

# Northern Bobwhite Conservation and Early Successional Habitat Management



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# Overview

- ▶ Quail Population Decline
  - What's happened?
- ▶ Quail Habitat Requirements
  - What do they need vs. what we usually see
  - Management Techniques/Habitat
- ▶ Restoration Steps
  - Virginia's Quail Action Plan
  - Private Land Biologist Program

# Quail Population Decline

- ▶ 75% decline over last 40 years
- ▶ In VA annual decline is 3-4%
- ▶ Other species are declining with quail:
  - Henslow's sparrow
  - Grasshopper sparrow
  - Field sparrow
  - Brown thrasher
  - Yellowbreasted chat

# Decline

- ▶ In 1970 nearly 1/3 of license holders hunted quail.
- ▶ Since then over 90% of quail hunters have stopped hunting for them.
- ▶ Only 7% of licensed hunters hunted quail in 2005

Year	Quail Harvested
1965	1,380,405
2005	66,384

# So what happened?



A photograph of a rural landscape. The foreground and middle ground are dominated by dense, tall, green and brown vegetation, including various weeds and grasses. In the background, two weathered wooden barns are visible on a slight rise. The barn on the left has a red roof, while the one on the right is more dilapidated with missing windows. The sky is a pale, clear blue.

We have gone from  
land having areas like  
this









# Quail Habitat Requirements

- **Woody Covey Headquarters**
  - 15-25% of the landscape
- **Nesting Cover**
  - 30%
- **Brooding Cover**
  - 40-60%



# Woody Cover Headquarters

- ▶ Consists of woody shrubs, low-growing trees, down tree structures, feathered edge. Ground cover within headquarters must be sparse.
- ▶ 50 ft. X 30 ft. at a minimum – 1,500 sq. ft.
- ▶ Plum thickets, honeysuckle, and blackberry

# Edge Feathering



JUL 29 2005



# Nesting Cover

- ▶ **Ideal Nesting Cover** – Herbaceous cover consisting of bunch grasses with forbs and low growing shrubby cover with the last year's grass growth available (at least 12" tall)
- ▶ About 30% of the area
- ▶ Little bluestem, broomsedge, annual lespedeza, ragweed, native forbs.
- ▶ Near brood cover!











# Brooding Cover

**Ideal Brood Habitat –**  
Plant community (at least 40% of the area) made up of annual forbs, legumes, and weeds. Must contain bare ground (25-50% exposed soil) underneath a foliage canopy.

Brood habitat will contain insects which are the most important food item for nesting hens and chicks.

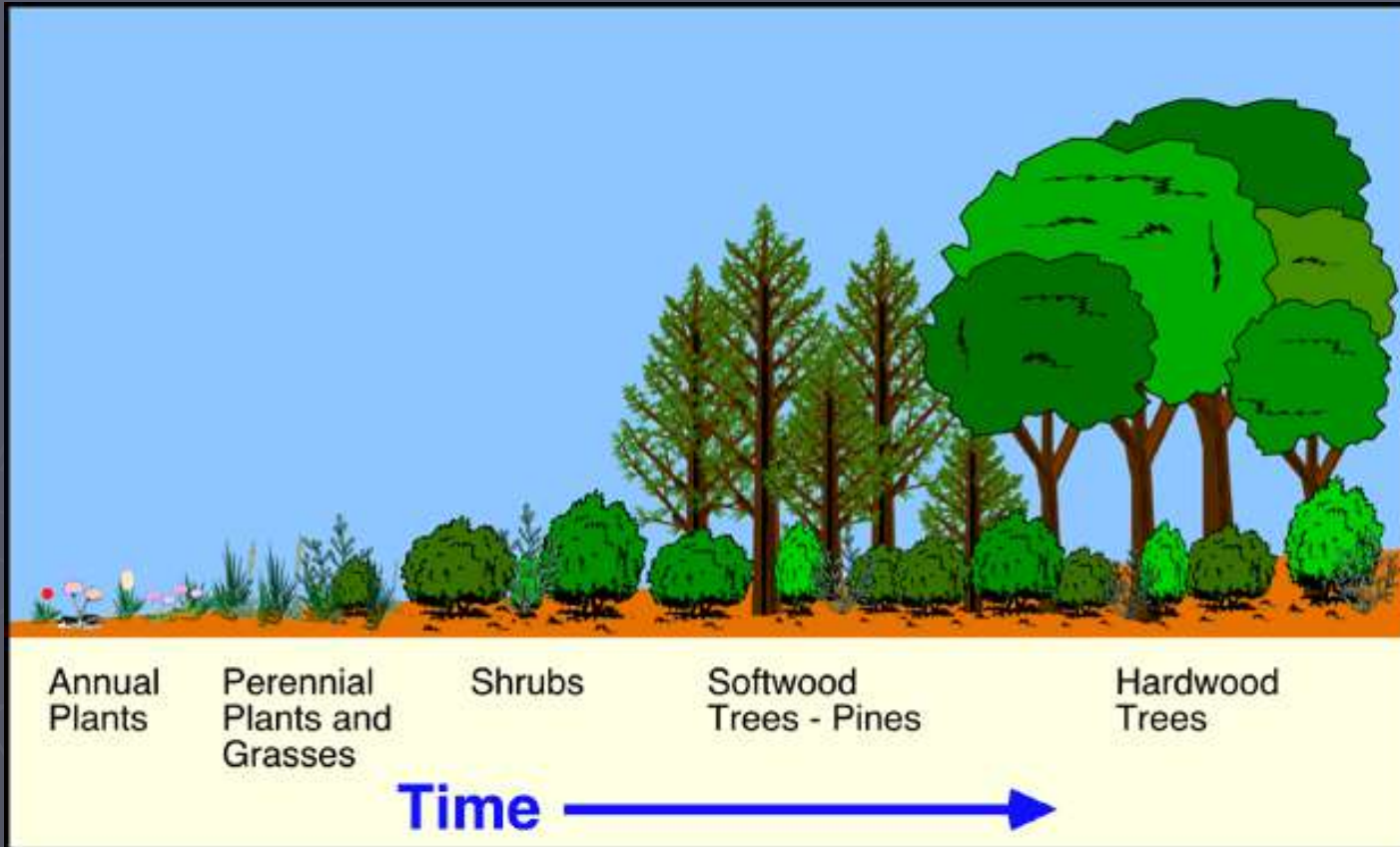


# Evaluating Quail Cover

- ▶ Take a look from a “quail’s eye view”
  - 6” tall
  - Weighs 6.5oz.
- ▶ Ground Dwellers
  - Weak foragers
- ▶ **Key: Bare Ground**



# Succession



# What is good habitat?



# What is good habitat?



# What is good habitat?





# Creating Quail Habitat

## ► What do you have?

- Pasture
- Planted Pines
- Hardwoods
- Cutover

# Habitat Management



# Fescue Conversion

- ▶ Fescue grows in a thick mat, making it difficult for birds to use
    - Conversion to native plants is possible
    - Key is killing the fescue
    - 2 quarts glyphosate based herbicide per acre
    - Time of year of application is key
    - Fall followed by a spring application is most effective
- \*Ask your local extension agent for all herbicide recommendations

# Fescue Conversion

## ▶ Native Warm Season Grass

- Indian grass
- Switchgrass
- Big bluestem
- Tall Dropseed

## ▶ Why NWSG?

- Cover
- Grows in bunches
- Seed
- Multiple Uses



# Fescue Conversion

## ► Natural Succession

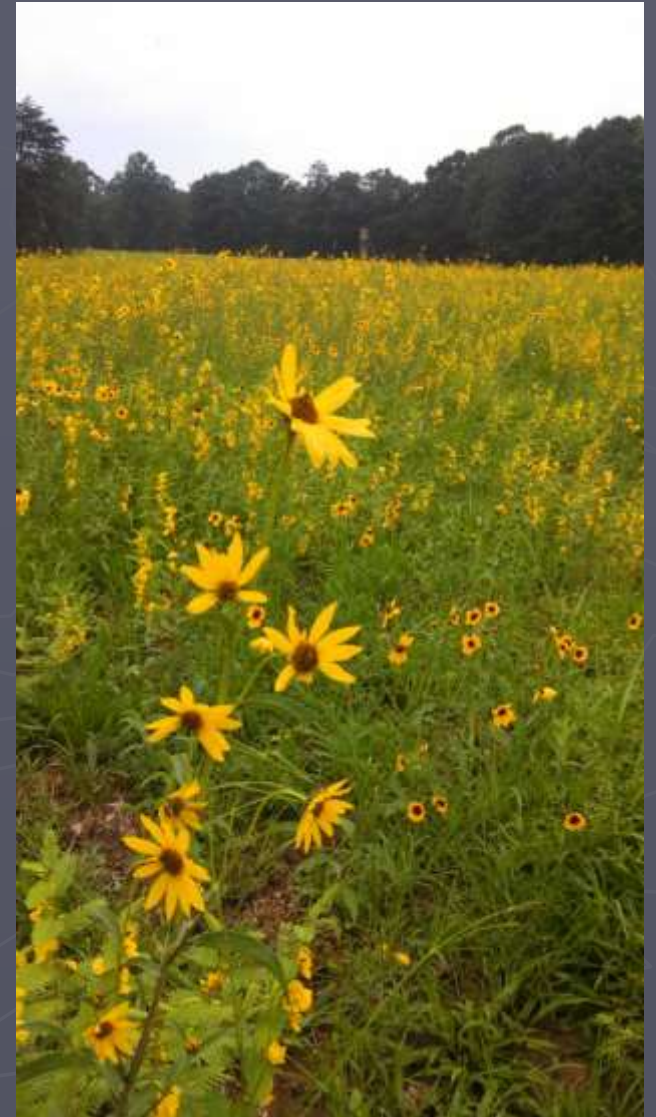




# Fescue Conversion



# Wildflower Meadow





# Quail and Pollinators



# Open Ground Management

- ▶ Setting back Succession

Without disturbance,  
fields slowly turn  
into forests



# Open Ground Management

## ▶ Prescribed Burning



# Open Ground Management

## ► Rotational Disking



# Managing Pines



# Managing Pines



# Pine Planting

- ▶ Balance of Timber Production and Wildlife Value
  - Typical species is Loblolly
    - ▶ Parts of the state suitable for Longleaf and Shortleaf
  - Planting spacing
    - ▶ Wider is generally better
    - ▶ 10' X 10'
  - Site Preparation-help control competition
    - ▶ Site prep burn
    - ▶ Site prep spray (careful chemical selection)

# Pine Management





# Pine Management



# Pine Management

## ► Thinning



# Pine Management

## ▶ Thinning

- Balance between Timber Production and Wildlife Benefits
  - ▶ Work with a forester, but let him know you have a wildlife interest
  - ▶ Thinning too hard can lead to damage from wind and ice
  - ▶ Key is getting sunlight to the ground

# Pine Management

- ▶ Use a rotation of prescribed fire and herbicide to help manage hardwood competition under the thinned pines
  - Cool season burns-good at removing fuel
  - Warm season burns-generally hotter burns, better for hardwood control

# Prescribed Fire



# Prescribed Fire



# Prescribed Fire

## ▶ Great Management Tool

- Need a burn plan written by a Virginia Certified Prescribed Burn Manager
  - ▶ Use a contractor
  - ▶ Take a class with DOF
  - ▶ Remember, safety comes first

# Hardwoods





# Hardwoods



# Hardwood Management



# Hardwoods



# Quail Restoration Efforts

## ▶ CREATE HABITAT

- Early Successional = Frequent Disturbance

## ▶ Examples:

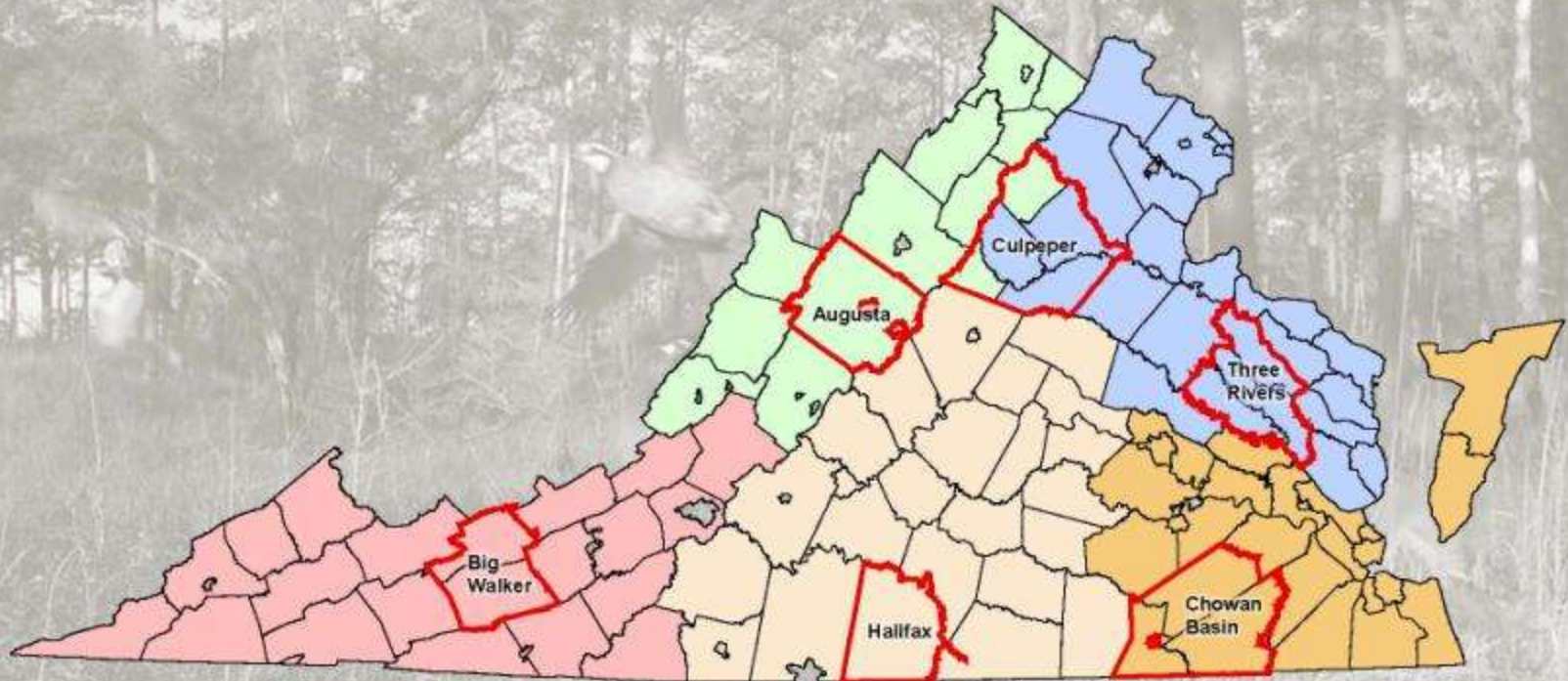
- Fescue Conversion to NWSG
- Shrub Clumps
- Brood Areas: Wildflower Meadows, Legume Mix
- Rotational Disking
- Prescribed Burning








# Virginia's Quail Action Plan

- ▶ 5 year plan created in 2009
- ▶ Created 5 Private Lands Wildlife Biologists
  - Cooperation with VT-CMI, NRCS and VDGIF
  - Assist private landowners with developing wildlife management plans, assist with plans and applications for wildlife cost share programs
    - ▶ EQIP-Wildlife and Wildlife BMPs
  - Monitoring
    - ▶ Spring call routes, fall covey counts, early successional point counts on WMAs
- ▶ Created 6 "Quail Focus Areas"

# ANSWERING THE CALL: THE QUAIL RECOVERY INITIATIVE

Financial Assistance is Available – Join the Quail Recovery Team Today



	Quail Priority Areas		Farmville: (434) 392-4171 x 106
	Smithfield: (757) 357-7004 x 126		Verona: (540) 248-6218 x 108
	Fredericksburg: (540) 899-9492 x 101		Christiansburg: (540) 381-4221 x 128
	Marc Puckett - Project Leader: (434) 392-8328		

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A vibrant, natural landscape featuring a field of diverse wildflowers and tall green grasses. The foreground is filled with various species, including purple and white blossoms, and yellow flowers with dark centers. The background consists of a dense, green forest under a clear blue sky. The overall scene is bright and healthy, representing a natural community.

**Natural communities can  
provide adequate food and cover**



**All components as  
close as possible**

**Native grass/forbs/legumes:  
Nesting & Brood**

**Woody  
Headquarters**





**All components as close as possible**

**Woody Headquarters**

**Native grass/forbs/legumes:  
Nesting & Brood**

**Is this good quail habitat?**



# Any Luck?

## ▶ Private Lands Biologists

### ■ Past 3 Years (Through 2013)

- ▶ Almost 1,250 site visits
- ▶ Written over 700 management plans
- ▶ Implemented over 11,000 acres of habitat
- ▶ Landowners visited owned/controlled over 136,000 acres

# Cost Share Programs

## ▶ State BMP Programs

- Fescue conversion to NWSG
- Idle Lands
- Field Borders
- Shortleaf Pine Planting
- Small Acreage thinning

## ▶ NRCS-EQIP Programs

- Prescribed Burning, Firebreaks
- Field Borders
- Pollinator Plantings
- Many more

# Quail Management Assistance Program

- ▶ Creates a listserv of people interested in quail habitat management
  - Information on cost share programs
  - Technical Assistance
  - Workshop Announcements

# Workshops



# Links

- ▶ <https://utextension.tennessee.edu/publications/Pages/nativeGrasses.aspx>
- ▶ <http://www.dgif.virginia.gov/quail/>
- ▶ [http://bringbackbobwhites.org/component/docman/doc\\_details/64-handling-the-fescue-problem?Itemid=128](http://bringbackbobwhites.org/component/docman/doc_details/64-handling-the-fescue-problem?Itemid=128)
- ▶ <http://bringbackbobwhites.org/>

# Points to Remember

- ▶ Sell your bush hog or mower
  - Or at least change the time of year you mow
- ▶ Patience is Key
  - Like “Field of Dreams”, if you build it, they will come
- ▶ Work with your neighbors
  - More acres is better



# Questions?

