

Managing Your Pines for Bobwhites

National Bobwhite Conservation Initiative

...the unified strategy to restore wild quail



SPONSORS



ASSOCIATION of FISH & WILDLIFE AGENCIES



Joe Crafton Family Endowment for Quail Restoration



MIDWEST Association of Fish & Wildlife Agencies



Northeast Association of Fish & Wildlife Agencies



SOUTHEASTERN ASSOCIATION OF FISH AND WILDLIFE AGENCIES



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Purpose

To Help Forest Managers and Landowners Gain An Understanding of How To Manage Southern Pine Forest for WILD Northern Bobwhites.



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Northern Bobwhite

Northern Bobwhite is the formal name of the bird that most of us know as bobwhite quail or quail.

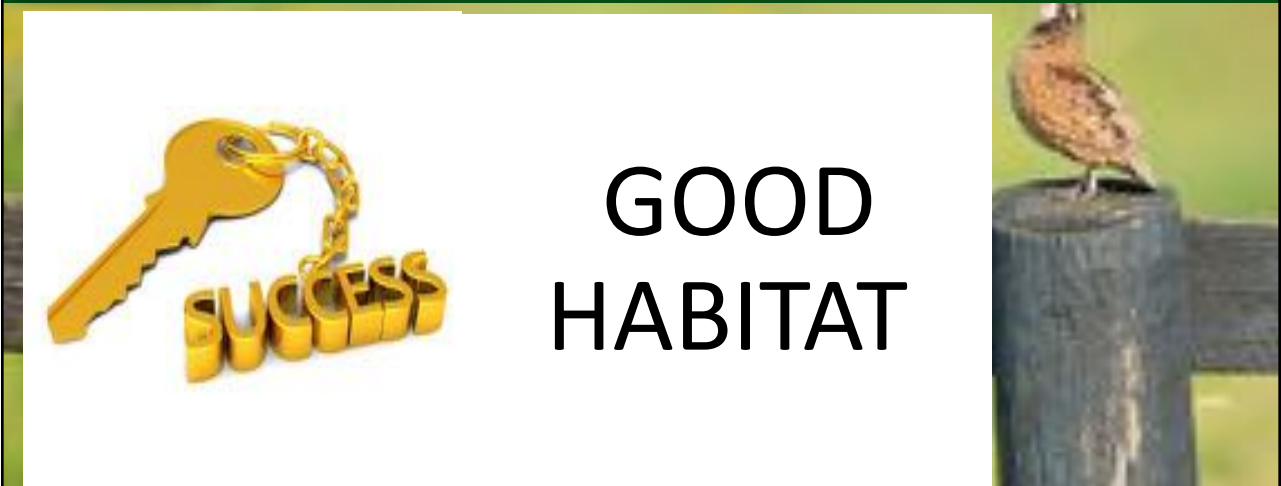


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BOBWHITE MANAGEMENT IS NOT EASY



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BOBWHITE MANAGEMENT IS NOT EASY

IF IT WERE WE WOULD HAVE PLENTY OF THESE:



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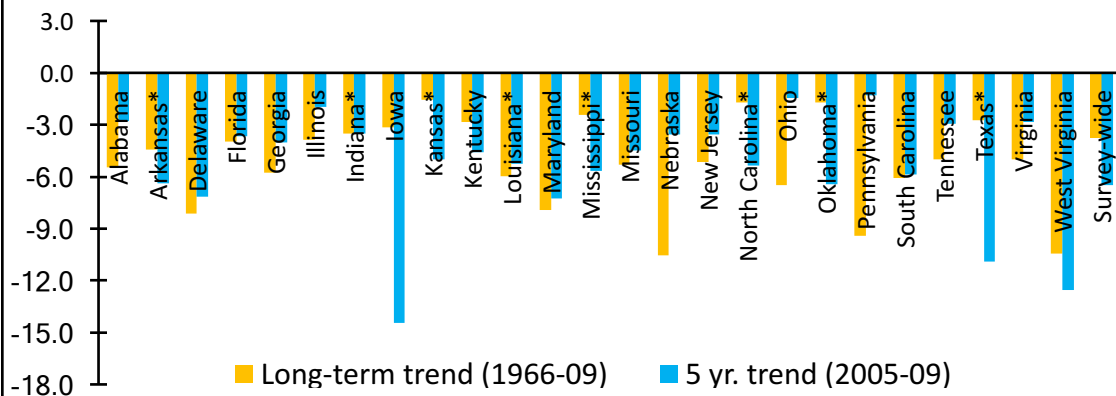
Photo Credit: Shane Wellendorf, Tall Timbers Research Station



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BOBWHITE DECLINES



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NOT BOBWHITE HABITAT



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- Bobwhite management is not for everyone



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- Bobwhite management is not for everyone
- If you are wanting to MAXIMIZE PROFIT, then don't fool yourself about quail management



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- Bobwhite management is not for everyone
- If you are wanting to MAXIMIZE PROFIT, then don't fool yourself about quail management
- If you are willing to compromise on profit, then consider bobwhite management.



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- Managing habitat for bobwhites **DOES NOT** guarantee them



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- Managing habitat for bobwhites **DOES NOT** guarantee them
- Just because you “build it” doesn’t mean that they will come



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- Just because you “build it” doesn’t mean that they will come
- A nearby existing source of **WILD** bobwhites is essential to colonize new habitats



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- Just because you “build it” doesn’t mean that they will come
- A nearby existing source of **WILD** bobwhites is essential to colonize new habitats
- Small isolated habitats will not attract or sustain satisfactory populations



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NBCI Focal Area Program

- Sets a **MINIMUM STANDARD** of **1,500** acres of suitable habitat,
- that comprises at least 25% of the focal area
- to sustain wild populations over the long term
- This 1500 acres can be over multiple landownerships.



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Northern Bobwhites require a vigorous and diverse herbaceous ground cover which includes four basic components:



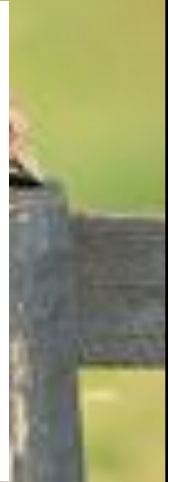
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Northern Bobwhites require a vigorous and diverse herbaceous ground cover which includes four basic components:

1. A mix of native clump grasses for nesting

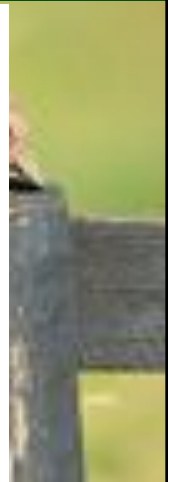


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Northern Bobwhites require a vigorous and diverse herbaceous ground cover which includes four basic components:

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2. Forbs, legumes and wildflowers for seed and insect production



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1. A mix of native clump grasses for nesting
2. Forbs, legumes and wildflowers for seed and insect production
3. Scattered clumps of dense, low-growing woody shrubs for protection from weather and predators



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Northern Bobwhites require a vigorous and diverse herbaceous ground cover which includes four basic components:

1. A mix of native clump grasses for nesting
2. Forbs, legumes and wildflowers for seed and insect production and brood rearing habitat
3. Scattered clumps of dense, low-growing woody shrubs for protection from weather and predators
4. Bare Soil underneath overhead cover, which is necessary for mobility and physical access to seeds on the ground.



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Bobwhite Habitat Needs

The Rule of 3rds

Shrub

Grass

Weeds

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NBCI
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Bobwhite's View

Bobwhite's View

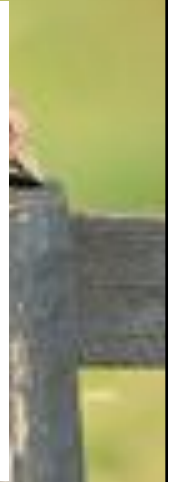
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What is needed to get these four components into a forested situation?



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Sunlight



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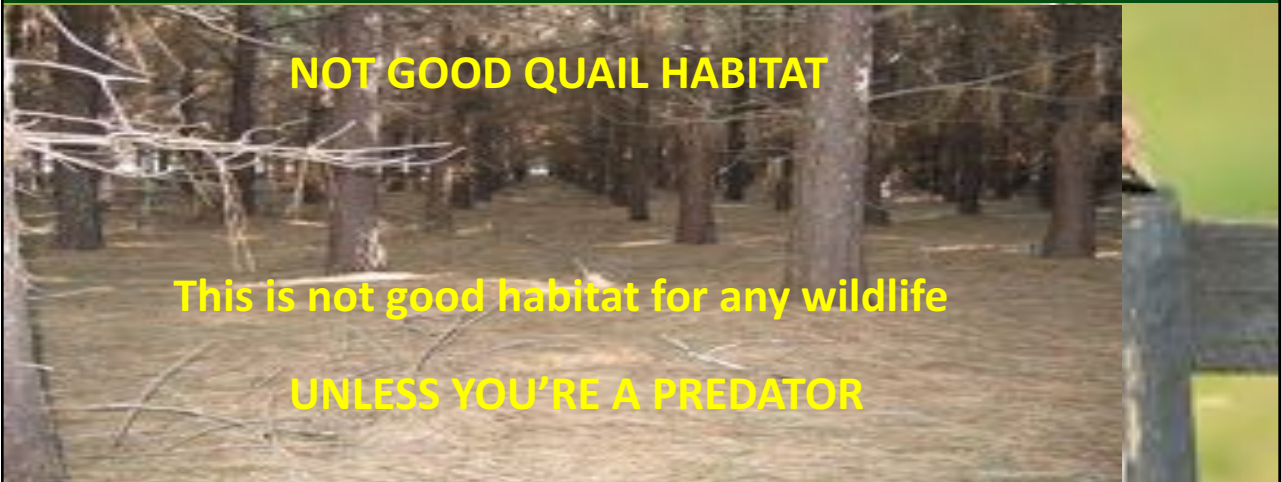




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Lack of Sunlight



NOT GOOD QUAIL HABITAT

This is not good habitat for any wildlife

UNLESS YOU'RE A PREDATOR



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INCREASING SUNLIGHT

1. Periodic Thinnings



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INCREASING SUNLIGHT

1. Periodic Thinnings
2. Frequent Fire



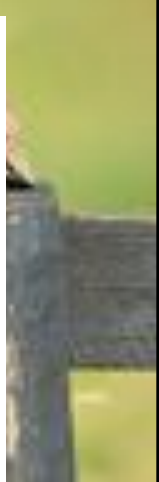
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INCREASING SUNLIGHT

1. Periodic Thinnings
2. Frequent Fire
3. Careful Forest Regeneration Techniques

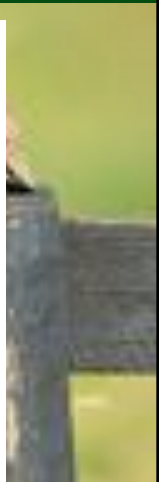


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INCREASING SUNLIGHT

1. Periodic Thinnings
2. Frequent Fire
3. Careful Forest Regeneration Techniques
4. Managed Openings



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PERIODIC THINNINGS

- To produce suitable bobwhite habitat, a pine forest must be thinned more aggressively than typical commercial harvests.



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PERIODIC THINNINGS

- To produce suitable bobwhite habitat, a pine forest must be thinned more aggressively than typical commercial harvests
- Most commercial thinnings aim to reduce pine tree density to a basal area of 75-80 square feet per acre.



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THINNINGS



Good Spacing for Timber Management

80 Square Feet BA



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THINNINGS

A BASIC RULE OF THUMB FOR MANAGING PINES FOR BOBWHITES

- A properly thinned stand of pines should have about $\geq 60\%$ sunlight on the forest floor at mid-day.



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THINNINGS

A BASIC RULE OF THUMB FOR MANAGING PINES FOR BOBWHITES

- A properly thinned stand of pines should have about 60-65% sunlight on the forest floor at mid-day.
- 35%-40% Canopy Cover



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THINNINGS

A BASIC RULE OF THUMB FOR MANAGING PINES FOR BOBWHITES

- A properly thinned stand of pines should have about ≥ 60 sunlight on the forest floor at mid-day.
- 35%-40% Canopy Cover
- Maintain BA between 40-70 sq. ft.



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THINNINGS

- Multiple thinnings will need to be conducted to maintain proper stocking for quail

“The density of timber stands should receive constant attention on the well-managed quail preserve.” – Herbert L. Stoddard



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THINNINGS



BA > 120 ft² basal area

Could be Loblolly or Slash Pine

Unthinned and Unburned



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THINNINGS



80-100 ft² basal area

Thinned and Burned

Photo credit: Reggie Thackston - GADNR



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THINNINGS



60 – 80 ft² BA

Thinned and Burned



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THINNINGS



40-60 ft² BA

Thinned and Burned



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THINNINGS

- If you are managing for bobwhites, as soon as you finish thinning a stand it is TIME to start thinking about the next thinning.



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PRESCRIBED FIRE



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PRESCRIBED FIRE

SHOULD BE FREQUENT

- NO MORE THAN 3 YEARS BETWEEN PRESCRIBED FIRES
- PREFERABLY EVERY 2 YEARS
- BURNING EVERY 4- 5 YEARS **WILL NOT MAINTAIN** QUAIL HABITAT



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PRESCRIBED FIRE

SHOULD BE FREQUENT

- ON SITES WITH MODERATE FERTILITY AND UP
- MAINTAIN A 2 YEAR FIRE FREQUENCY
- IF IT WILL CARRY A FIRE WITH A 2 YEAR ROUGH, THEN IT NEEDS TO BE BURNED.



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PRESCRIBED FIRE



Tall Timbers Research Station Stoddard Burn Plots – Summer 2006



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PRESCRIBED FIRE

SCALE SHOULD BE SMALLER

- BURN UNITS SHOULD BE LESS THAN 50 ACRES (This is a GOAL)
- ADJACENT UNBURNED UNITS IN SIMILAR SIZE SHOULD BE LEFT



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PRESCRIBED FIRE

- HAVING A MIX OF SMALLER UNBURNED AND BURNED UNITS WITHIN A STAND/FOREST PROVIDES NECESSARY ESCAPE COVER
- UNBURNED UNITS SHOULD BE CLOSE ENOUGH FOR SHORT DISTANCE FLYER (BOBWHITES) TO REACH EASILY.



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PRESCRIBED FIRE

- BURNING LARGE UNBROKEN AREAS AT ONE TIME LEAVES LARGE AREAS WITH NO ESCAPE COVER FOR BOBWHITES



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PRESCRIBED FIRE

Timing

- LATE WINTER THROUGH EARLY SPRING
- PRIOR TO PEAK NESTING SEASON
- MIX BURN TIMING UP ACROSS BURN UNITS TO ENHANCE PLANT DIVERSITY



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PRESCRIBED FIRE

Timing

- NO LATE SUMMER, FALL OR EARLY WINTER BURNING
 - WANT TO KEEP ESCAPE COVER DURING THIS TIME (Coopers Hawk Migration)
- OCCASIONAL GROWING SEASON OR LIGHTNING SEASON (May-June)
 - EFFECTIVE AT CONTROLLING HARDWOODS
 - STILL PROVIDES TIME FOR LATE SEASON NESTING



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PRESCRIBED FIRE



Loblolly 50 ft2 basal area, burned w/ 2-yr frequency and with quality ground cover



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REFORESTATION

Considerations If Interested In Managing for Bobwhites

- Site Preparation Issues
- Which Species To Plant?
- What Spacing Should Seedlings Be Planted?



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SITE PREPARATION

- What Method of Site Preparation Should Be Used?
 - Prescribed Burning
 - Mechanical Methods (Shearing, raking)
 - Herbicides
 - Or Some Combination



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Species

- Longleaf
- Loblolly
- Slash
- Shortleaf



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Longleaf Pine



2-3 year old Longleaf Pine



9 year old longleaf stand burned twice in last 4 years



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Longleaf Pine



Planted Longleaf Pine –
10 years old

Conservation Reserve
Program

Unburned



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Managed Openings

Managed Openings in Forested Situations are important for:

- Brood Range
- Food
- Cover



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Managed Openings

Managed Openings For Bobwhites in Forested Situations Are Important but **ONLY IF:**

- **The Entire Forest Is Being Managed Properly**



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Managed Openings

Managed Openings For Bobwhites in Forested Situations Are Important but **ONLY IF:**

- **The Entire Forest Is Being Managed Properly**
- **Openings ARE NOT a Substitute for Good Forest Management for Bobwhites**



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Managed Openings

Managed Openings For Bobwhites in Forested Situations Are Important but **ONLY IF:**

- **The Entire Forest Is Being Managed Properly**
- **Openings ARE NOT Used As a Substitute for Good Forest Management for Bobwhites**
- **They Are NOT Islands in Unsuitable Forest Habitat**



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Managed Openings

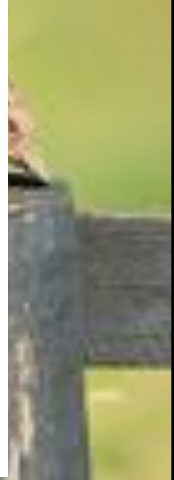


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When managing timber primarily for Bobwhites, there are trade-offs compared to managing timber for economic profit.

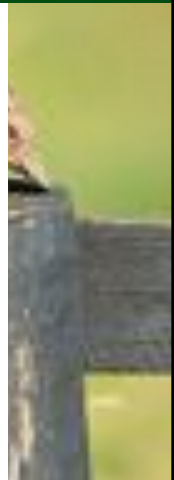


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TRADEOFFS ARE REAL

- Rotation Lengths Are Normally Longer
- The Cost of Repeated Prescribed Burns is High
- Potential Economic Loss From Not Raking Pine Straw



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TRADEOFFS ARE REAL

- Raking For Pine Straw is **INCONSISTENT** with Bobwhite Habitat Management
 - Raking straw in the first years of a stand before first thinning is an option and could help offset other costs **BUT...**
 - Continued taking after that is detrimental to bobwhite habitat management
 - Setting aside stands within a property specifically for straw management while managing the rest for pine savanna/bobwhites is a feasible option



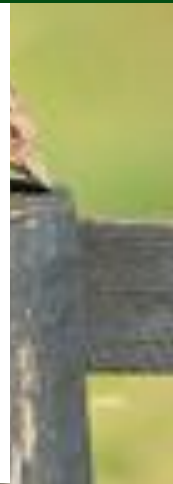
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REMEMBER

MANAGING FOR BOBWHITES IS NOT EASY

- Places like Tall Timbers, the Red Hills and Albany areas in South GA/North FL are the exception – due to almost unlimited resources but...
- Pine forests in the southeast can be managed for enjoyable and satisfying bobwhite populations with modest resources and compromises.



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IDEAS TO TAKE HOME

- Quail habitat management is the most difficult requiring the highest of standards.
- Thus, quail habitat will bring along turkeys and deer
- And numerous other songbirds, pollinators, and other wildlife
- But mere deer/turkey management is not necessarily sufficient for bobwhites
- QUAIL HABITAT IS THE PINNACLE OF PRODUCTIVE, DIVERSE HABITAT FOR A SPECTRUM OF SPECIES



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IN CLOSING

- REMEMBER THAT QUAIL MANAGEMENT IS NOT FOR EVERYONE
- $\geq 60\%$ OF THE FOREST FLOOR SHOULD BE IN SUNLIGHT
- FREQUENT PRESCRIBED BURNING IS REQUIRED (EVERY 2-3 YEARS)
- FREQUENT AND HEAVIER THINNINGS
- THE DESIRED BASAL AREA 40 – 70 SQ. FT. WITH 70 BEING THE TRIGGER POINT FOR ANOTHER THINNING.



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IN CLOSING



WE NEED MORE OF THIS...



SO WE CAN HAVE MORE OF THIS



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QUESTIONS



Photo provided by Southwind Plantation



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