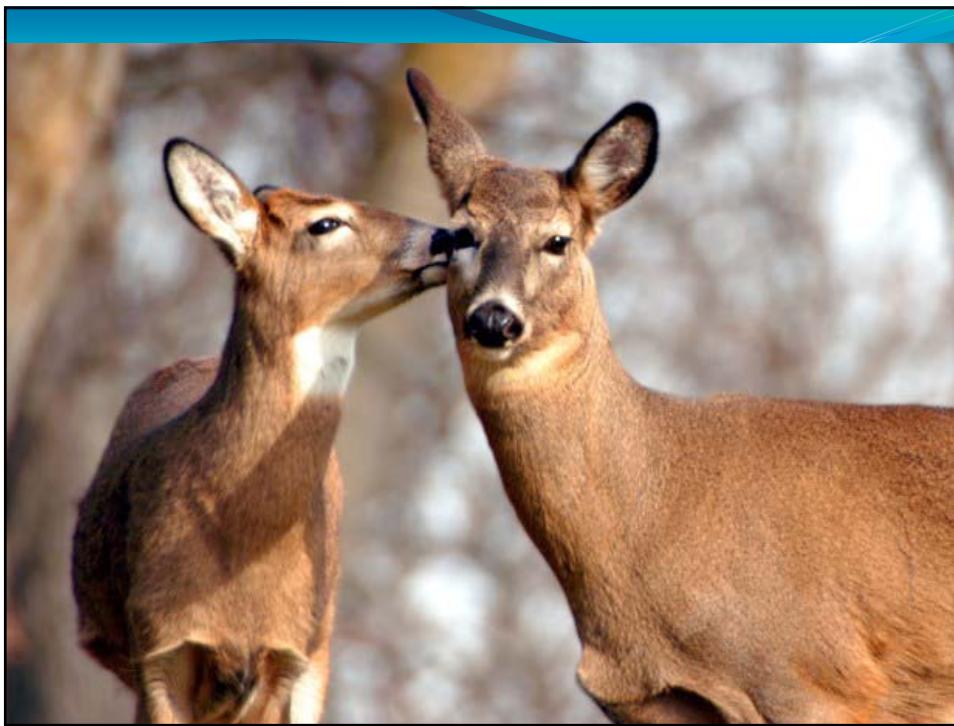
Masting



Masting

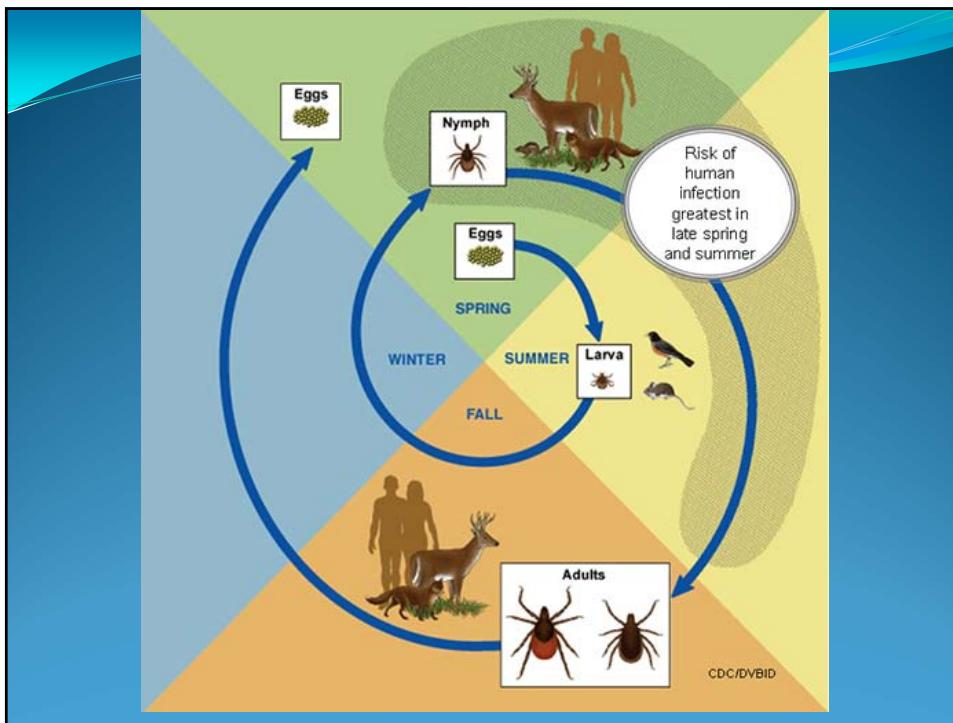


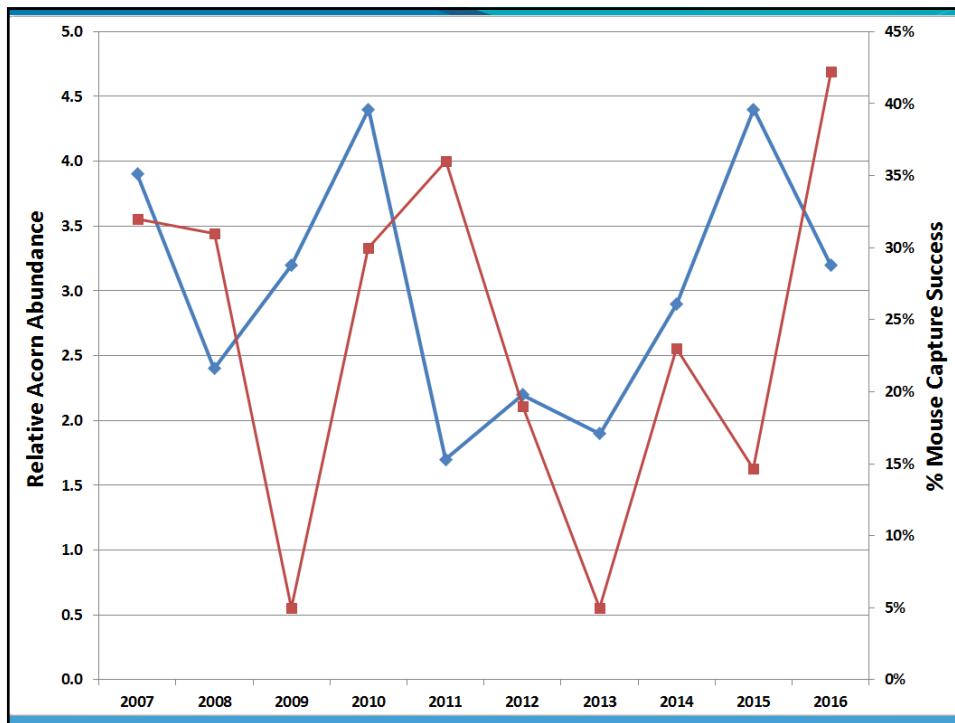
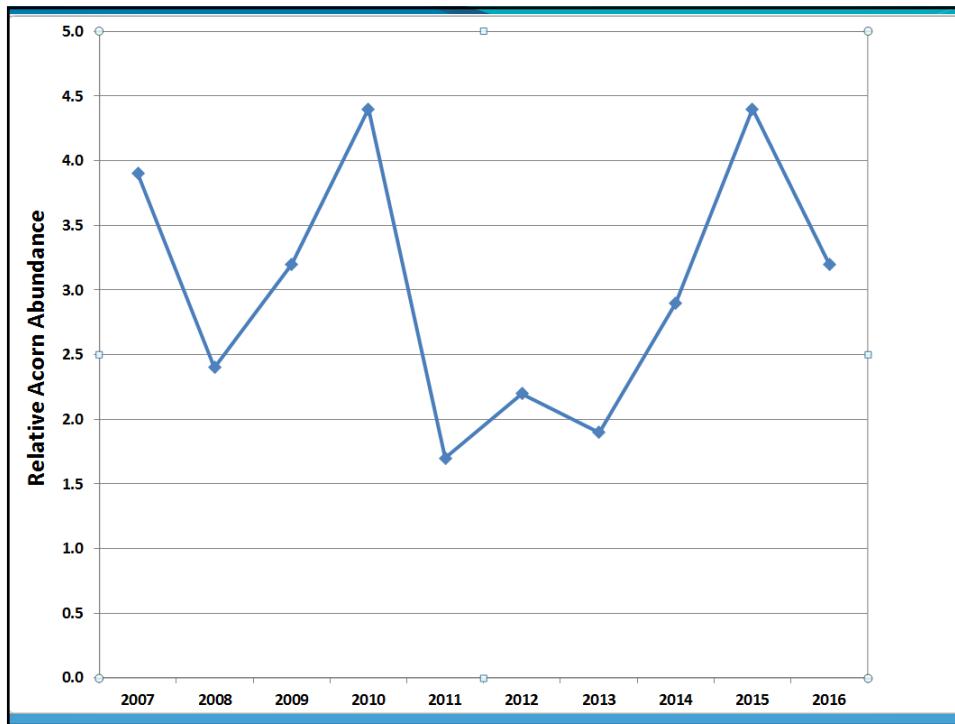


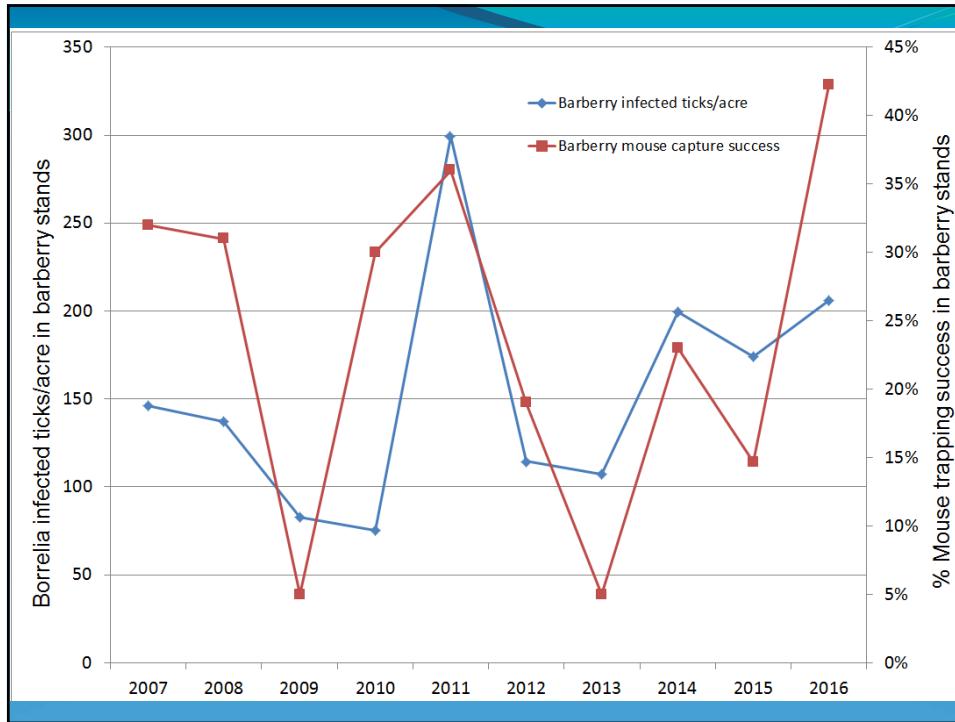
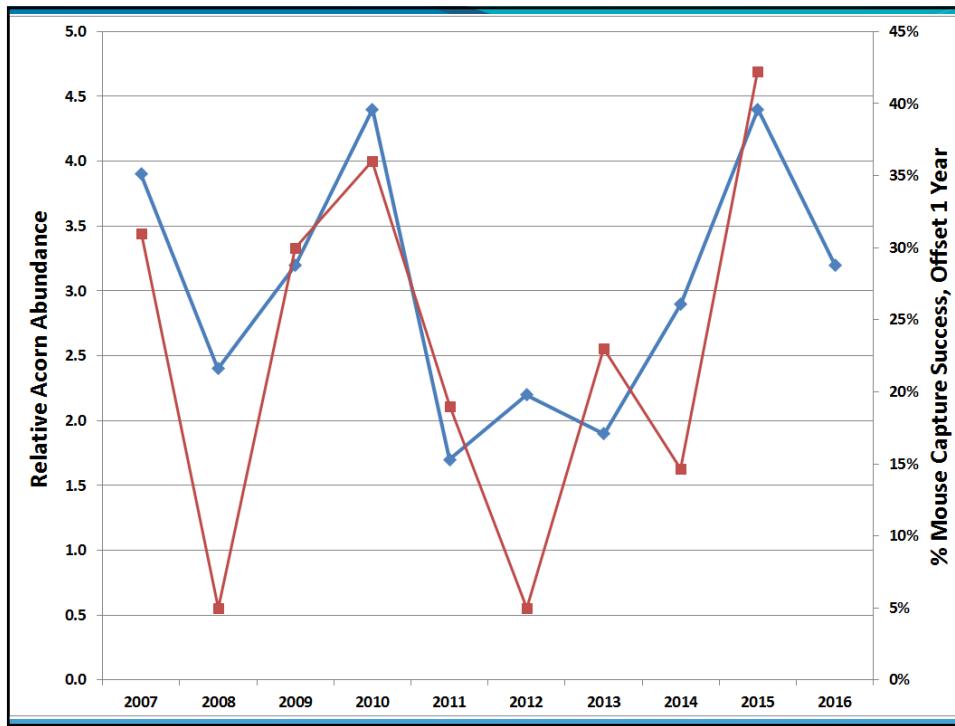


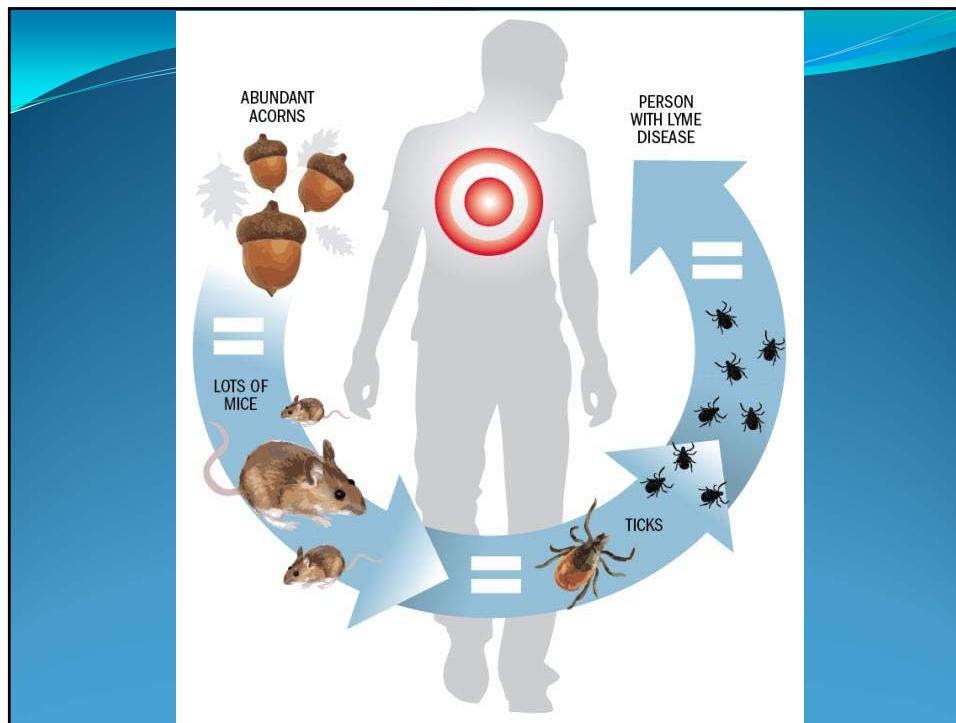
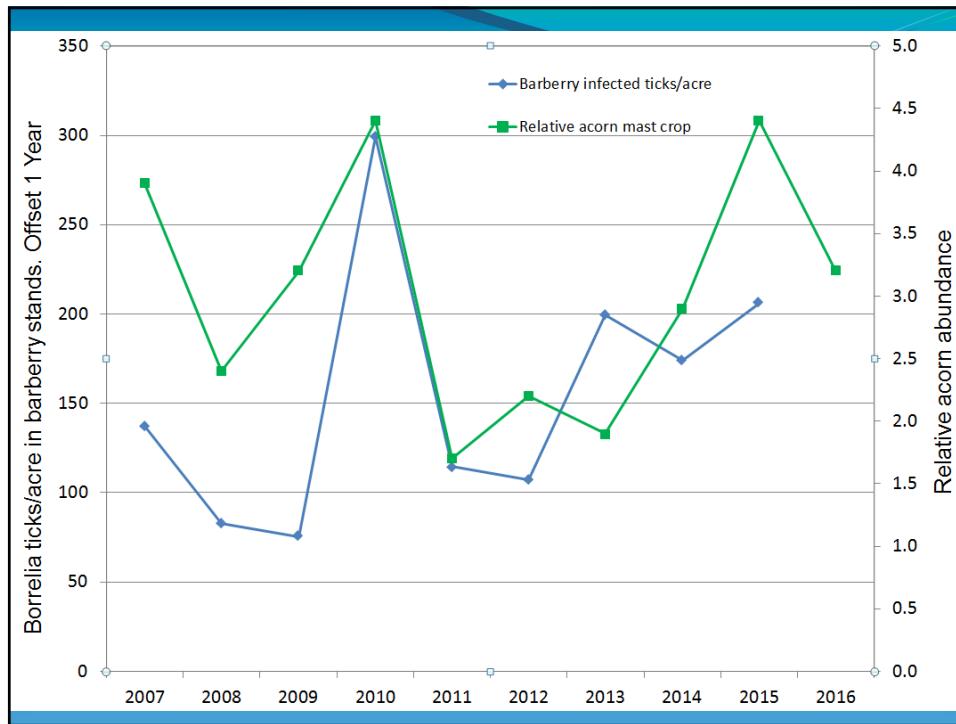


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Tannin and Lipid Content

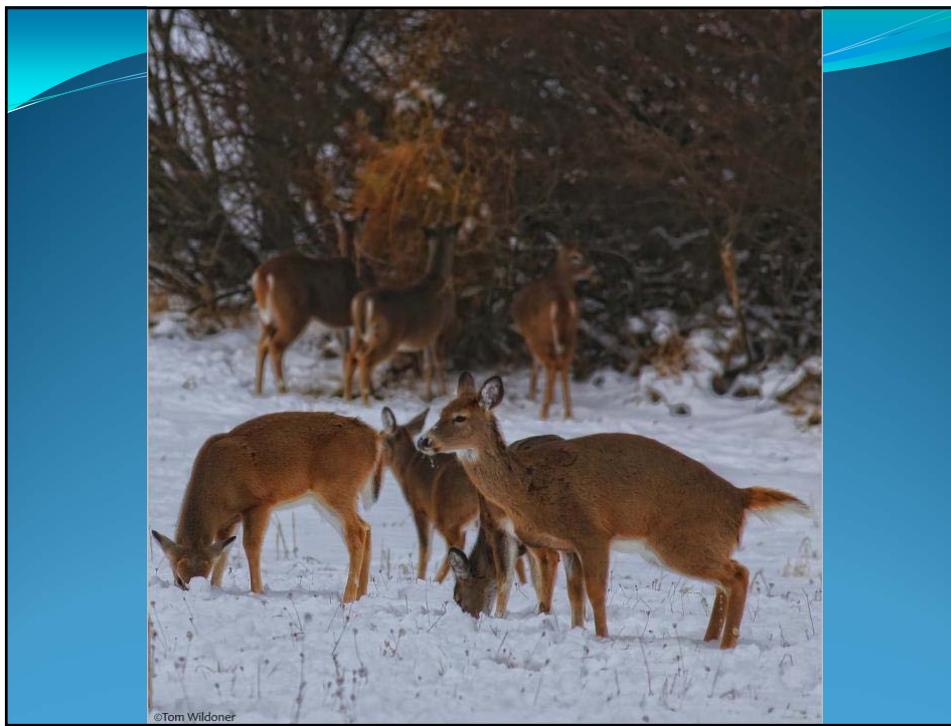


- White oak acorns
- Preferred by all wildlife
- Low tannin content
- Germinate in the fall

Tannin and Lipid Content



- Red oak acorns
- Higher tannin content (2-4 times whites)
- Lipids 5-10 times higher than whites
- Germinate in the spring



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Questions?

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