



*EXPECT SOMETHING DIFFERENT.*

# PEABODY QUAIL





## PEABODY HUNTING CHECKLIST

- ✓ All persons 16 years of age or older are required to purchase a Peabody WMA User Permit available anywhere hunting and fishing licenses are sold.
- ✓ No vehicles are permitted off maintained roads.
- ✓ Parking is limited to parking areas and along maintained roads. Do not block gates or access roads.
- ✓ No target shooting is permitted except at designated shooting ranges.
- ✓ No hunting, parking or camping within 100 feet of gas wellheads.
- ✓ Upland bird dog training is prohibited on the Sinclair and Ken units.





For more information contact the KY Dept. of Fish and Wildlife Resources at 1-800-858-1549 or

**FW.KY.GOV**

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**Photo contributors:** **FACING PAGE** - *HUNTER WITH QUAIL* - Dave Baker • **PAGE 2** - *DOGS, QUAIL and HUNTERS* - Dave Baker - *QUAIL ILLUSTRATION* - Settle • **PAGE 4** - *DOGS, QUAIL and HUNTERS* - Dave Baker - *FULL PAGE PHOTO* - Brian Clark • **PAGE 5** - *GRASS* - Dave Baker - *HUNTER* - Brian Clark - *DOG* - Obie Williams • **PAGE 6** - *SEEDS* - Steve Hurst, hosted by the USDA-NRCS PLANTS Database - *GROWING* - Walt Fick, Kentucky State University - *DORMANT* - KDFWR • **PAGE 7** - *SEEDS* - Steve Hurst, hosted by the USDA-NRCS PLANTS Database - *GROWING* - Pam Williams - *DORMANT* - KDFWR • **PAGE 8** - *SEEDS* - Bruce Leander - *GROWING* - Jeff McMillian - *DORMANT* - Eric Williams • **PAGE 9** - *SEEDS* - Steve Hurst, hosted by the USDA-NRCS PLANTS Database - *GROWING* - Jeff McMillian - *DORMANT* - Eric Williams • **PAGE 10** - *SEEDS* - Tracy Slotta - *GROWING* - Matt Lavin - *DORMANT* - KDFWR • **PAGE 11** - *SEEDS* - Steve Hurst, hosted by the USDA-NRCS PLANTS Database - *GROWING* - Patrick J. Alexander - *DORMANT* - Eric Williams • **PAGE 12** - *SEEDS* - Steve Hurst, hosted by the USDA-NRCS PLANTS Database - *GROWING* - Larry Allain - *DORMANT* - KDFWR • **PAGE 13** - *SEEDS* - Dana Wloch - *GROWING* - Jeff McMillian - *DORMANT* - Eric Williams • **PAGE 14** - *SEEDS* - Steve Hurst, hosted by the USDA-NRCS PLANTS Database - *GROWING* - Craig Harper - *DORMANT* - Eric Williams • **PAGE 15** - *SEEDS* - Bruce Leander - *GROWING* - R. A. Howard, courtesy of Smithsonian Institution - *DORMANT* - KDFWR • **PAGE 16** - *SEEDS* - Steve Hurst, hosted by the USDA-NRCS PLANTS Database - *GROWING* - KDFWR - *DORMANT* - Eric Williams • **PAGE 17** - *QUAIL ILLUSTRATION* - Rick Hill • **PAGE 18** - *DISKING* - KDFWR • **PAGE 19** - *TELEMETRY* - KDFWR • **BACK COVER** - *RUNNING DOG* - Obie Williams



# History

## *of Quail on Peabody WMA*

Between 1997 and 1998, Kentucky Fish and Wildlife purchased a majority of what is now the Peabody Wildlife Management Area. This area, situated in the middle of the Western Coal Field region, consists of 46,000 acres of reclaimed mine land within Muhlenburg, Hopkins and Ohio counties.

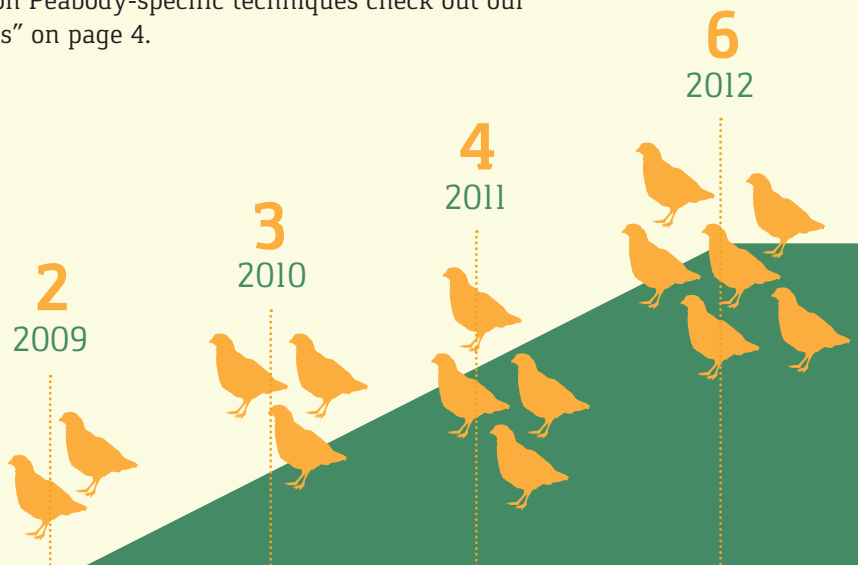
In 2008 KDFWR biologists began work on the "Road to Recovery," a blueprint for restoring bobwhite quail in Kentucky. The 23,416 acre eastern tract of Peabody showed great potential for quail habitat restoration and three units within the WMA were designated as Quail Focus areas: Sinclair, Ken and Homestead.

KDFWR, in collaboration with the University of Tennessee, began bobwhite quail research in 2009. Biologists chose to concentrate on three objectives: to **investigate quail survival and habitat use**, to **explore movements and home range** and **examine diet and hunter success**.

The restoration of quail is a Kentucky success story, but hunting for them on Peabody WMA can be tricky. For more information on Peabody-specific techniques check out our "Hunting Tips" on page 4.

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# TOP 3 KEYS TO SUCCESS

for Hunting Peabody WMA

1  
TRUST  
THE DOG

2  
FLUSH LESS  
THAN 4 BIRDS  
= A COVEY IS  
THERE!

3  
HUNT NO  
MORE THAN 50  
YARDS FROM  
SHRUBBY  
COVER

7  
2014

6  
2013



Average number of coveys  
detected per survey point



More information available

## NESTING | 2010-2013

Total Nests Monitored: 129

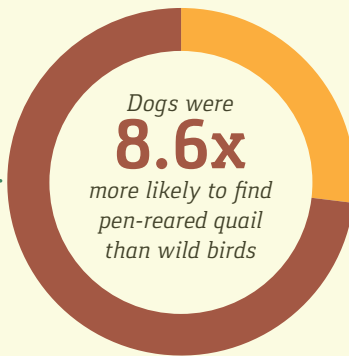
86%  
OF EGGS HATCHED



Average Clutch Size = 13



More information available



## RESEARCH HUNTING TRIALS

### TYPES OF QUAIL FOUND BY RESEARCHERS

- Pen-raised Coveys 78%
- Wild Coveys 29%

- Wild birds behaved differently than pen raised birds
- Wild quail ran from hunters under dense sericea lespedeza
- Wild birds held in shrub cover; allowing hunters to pass
- Hunters were more likely to find coveys earlier in the year before birds were pressured

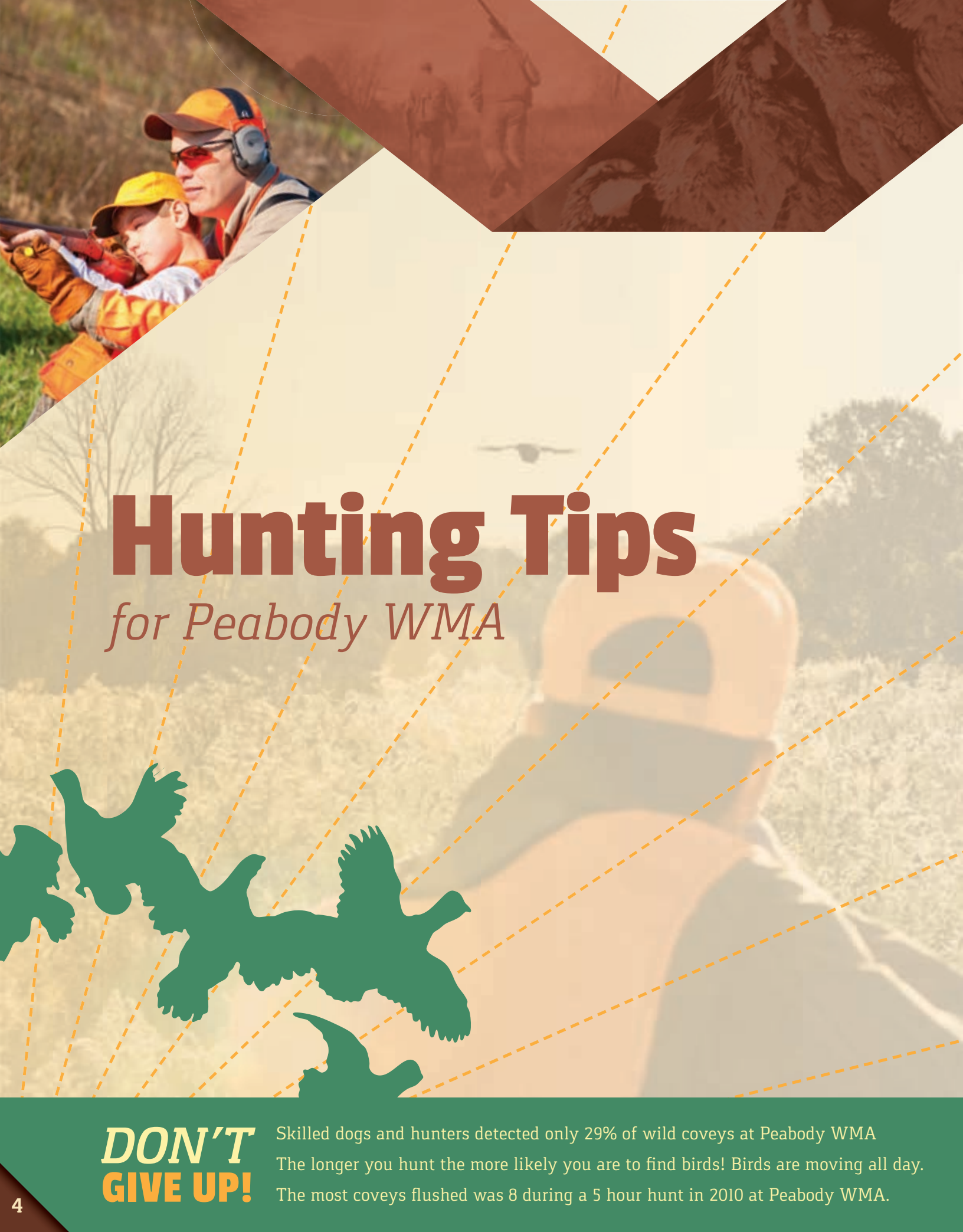
## 497 WINTER CROP ANALYSIS

HARVESTED BIRDS  
CROPS ANALYZED



CROP

Seeds of **sericea lespedeza** and common **ragweed** most common. **Sericea lespedeza** is **detrimental** to quail due to its hard, indigestible seed, but is most abundant at Peabody WMA



# Hunting Tips

*for Peabody WMA*

***DON'T  
GIVE UP!***

Skilled dogs and hunters detected only 29% of wild coveys at Peabody WMA. The longer you hunt the more likely you are to find birds! Birds are moving all day. The most coveys flushed was 8 during a 5 hour hunt in 2010 at Peabody WMA.

# TIP #1 WHEN DOGS GET BIRDY, SLOW DOWN!

If your dogs get birdy, slow down and hunt the area thoroughly. There is a good chance the birds have moved in response to the dogs. Consider circling and coming through the same birdy area again for a second pass.

## WORK AROUND SHRUB PATCHES

Quail averaged a distance of 32yds from cover during non-breeding season.

Quail did not use forested areas that lacked thick shrub cover.

## CONSIDER HUNTING ALL DAY

Quail at Peabody were observed moving the most during the morning (7 - 10 AM), however their average hourly movements did not vary greatly throughout the day.

## HUNT DISK BLOCKS NOT FIREBREAKS

Quail used firebreaks in breeding season, but used disk blocks year round.

Focus hunting where shrub cover and disk blocks meet.

## DON'T GET SUCKED INTO THE FOOD PLOTS

Quail visit food plots, however spend very little time in them.

## MORE DOGS AFIELD = GREATER SUCCESS

In general, the more dogs you have hunting the greater chance of detecting birds.

## DON'T GET SPACED OUT TOO FAR APART

Running birds can slip between individual hunters. Keep tighter spacing, particularly when dogs get birdy.

## IF YOU FLUSH LESS THAN 4 BIRDS, MORE ARE LIKELY THERE

Periodically stand still in areas that have birds. Birds will become uneasy and flush.

Deploy this tactic where dogs are birdy.

## HUNT EARLY IN THE SEASON

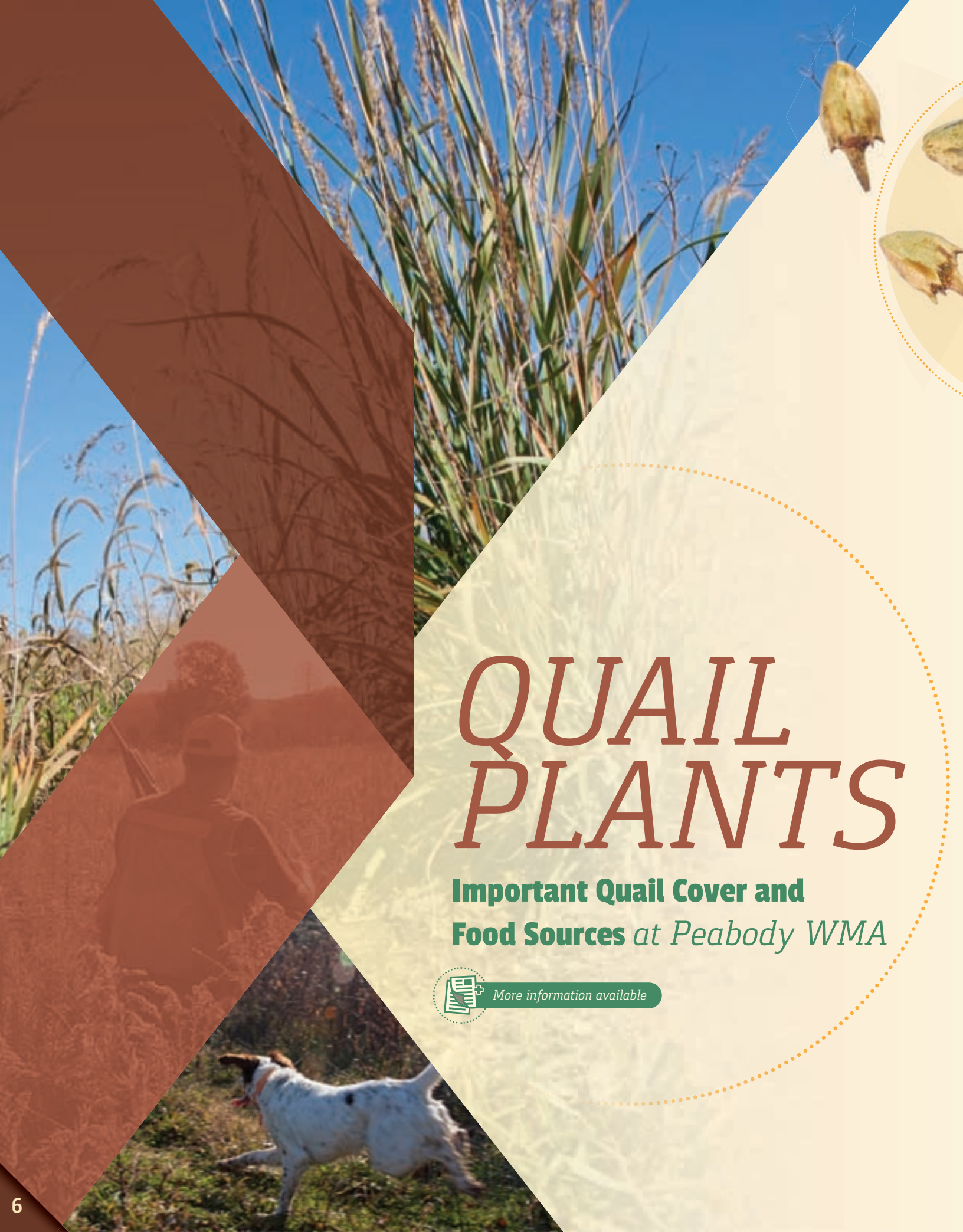
Birds receive tremendous pressure from quail and rabbit hunters. While hunters were successful all the way through February, hunters in November tend to be more successful.

## LEAVE SINGLES FOR TOMORROW

Finding the singles after a covey flush has proven to be very difficult. Consider limiting the pursuit of singles to maximize hunting success.

## HUNT THOROUGHLY, DO NOT RUSH THROUGH COVER

With expansive hunting opportunity, avoid the urge to get to the next "good spot".



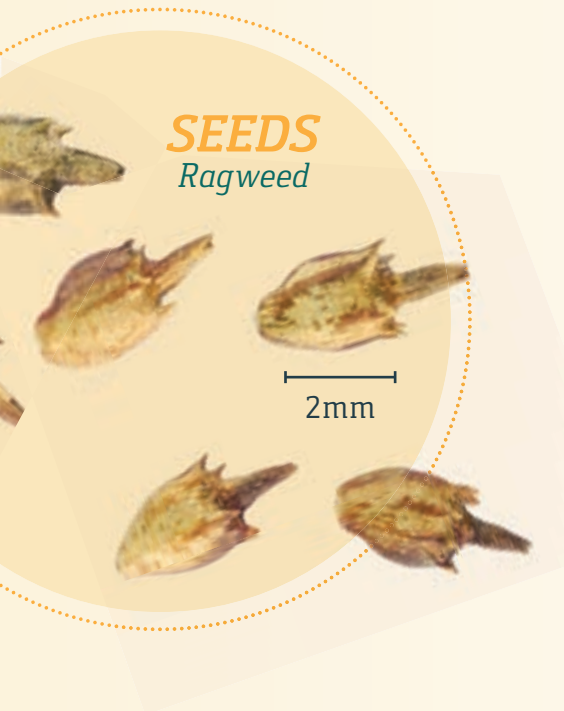
# QUAIL PLANTS

**Important Quail Cover and  
Food Sources** *at Peabody WMA*



[More information available](#)





**SEEDS**  
Ragweed

2mm

# Common ragweed

Annual common ragweeds are very important to quail at Peabody WMA for two reasons. 1) They provide high-quality forage for quail and 2) they provide brood rearing cover and general cover for adults in the spring and summer.



**DORMANT** | Ragweed



**GROWING** | Ragweed



This is a nonnative, **INVASIVE** species! We do **NOT** recommend planting this plant for quail habitat!

**DORMANT** | *Sericea*

## Sericea

*Sericea lespedeza* is by far the most common herbaceous plant at Peabody WMA. This plant is a nonnative invasive and has little food value for quail. As quail are dietary generalist, the presence in the crops of so many birds is a result of its high abundance across the WMA.

### SEEDS

*Sericea*



1mm



FOOD

COVER

**GROWING** | *Sericea*



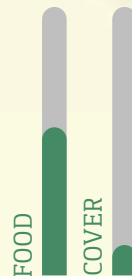
**GROWING** | Maximilian Sunflower



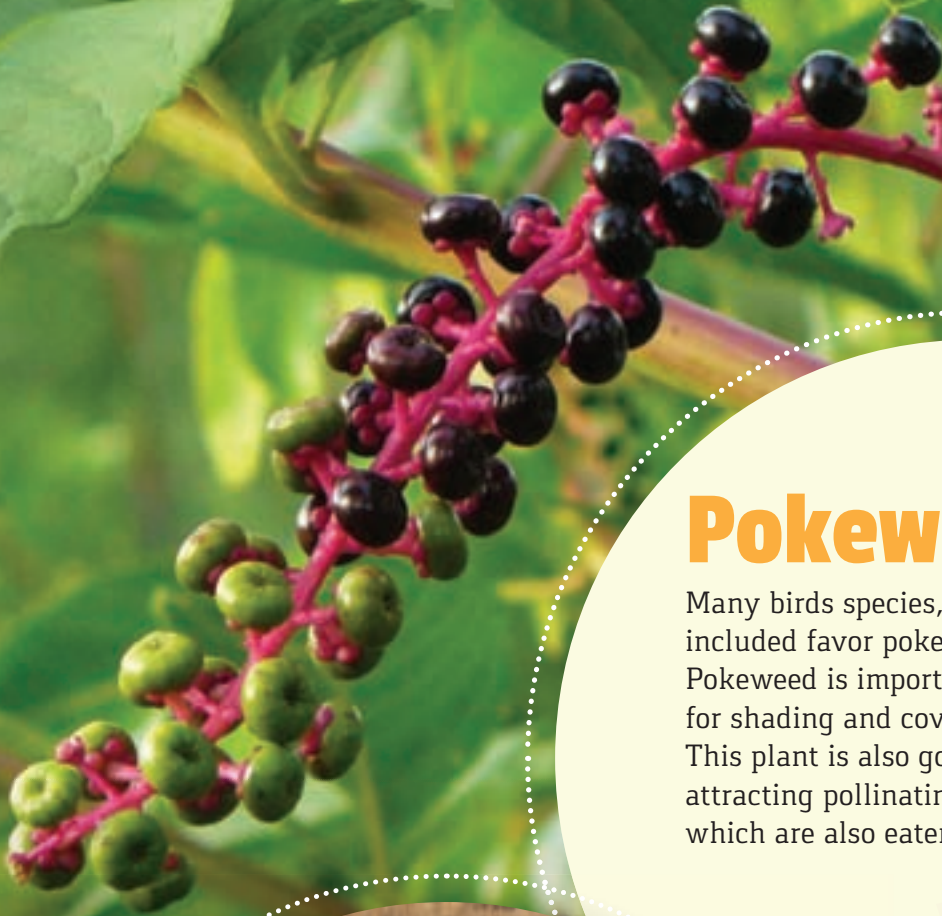
**SEEDS**  
Maximilian  
Sunflower

# Maximilian Sunflower

Maximilian sunflower provides quail with an excellent food source during the fall and winter months and good winter cover. Sunflowers also provide good overhead cover and support insect communities eaten by quail, especially quail chicks.

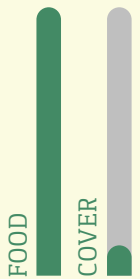


**GROWING** | Pokeweed



## Pokeweed

Many birds species, quail included favor pokeweed berries. Pokeweed is important to quail for shading and cover as well. This plant is also good for attracting pollinating insects, which are also eaten by quail.



### SEEDS *Pokeweed*



**DORMANT** | Pokeweed

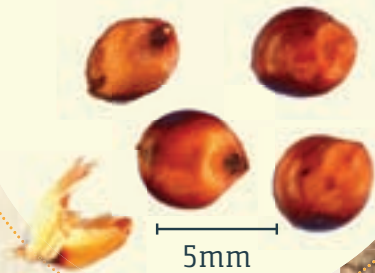
# Grain sorghum

Sorghum, also called milo, is very high in nutritional value for quail. It is planted in food plots at Peabody WMA. Sorghum also provides some escape cover in the summer and fall for quail.



## SEEDS

Grain sorghum

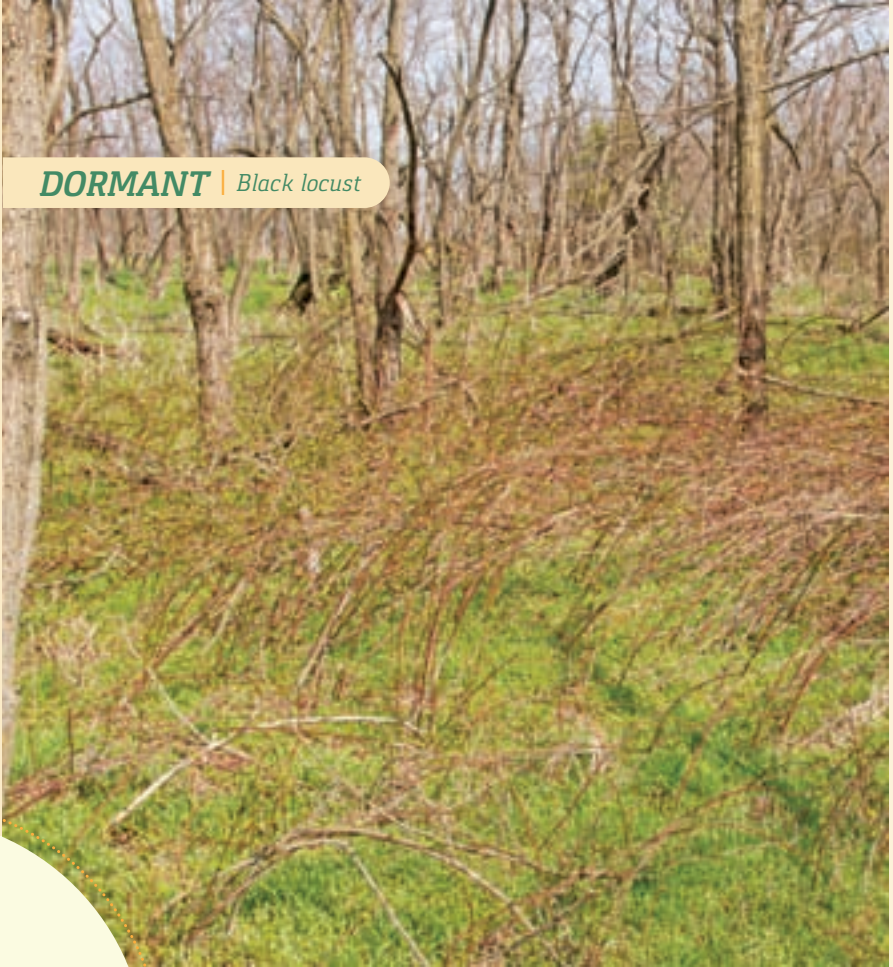


**DORMANT** | *Black locust*

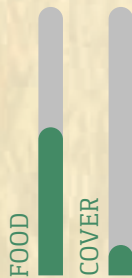
# Black locust

Black locust is widely distributed on Peabody WMA, its seed is readily eaten by quail and mourning doves alike.

**SEEDS**  
*Black locust*



**GROWING** | *Black locust*





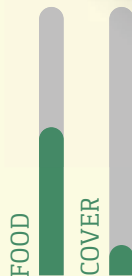
**SEEDS**  
Sumac



**GROWING** | Sumac

## Sumac

Sumac (various species) are important to quail at Peabody because it is eaten year round and can be very critical in the winter months when most other food items are under snow or not growing. Sumac thickets can also provide cover for quail.



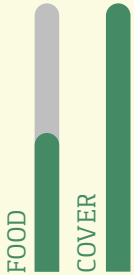


**This is a nonnative, INVASIVE species!** We do ***NOT*** recommend planting this plant for quail habitat!

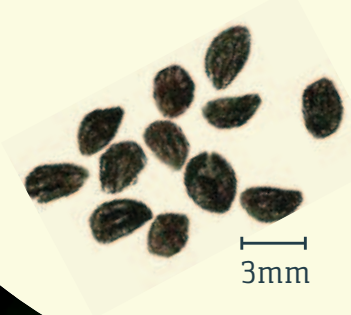
**GROWING** | *Japanese honeysuckle*



## Japanese honeysuckle



Japanese honeysuckle is widespread across the WMA. The fruits of Japanese honeysuckle have marginal nutritional value for quail, however they are an important emergency food. The tangled vines of this nonnative invasive can also serve as winter/escape cover for quail.



**SEEDS**  
*Japanese honeysuckle*

3mm

**DORMANT** | *Japanese honeysuckle*





**GROWING** | Foxtail millet

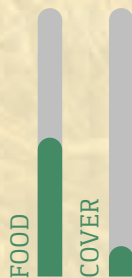


# Foxtail millet

Millet is very high in nutritional value for quail. It is planted in food plots at Peabody WMA. Millet also provides some escape cover in the summer and fall for quail.



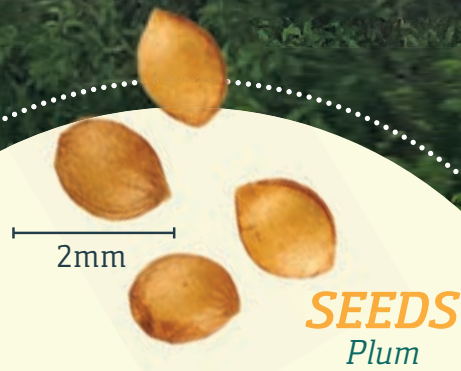
**DORMANT** | Foxtail millet



**GROWING** | Plum

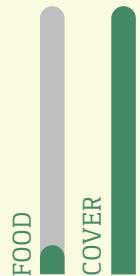


**DORMANT** | Plum



## Plum

Quail at Peabody WMA eat plum seeds readily, however its most important role is that of cover. Quail use plum as a thermal refuge in the summer and as covey headquarters in the winter months.





# Research

*for Peabody WMA*



# Management at Peabody

- ▶ Management began in 2009 targeting the Ken and Sinclair units at Peabody
- ▶ The team at Peabody has managed almost 4,000 acres for quail habitat
- ▶ Management techniques consist mostly of disking and woody cover enhancement



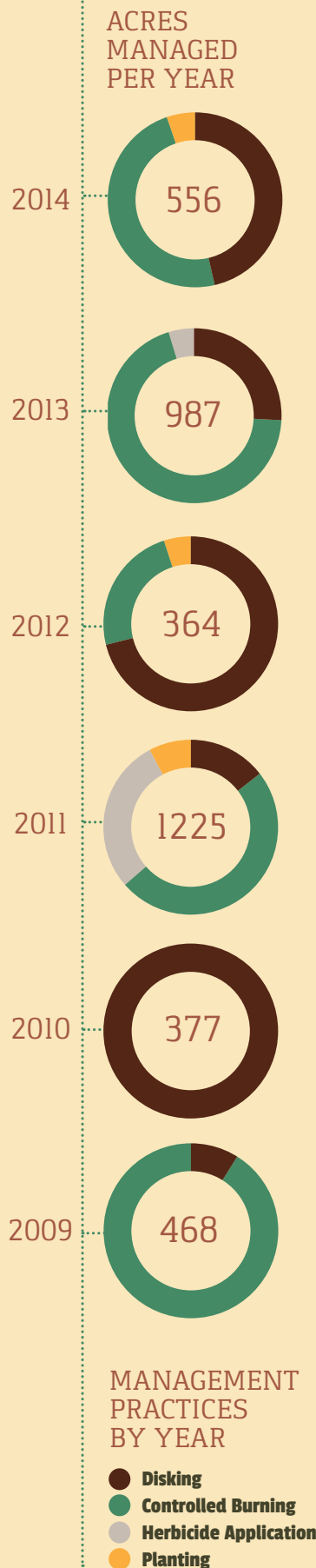
## LESSONS LEARNED

### Management techniques pre-research:

1. Strip disking in open herbaceous vegetation types
2. Using triclopyr for sericea control
3. Using prescribed fire in open herbaceous vegetation types
4. Emphasis on burning and disking

### Management techniques post-research:

1. Block disking near shrub cover
2. Using metsulfuron methyl for sericea control
3. Using prescribed fire only prior to herbicide/disking and in forested areas
4. Emphasis on disking and herbicide
5. Creating shrub cover
6. Winter wheat firebreaks important for adults and broods in summer. Best to widen and alternate planting every other year.





# Research Highlights

## Captures 2009-2014

- ▶ Total birds captured: 2,015
- ▶ Number of birds fitted with radio-collars: 1,537

## Survival 2009-2014

- ▶ Non-breeding season (1 Oct. - 31 Mar.): 28%
- ▶ Breeding season (1 April - 30 Sep.): 15%

## Habitat use

- ▶ Telemetry Locations: 34,970
- ▶ Largest percentage of locations were in open herbaceous vegetation
- ▶ Distance to shrub cover averaged 40yds
- ▶ Over 60% of winter locations were less than 25yds from shrub cover



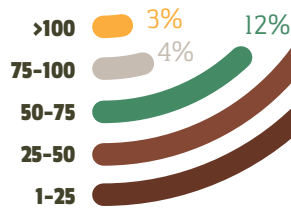
More information available



54%

% OF TOTAL MOVEMENTS

DISTANCE (yds)

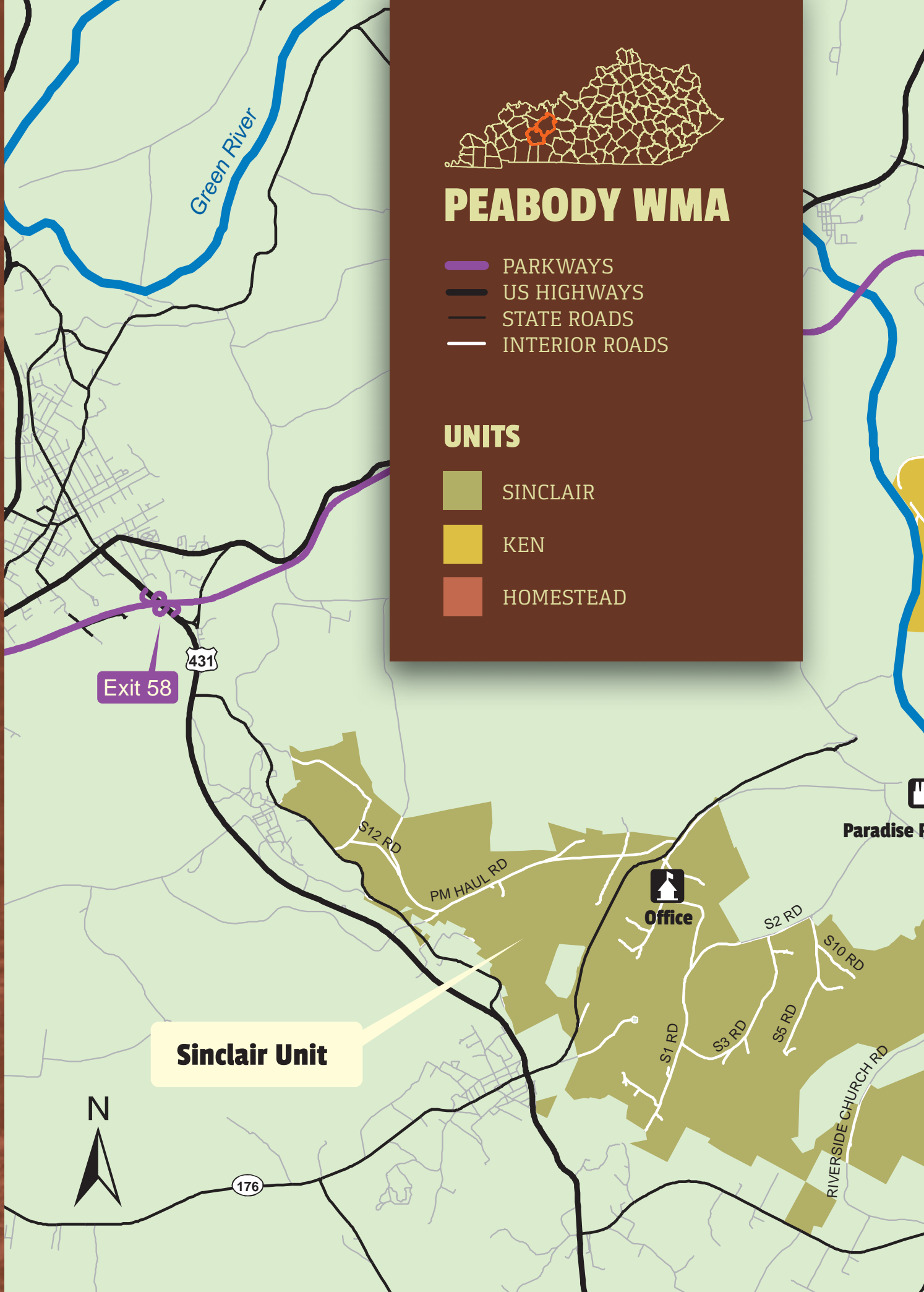


# Movement





These data were collected during the hunting season.

Hourly covey movements were slightly greater in the morning, however quail at Peabody appear to move similar amounts throughout the day.







# PEABODY WMA

-  PARKWAYS
-  US HIGHWAYS
-  STATE ROADS
-  INTERIOR ROADS

## UNITS

-  SINCLAIR
-  KEN
-  HOMESTEAD

Exit 58

431

S12 RD

PM HAUL RD

Office

S2 RD

S10 RD

S1 RD

S3 RD

S5 RD

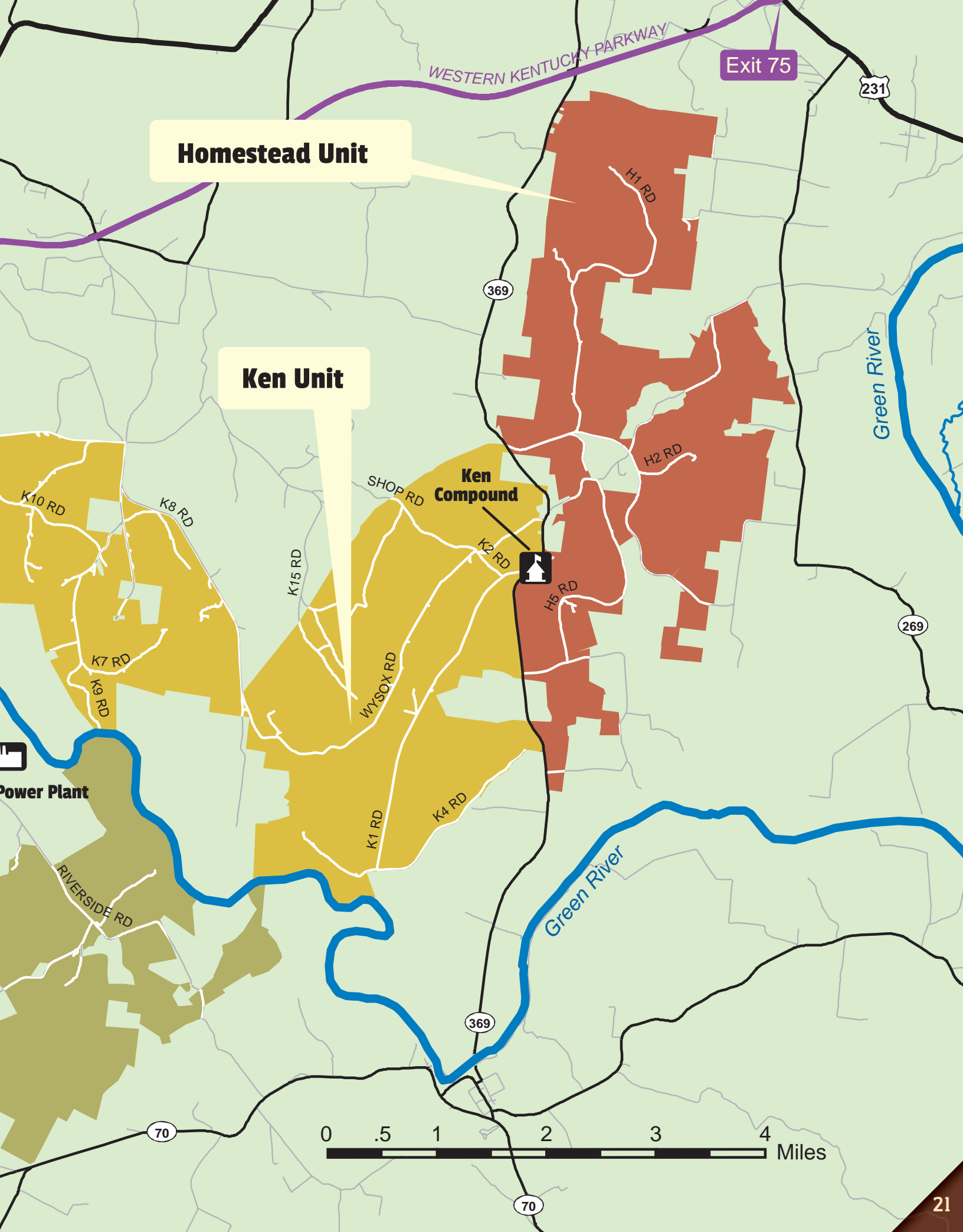
RIVERSIDE CHURCH RD

Sinclair Unit



176

Paradise F



**Homestead Unit**

**Ken Unit**

WESTERN KENTUCKY PARKWAY

Exit 75

231

369

269

Green River

**Ken Compound**

**Power Plant**

Green River

70

369

70

0 .5 1 2 3 4 Miles

# SINCLAIR UNIT

## Current Landcover

- KEN UNIT
- OPEN/OLD FIELD
- FOREST
- SHRUBBY
- NATIVE WARM-SEASON GRASS
- WATER
- PERMANENT FIRE BREAKS
- INTERIOR ROADS
- PARKWAYS
- US HIGHWAYS
- STATE ROADS







**Sign In/Out**

  
**Paradise  
Power Plant**

Green River

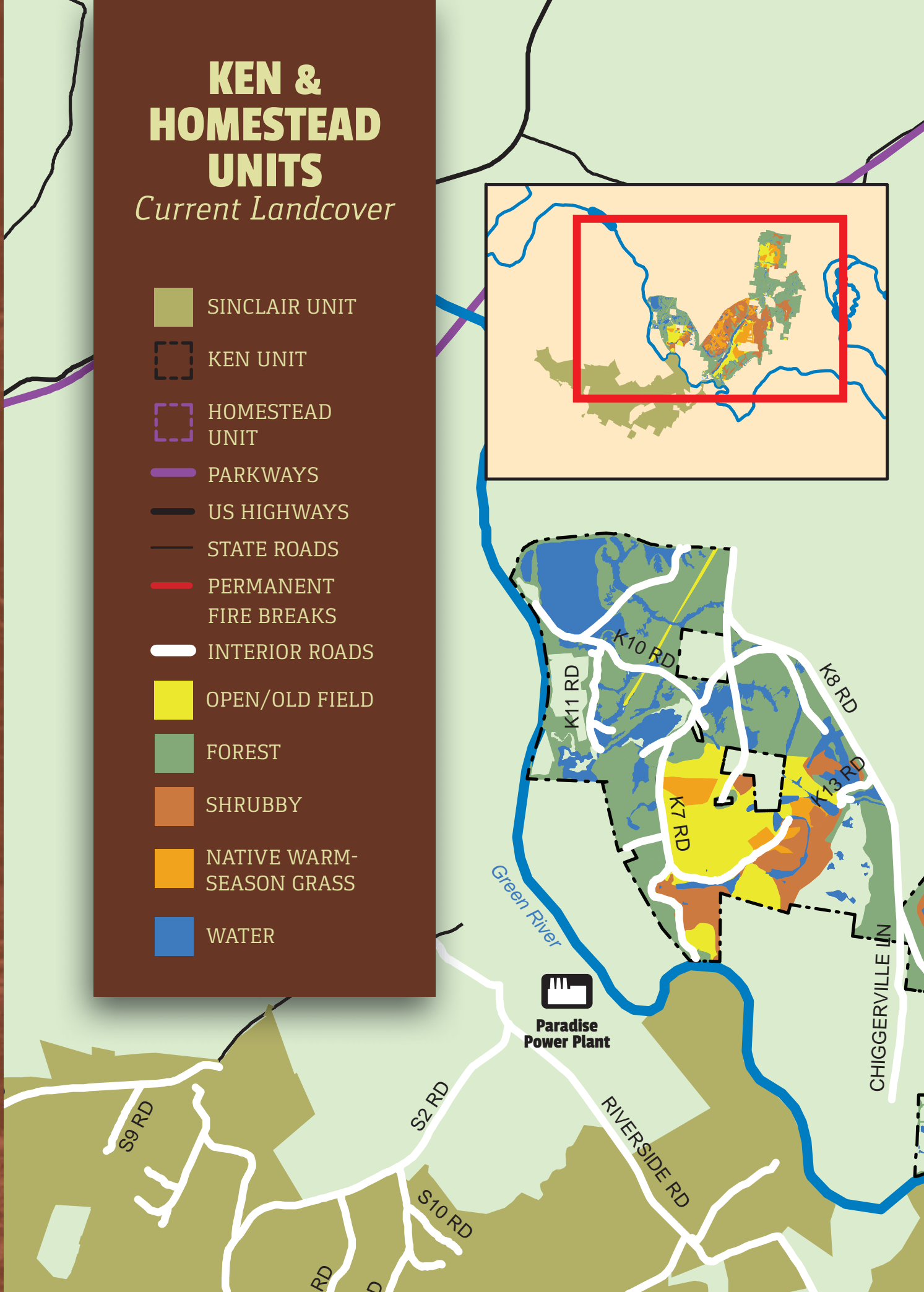
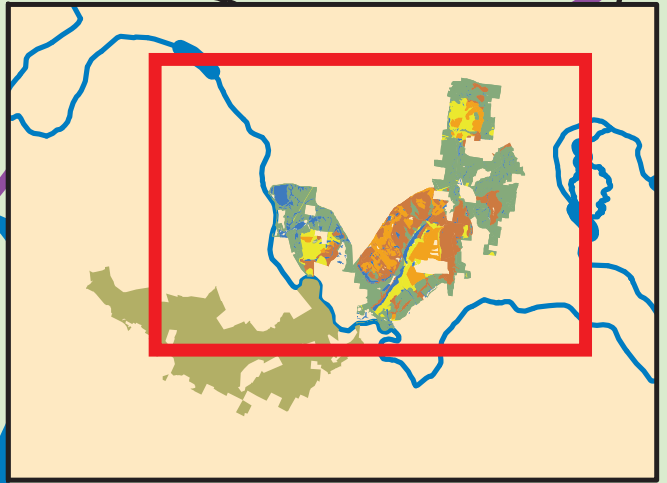
Green River

70

# KEN & HOMESTEAD UNITS

*Current Landcover*

-  SINCLAIR UNIT
-  KEN UNIT
-  HOMESTEAD UNIT
-  PARKWAYS
-  US HIGHWAYS
-  STATE ROADS
-  PERMANENT FIRE BREAKS
-  INTERIOR ROADS
-  OPEN/OLD FIELD
-  FOREST
-  SHRUBBY
-  NATIVE WARM-SEASON GRASS
-  WATER



WESTERN KENTUCKY PARKWAY

231



**Ken Unit**

Green River

369

**Sign In/Out**

H1 RD

H6 RD

SHULTZTOWN RD

269

K15 RD

COVEY LN

SHOP RD

WYSOX RD

H3 LN

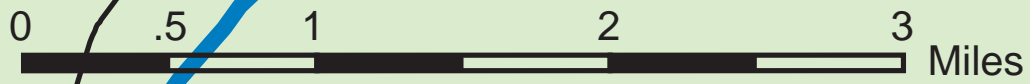
H5 RD



UNION HILL RD

**Homestead Unit**

Green River





Kentucky Department of Fish and Wildlife Resources  
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