



Why Are Acorns Important ???

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



Acorn Predators

Acorn Weevil



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2018 Silviculture Institute--Mixed Oak-Hickory

Acorn Moth



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White-footed Mouse



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Eastern Chipmunk



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Gray Squirrel



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Wood Duck



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Wild Turkey



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Black Bear



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White-tailed Deer



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Acorn Surveys

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



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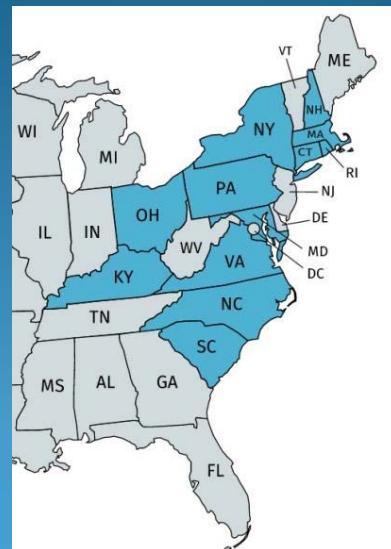
Regional Mast Survey

- Originated 2004
- NEWTTC
- NEWAA
- CT Implementation 2007

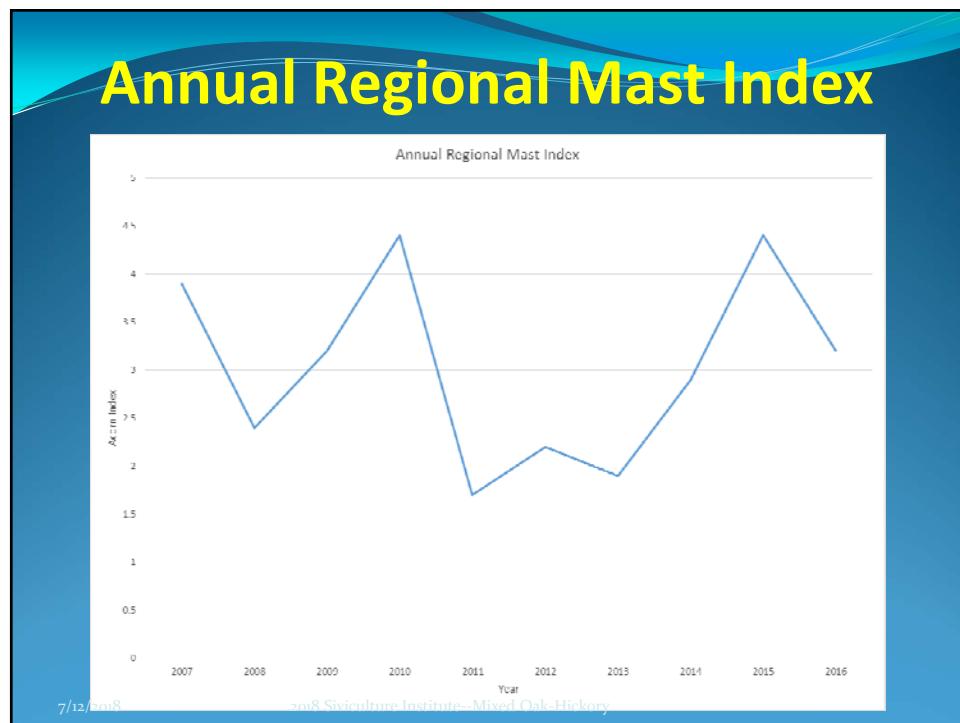
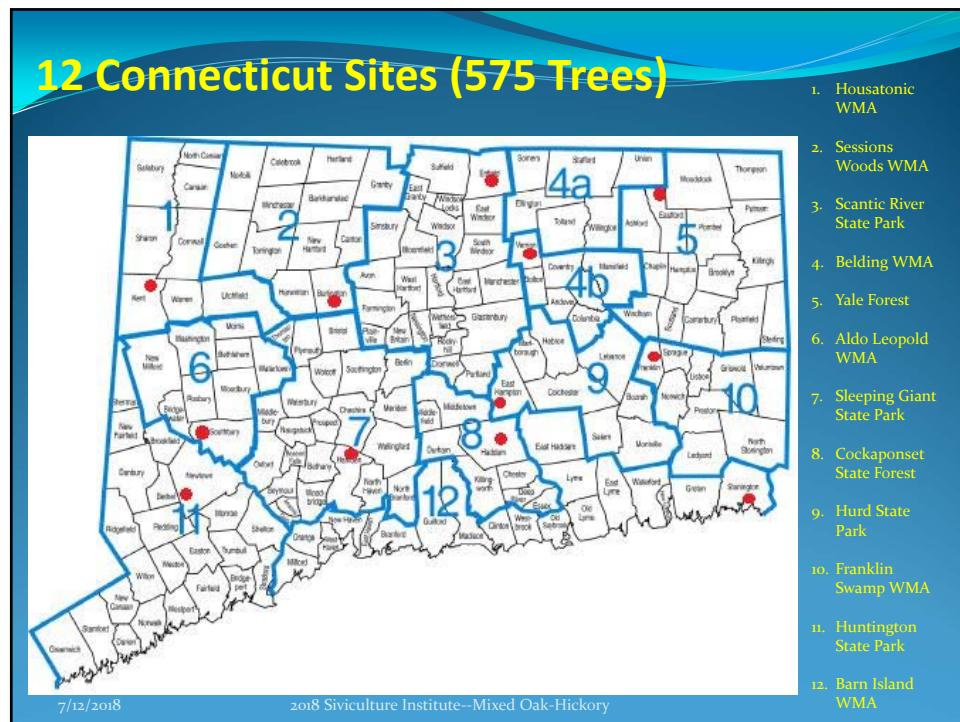


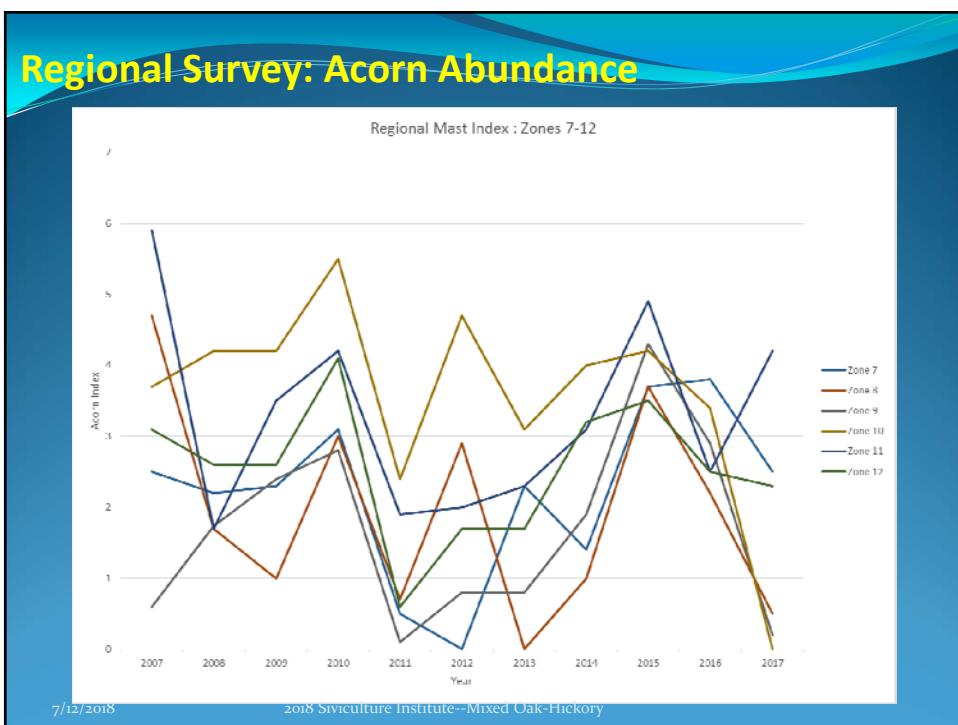
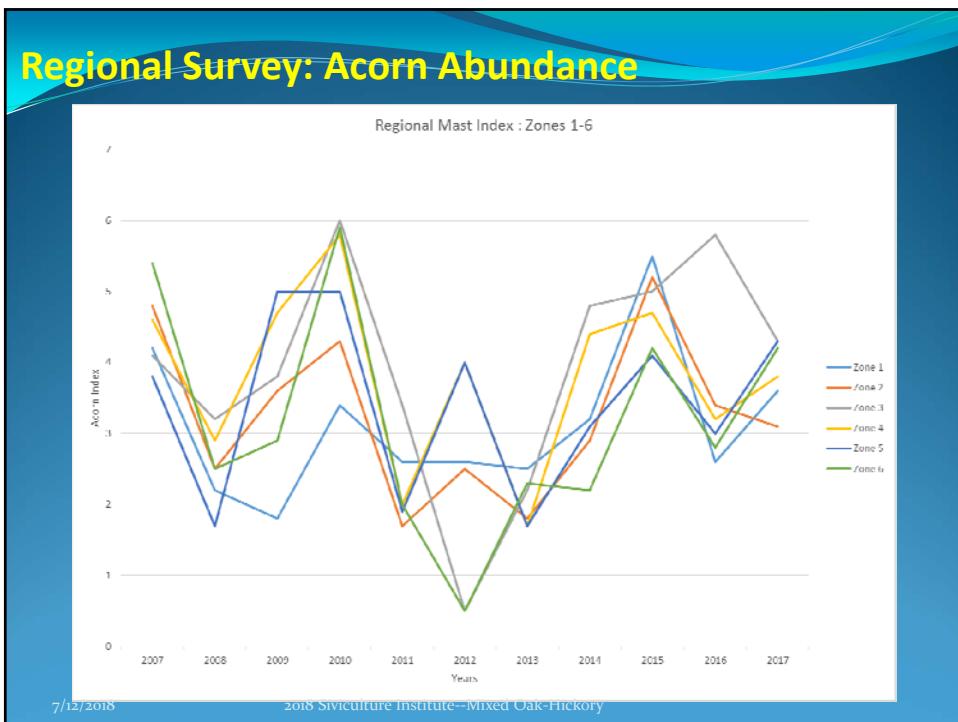
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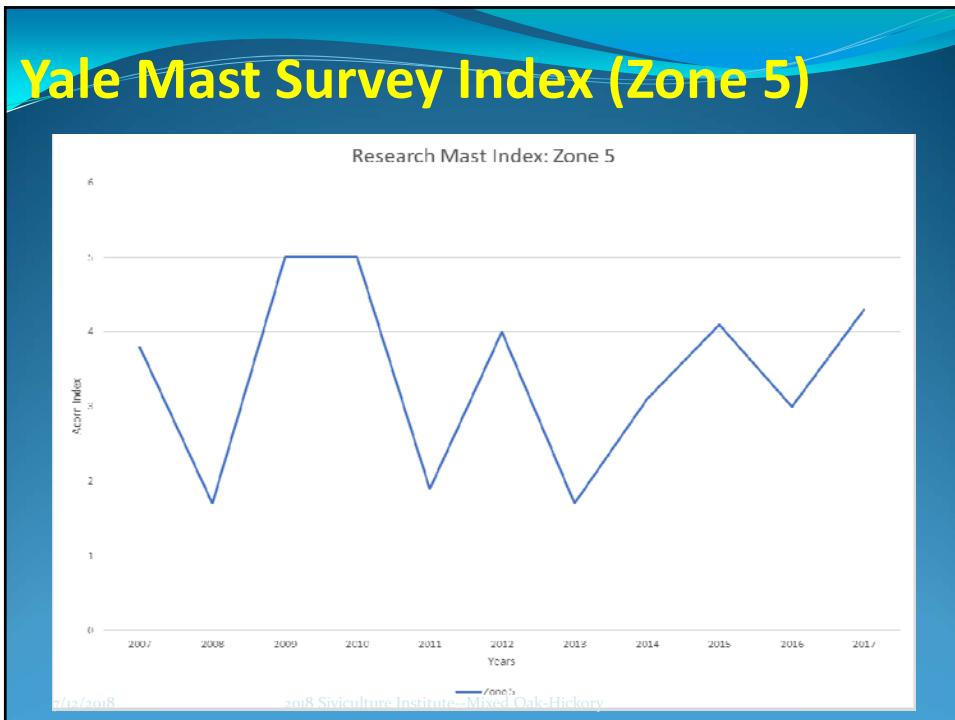
Cooperating States



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Deer Hunter Survey

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

DEER SEASONS	Check (x) Land Hunted	No. of Females Observed	No. of Days Hunted	No. of Deer Killed	Expenses Exclude permit & license costs
ARCHERY					
SHOTGUN / RIFLE	State				
RIFLE	Private				
LAOSER	State				
LANDOWNER	Private				
CONTROLLED HUNT					

1. In what ZONE (see map on page 10 of the 2007 Hunting Guide) did you do the MAJORITY of your deer hunting? (Circle one)
6 7 8 9 10 11 12

2. In the zone circled in QUESTION 1, how would you rank the current status of the deer population from last year to this year? (Circle one)
Increasing Increasing Stable Decreasing Decreasing

3. In the zone circled in QUESTION 1, how would you rank the 2007 fall antlerless deer harvest? (Circle one)
Scarce Moderate Abundant No opinion/No oak trees

4. Did you see any moose in CT during the 2007 deer hunting season?
YES NO If YES, in what town?

5. Would you support a very limited moose hunting season in CT?
YES NO

PRINT YOUR RETURN ADDRESS BELOW IF YOU WOULD LIKE TO RECEIVE A 2007 CT DEER SEASON SUMMARY.
Name: _____
Address: _____
Town: _____ State: _____ Zip: _____

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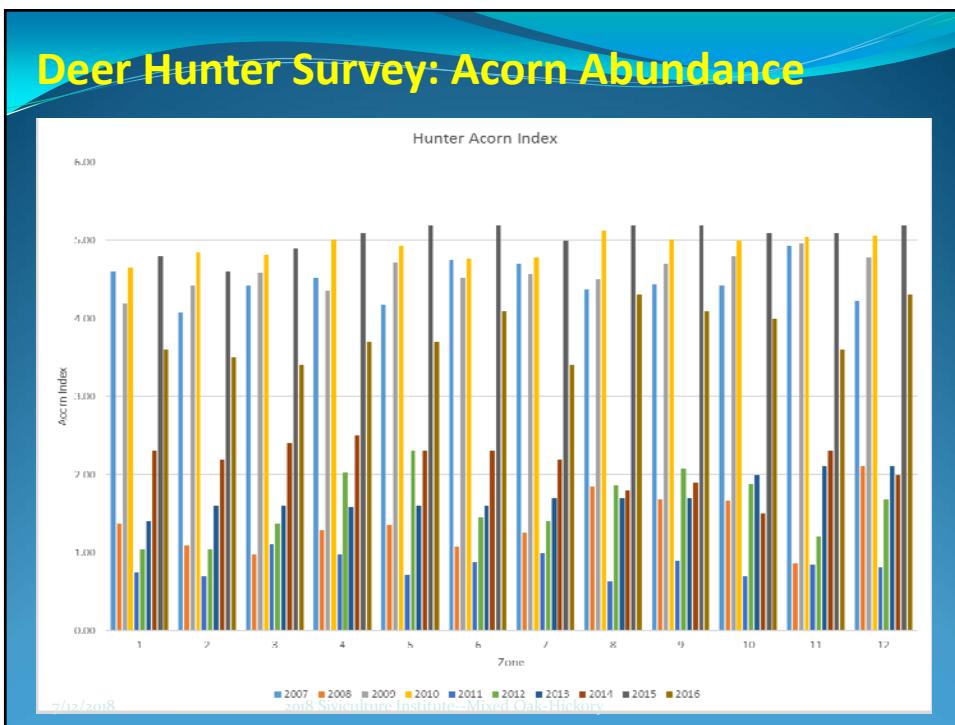
Deer Hunter Survey: Methods

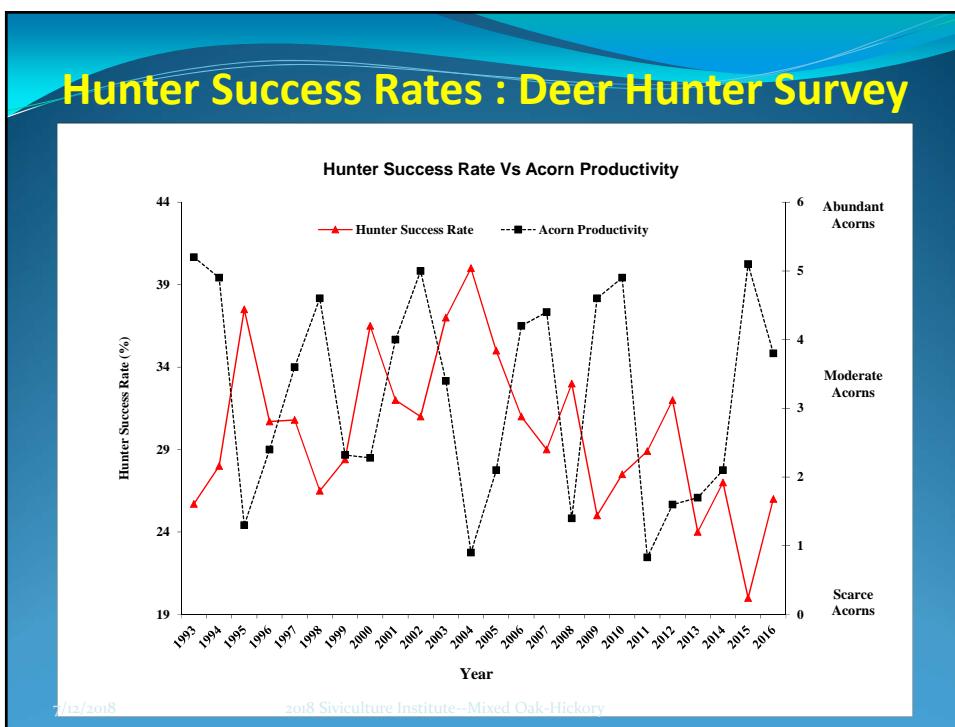
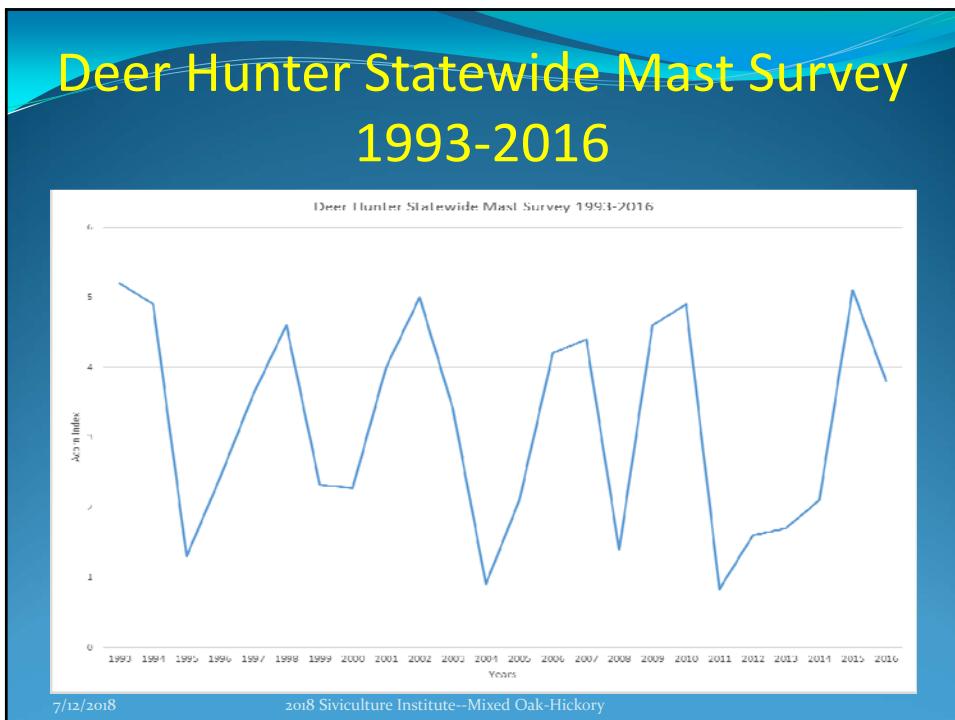
In the Zone ,that you hunted most, how would you rank the fall acorn crop ?

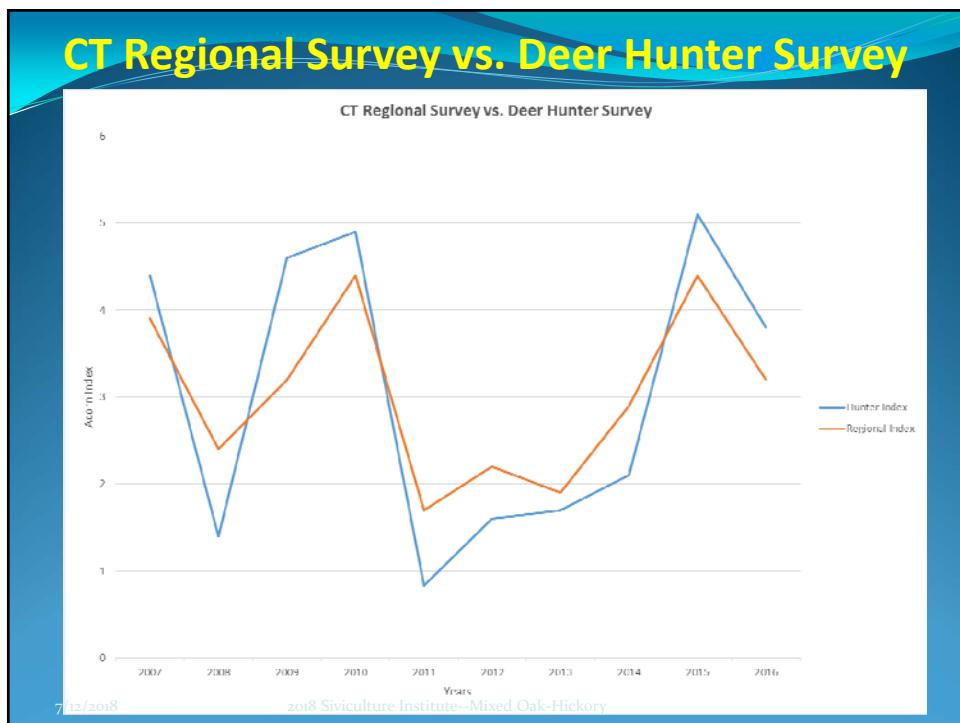
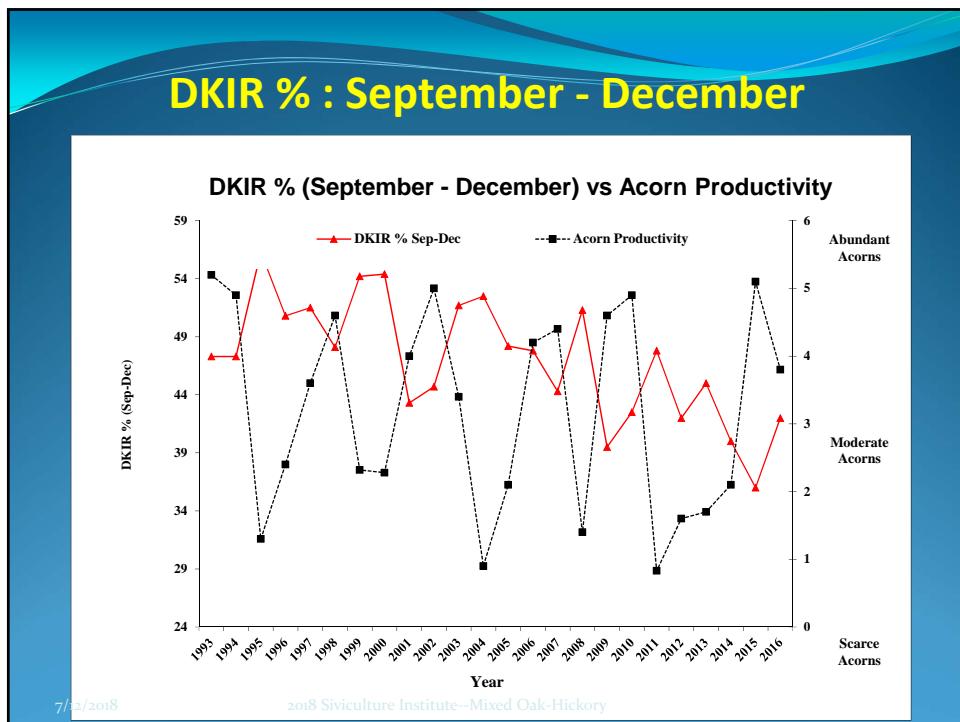
- Scare
- Moderate
- Abundant
- No Opinion/No oak trees



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Take Home Messages

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

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Future Research

- Interactions of acorn, ticks and tick borne diseases
- Timing Timber Harvest during Abundant Acorn Years
- How acorn abundance affects CT Black Bear Populations
- Relationship of acorn abundance and Wild Turkeys
- Does acorn abundance affect avian species e.g. ruffed grouse, wood ducks and blue jays
- Determine if external characteristics exist in oaks trees that will identify good acorn producers

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Questions?



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Scott Williams, CT Agriculture
Experiment Station

Predator Satiation Hypothesis



Predator Satiation Hypothesis

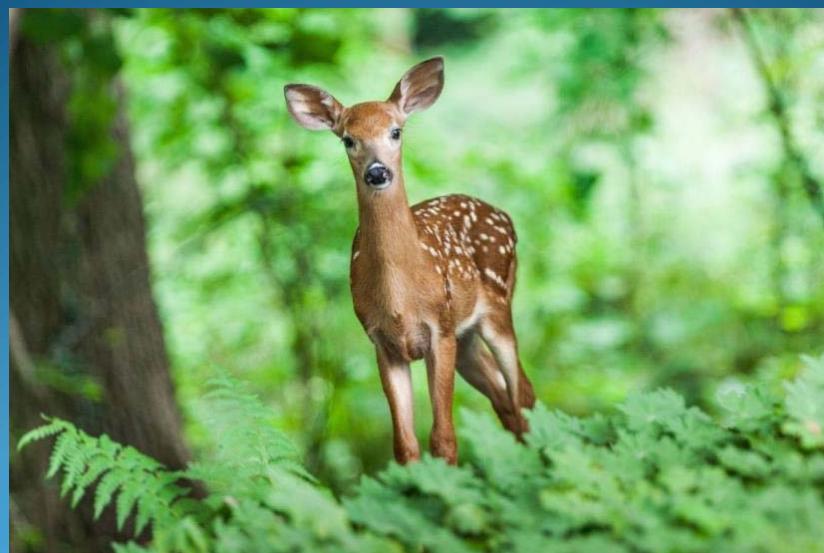


M. J. Raupp

Predator Satiation Hypothesis



Predator Satiation-Synchronization



Masting

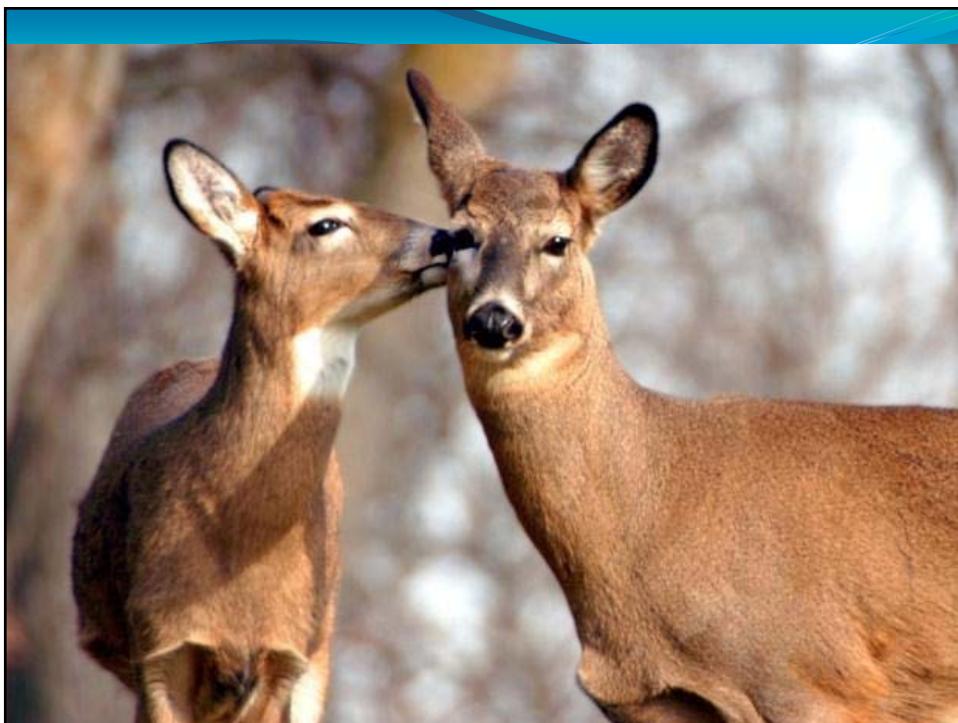


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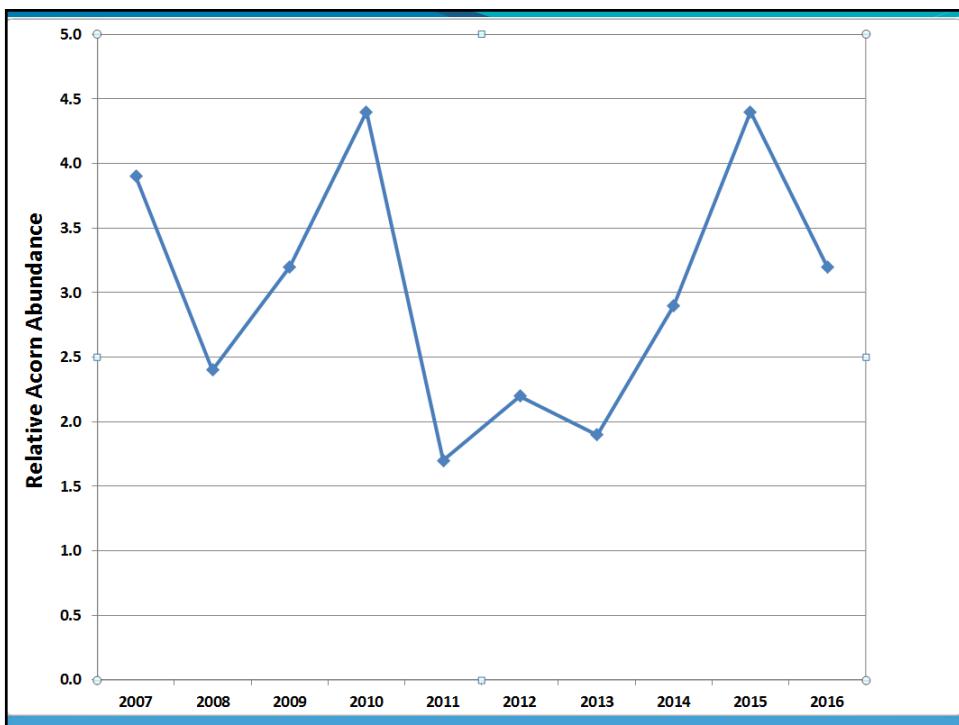
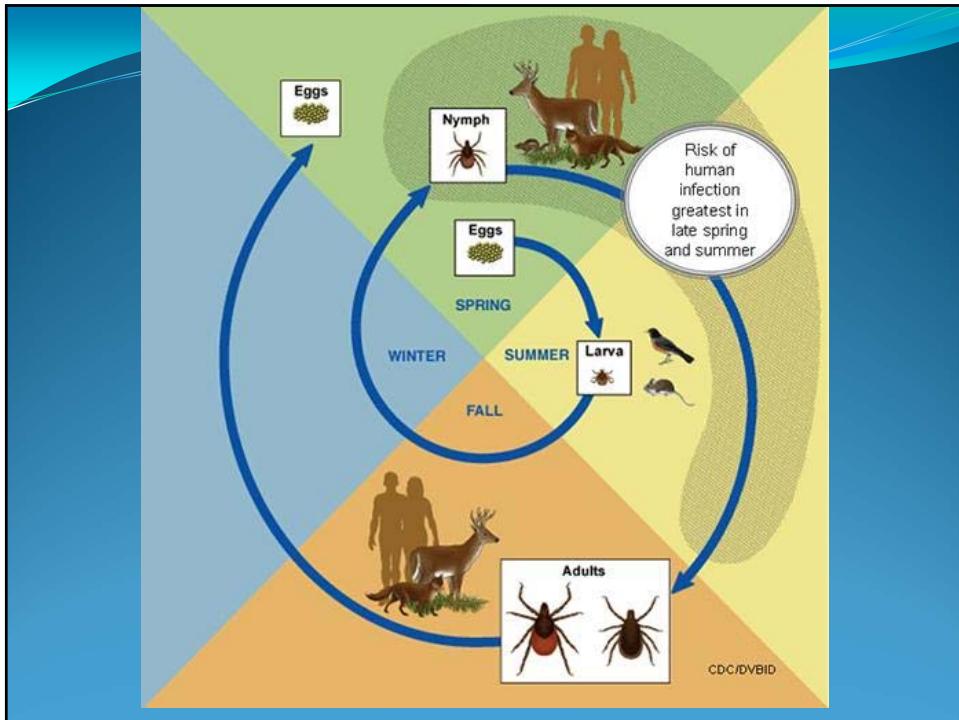


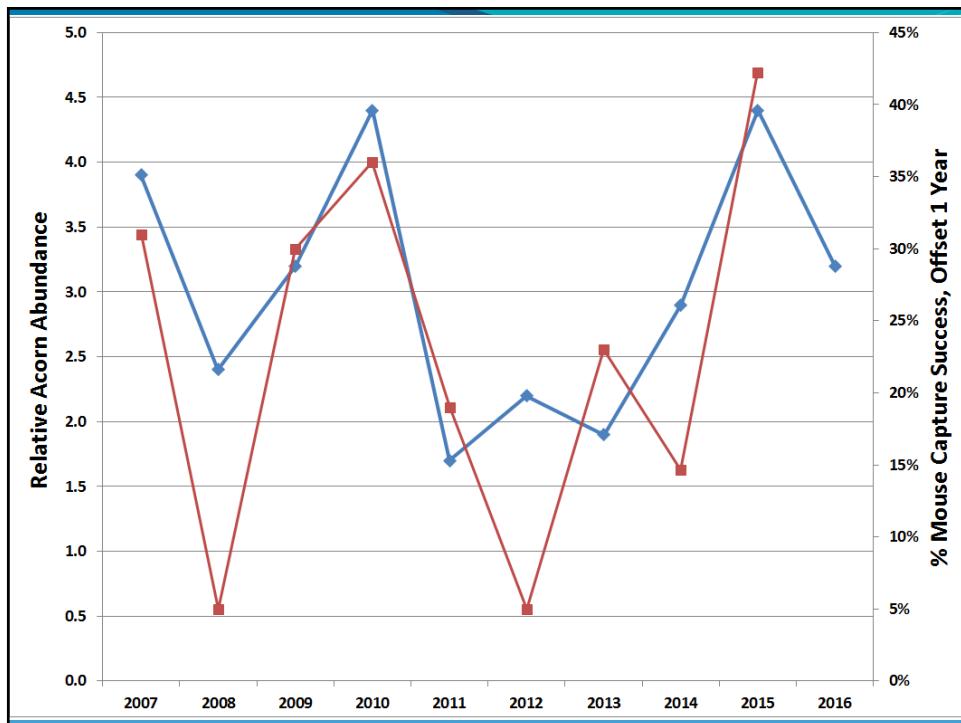
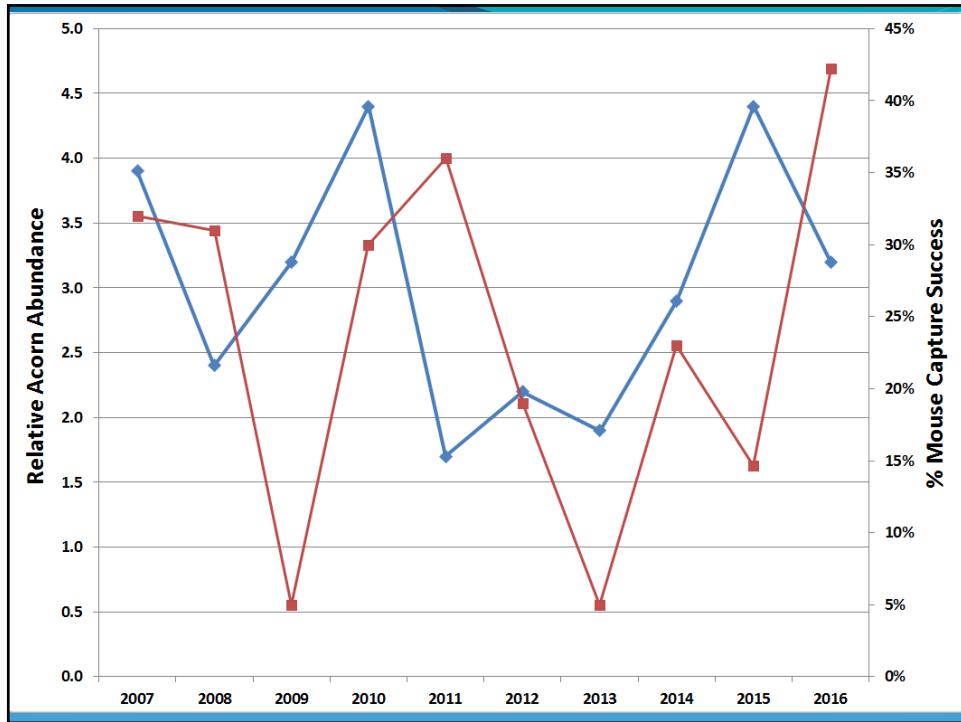
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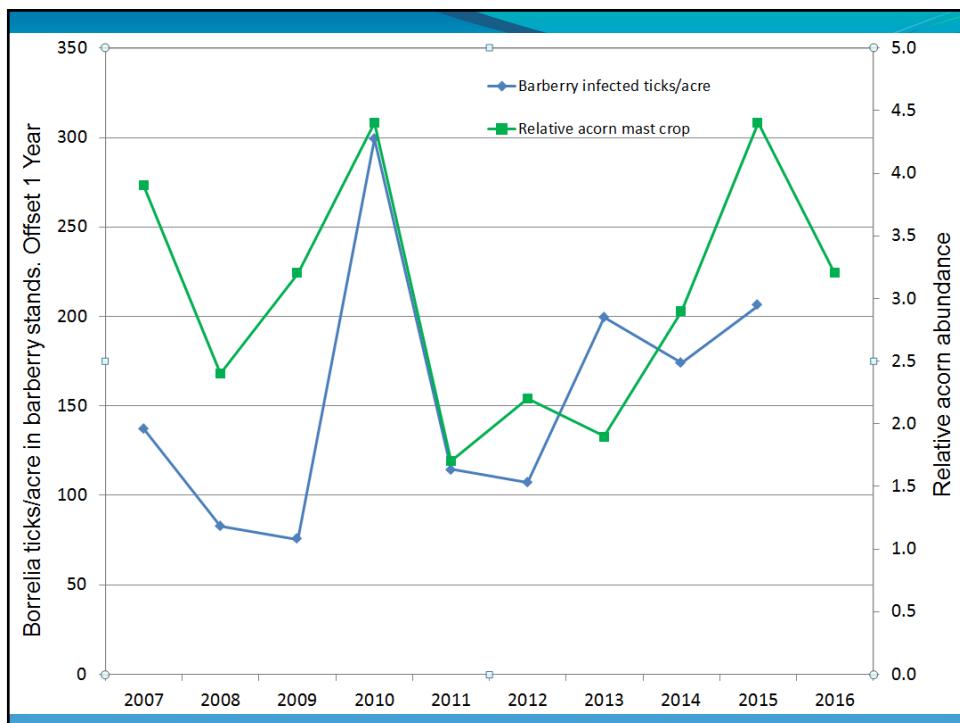
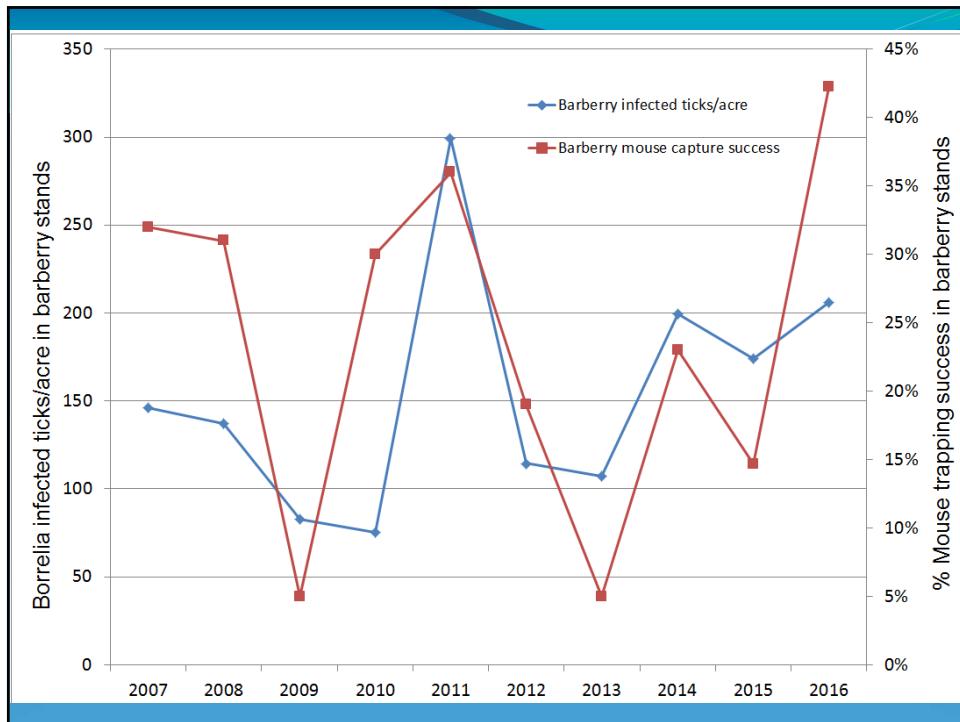


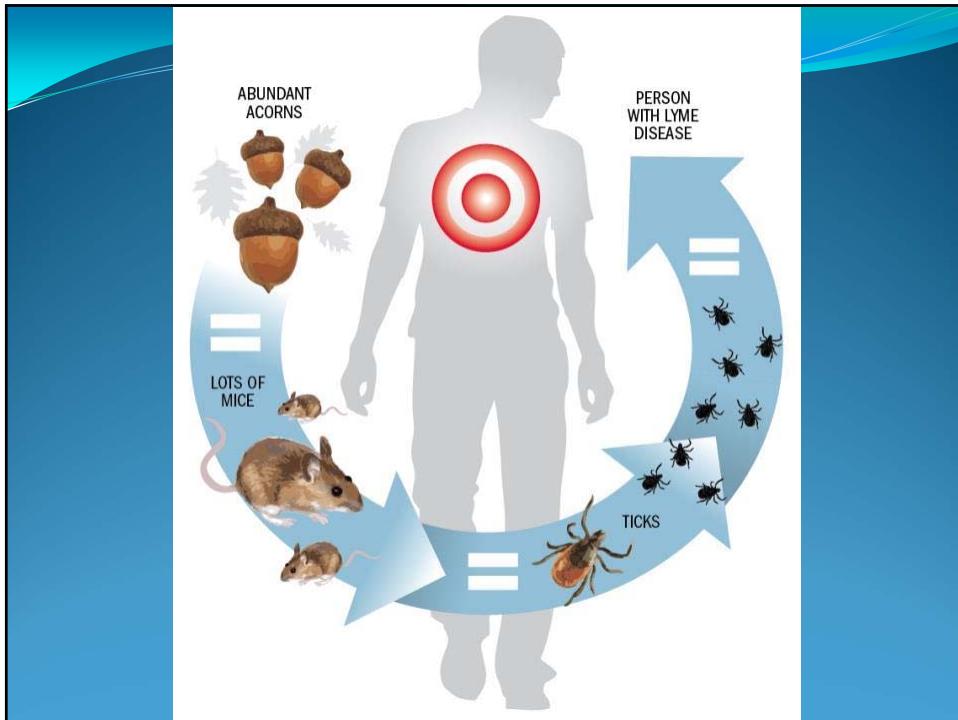












Tannin and Lipid Content



- 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





Deer and Seed Dispersal



Deer Spread Alien Invasive Species

- 11,512 individual germinants
- 87 unique taxa (74 to species, 13 to genus)
- 51 species (64%) not native to CT
 - 79% of seedlings (n=8,863)
- 4 categories
 - Fruits
 - Small seeds close to foliage
 - Raised seed heads
 - Grasses



Purslane (*Portulaca oleracea*)
n = 7,209 Exotic











**Green pepper
(*Capsicum* sp.)**
n = 1 Exotic



Seed Dispersal

- **6 mile² research site**
- **59 deer/mile²**
 - Approx. 354 deer during any one year
- **Defecation rate = 25/day**
 - 8,850 poops/day
- **Mean of 20.3 germinable seeds per poop**



**508 germinable
seeds/deer/day**

Of which. . .



79% are exotic to CT

**Approx. 400 germinable
exotic seeds/deer/day**





Questions?

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