THE COVEY HEADQUARTERS

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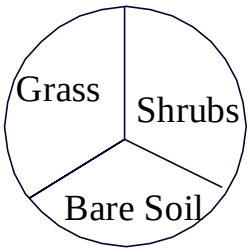
This newsletter is aimed at cooperators and sports-people in Missouri to provide information on restoring quail. This is a joint effort of the Missouri Department of Conservation, USDA-Natural Resources Conservation Service, and University of Missouri Extension. If you would like to be removed from this mailing list or have suggestions for future articles please contact jeff.powelson@mdc.mo.gov or 816-232-6555 x5772 or write to the address shown.



The name of this newsletter is taken from an old concept.....that a quail covey operates from a headquarters (shrubby cover). If the rest of the covey's habitat needs are nearby, a covey should be present. We are encouraging landowners to manage their quail habitat according to this concept. Use **shrubs** as the cornerstone for your quail management efforts. Manage for a **diverse grass, broadleaf weed and legume mixture and provide bare ground** with row crops, food plots or light disking **right next to** the shrubby area.

Tree and Shrub Seedling Planting Tips

Hand Planting Basics

- Plant your trees and shrubs as soon as possible after receiving them.
- Always carry seedlings in a bucket half-full of water or wet packing material such as moss.
- Don't allow seedling roots to dry out.
- Do not store trees with their roots in water.
- Dig holes as deep as the root systems.
- Plant the seedlings at the same depth they grew at the nursery or slightly deeper.
- Make sure the roots are spread out and are not bent or crowded.
- Pack the soil firmly around the roots to close air pockets.

During Planting

- Avoid planting when the ground is frozen or extremely dry, or when excessively wet and sticky.
- Plant seedlings into a properly prepared site.
- Never leave open bundles of seedlings exposed to the sun and wind. During planting, take only a few bundles at a time. Cover the others, keep them out of the sun and keep cool and moist.
- Remove only one seedling at a time from the bucket and plant immediately.
- Check spacing periodically to ensure proper number of seedlings per acre.
- To check firmness of soil packing, grasp the top of the seedling and pull gently upward; if the tree or shrub pulls out of the ground easily, it was not firmly packed.

Care After Planting

- After establishment, it is necessary to take several precautions to protect your investment of time, money and effort.
- Besides killing trees and shrubs outright, fires can leave scars and invite decay. Plow or disk a fire break around your newly planted trees and shrubs and maintain it during fire season.
- Livestock grazing probably destroys more trees in Missouri than fire. Livestock will eat young seedlings and trample the protective soil and leaf cover, encouraging soil erosion. Fence livestock from your woods and tree and shrub plantings.
- Prevent growth of weeds and grasses around new trees by cultivating, using herbicides, disking or hoeing as often as necessary during the first three to five years. Weed competition inhibits tree growth.

These shrubs were planted on the same day. The shrubs on the left were planted into a prepared site with good follow-up management. Shrubs on the right were planted into thick grass and no follow-up management. Proper site preparation and after planting care are necessary for a successful planting.

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Nesting Cover

Research from South Texas reported that bobwhite nest productivity peaked at a grass density of only 400 clumps per acre. Put another way, this amounts to just one clump per 100 square feet or a single grass clump in a square 10 feet per side! The rest is bare ground, brushy cover, and lots of wildflowers

and legumes. Some of you may be thinking, “That’s Texas. It doesn’t apply to my area.” But remember, quail habitat structure is what’s important.

Similar evidence was indicated in Missouri when radio transmitters were placed on quail to see how they used available habitat on two conservation areas actively managed for quail. Weedy fields with scattered grass clumps were found to be quite attractive to nesting bobwhites. In the Midwest, most fields considered to have good nesting cover have way too much grass and not nearly enough weeds and bare ground. If you have some fields of warm-season grass but the birds aren’t responding like you expected, then perhaps most of the field is too thick and not available as good nesting cover.

The picture below shows a CRP field that was burned a year prior to the picture being taken. Notice the spacing of the clumps of grass with plenty of bare ground between. Are the grassland fields that you consider good quail nesting cover this sparse? Most grassland fields in Missouri are too thick and need management to create ideal nesting cover for quail.

Did You Know???

For those of you interested in pheasants, visit the National Wild Pheasant Conservation Plan website. There is a link, http://nationalpheasantplan.org/key-literature/ that provides citations and abstracts for key pheasant literature. The site contains about 325 pheasant-related citations and abstracts.

Establishing Food Plots

Before we get into the details of creating food plots, remember, food is seldom the limiting habitat component for quail in Missouri. In particular, food plots should not be placed in natural communities such as glades, savannas, or prairies. If your farm has diverse grasses, bare ground and good shrubby cover, consider adding food plots to the mix. Food plots can provide important food and cover plants, resulting in an increased abundance and diversity of foods available to quail and a wide range of other wildlife species.

Food plots come in two main types: grain plots and green-browse plots. For quail, grain plots provide the best benefit so we will provide information on them. Grain plots provide seed, brooding areas, and bare ground habitat. You can either establish a grain plot or leave unharvested grain strips adjacent to shrubby cover and diverse grasses along the edge of crop fields.

For grain food plots, plant early enough for the crop to produce mature seed. Planting grain mixtures rather than monoculture crops will enhance benefits to a wider range of wildlife species. In general, grain plots or unharvested grain crop strips should be a minimum of ¼ acre in size, at least 30 feet wide and preferably located next to or within 70 feet of good shrubby escape cover and diverse grasses. Plots adjacent to woodland edges may need to be wider than 30 feet to receive enough sun and rain to be productive.

Unharvested grain adjacent to a native warm-season grass field border.

Create long, linear plots or strips to divide large fields, or make block plantings where strips are not desired. To limit soil loss, planting on the contour is recommended.

When possible, use no-till planting methods. The residue left by practicing no-till planting methods will harbor insects beneficial to quail.

Food plots should be adequately fertilized and protected from livestock grazing. In most cases, weed control should be limited, as the natural foods provided by annual weedy plants are important to many wildlife species.

In general, one plot per 40 acres is a minimum. Because wildlife often exhaust seeds produced on small plots by early winter, consider increasing the plot size to 1-2 acres to provide long term benefits. To maximize diversity, establish a rotation where you leave half of the grain plots fallow each year. This allows native food plants (annual broadleaves and grasses) to establish. Replant this fallow area the next year and leave the other half of the grain plot fallow. Including a legume, such as alfalfa or annual lespedeza, in the rotation every 3-5 years will help to build and maintain soil fertility.

Grain sorghum (milo) seeds are rich in energy, persistent on the plant, and usually available to quail when other seeds are covered by snow or ice. If only one grain is to be planted, grain sorghum will give the best results. Plant grain sorghum at the rate of 4 pounds per ¼ acre plot (or 8 pounds per ½ acre and 16 pounds per acre).

Additional grain mixtures -

Mix 1
Grain sorghum – 8 lbs./acre
Soybeans – 12 lbs./acre

Mix 2
Grain sorghum – 8 lbs./acre
Soybeans – 8 lbs./acre
German millet – 2 lbs./acre

Mix 3
Grain sorghum – 12 lbs./acre
Sunflowers – 8 lbs./acre

Remember it is important to leave one-half of the food plot idle each year to provide annual weedy plants for young quail. Planting food plots is a fun and enjoyable activity, just make sure you have the other quail habitat in place before focusing on food plots.

For additional information see the food plot job sheet located here –

https://efotg.sc.egov.usda.gov/references/public/MO/JS-MO645Food_Plots_10_31_17.pdf

Does the weather really have that much of an impact on quail?

If you think we get more rain than we used to, you're right. Long-term weather data show that Missouri and much of the Midwest have experienced an unprecedented wet period since the early 1980's. These records also indicate that significantly more rain has fallen during peak quail nesting and brooding periods in recent years. What does this mean for quail?

Wet nesting seasons can dramatically reduce chick production, as rainwater pooling in the bottom of a nest cools the eggs from below and kills the chicks developing inside. In addition, young chicks cannot regulate their body temperature for a couple weeks after hatching, so they must stay dry to survive. If a hen manages to keep the rain off her brood during a downpour, water pooled on the soil surface may still kill them.

Beyond direct mortality, increased precipitation makes habitat management more challenging. Woody plants are favored by high rainfall, and even beneficial native grasses can quickly become too thick and rank to be useful to quail. The time interval between management treatments – such as burning, disking or grazing – needed to maintain good brooding habitat becomes shorter with increased rainfall, requiring more effort just to keep up with plant succession.

When habitat is poor, weather impacts are magnified. Quail surveys show that, despite the weather, quail numbers remain higher on areas with ample habitat, so management is especially important during periods of unfavorable weather.

Although we can't control the weather, we can adapt our efforts to fit increasingly we conditions. The best approach may be to focus on maintaining good brood cover – weedy areas with sparse grass and ample bare ground. Consider grazing, disking, spraying or modifying the timing of prescribed burns to setback thick grasses and favor broadleaved plants. Two or more such treatments in consecutive years may be necessary to get ahead of the impacts of too much rain. Maintaining idle areas, instead of planting grasses on areas where erosion is not a concern may also help.

Spring Covey Headquarter Calendar

April

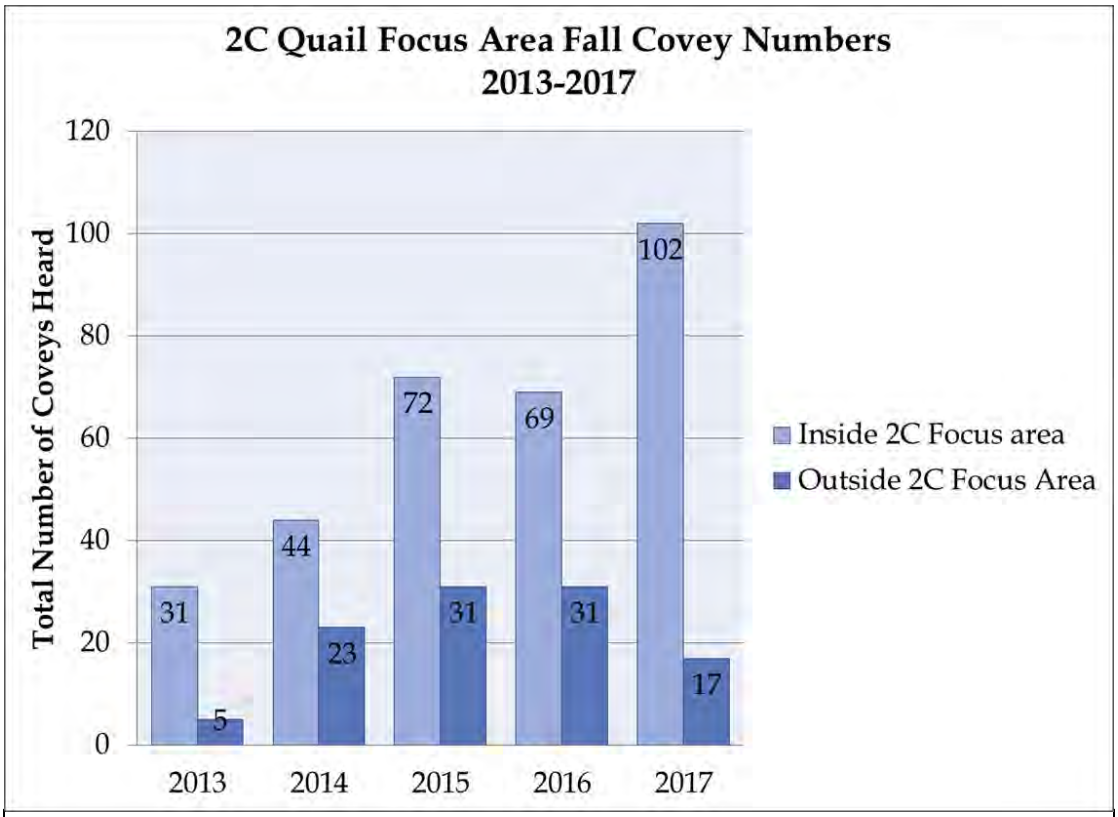
Do not burn native warm-season grass now unless utilizing for forage or trying to eliminate fescue or brome. Fall and early winter burning are preferred for quail.
Plant shrub seedlings early for best survival.
Burn fescue and brome to severely stunt grass, then strip disk and interseed legumes.
Till and fertilize food plots.
Youth turkey season – April 7 and 8.

May

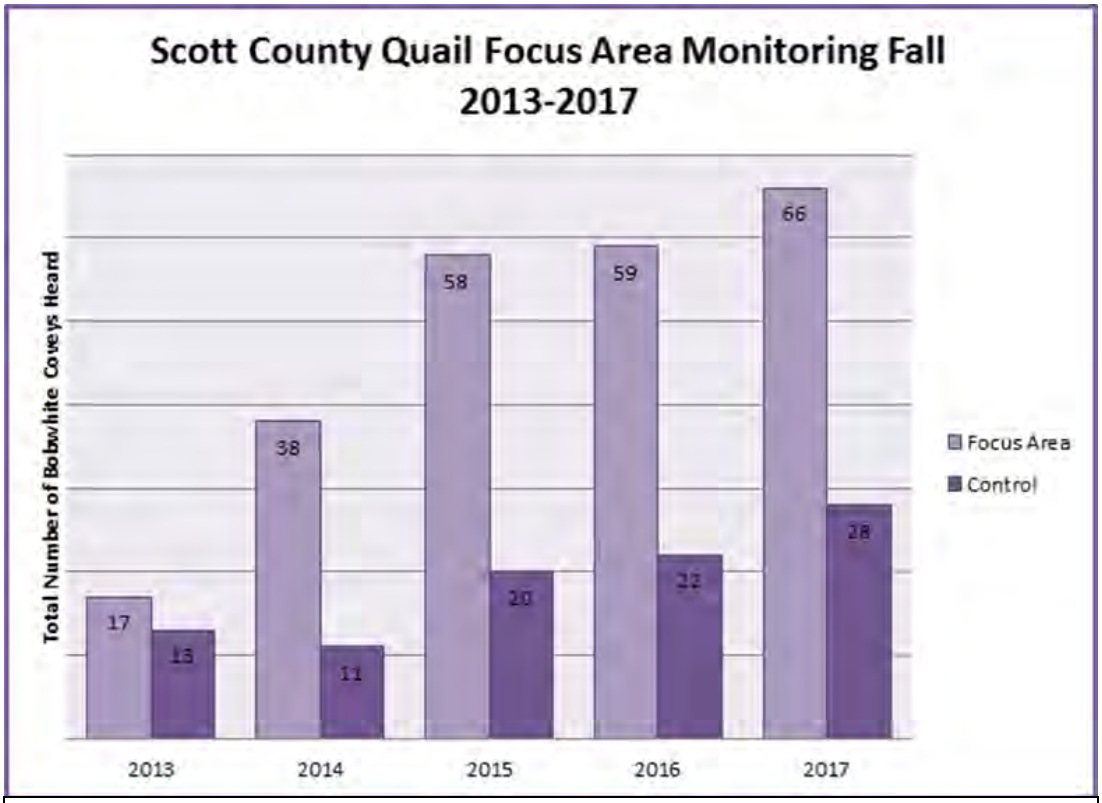
Listen for quail whistle calls on clear calm mornings.
Nesting season begins for quail and other grassland birds – keep your mower in the barn.
Plant food plots this month for best results.
Conduct breeding bird counts.

Quail Focus Area Fall Covey Numbers

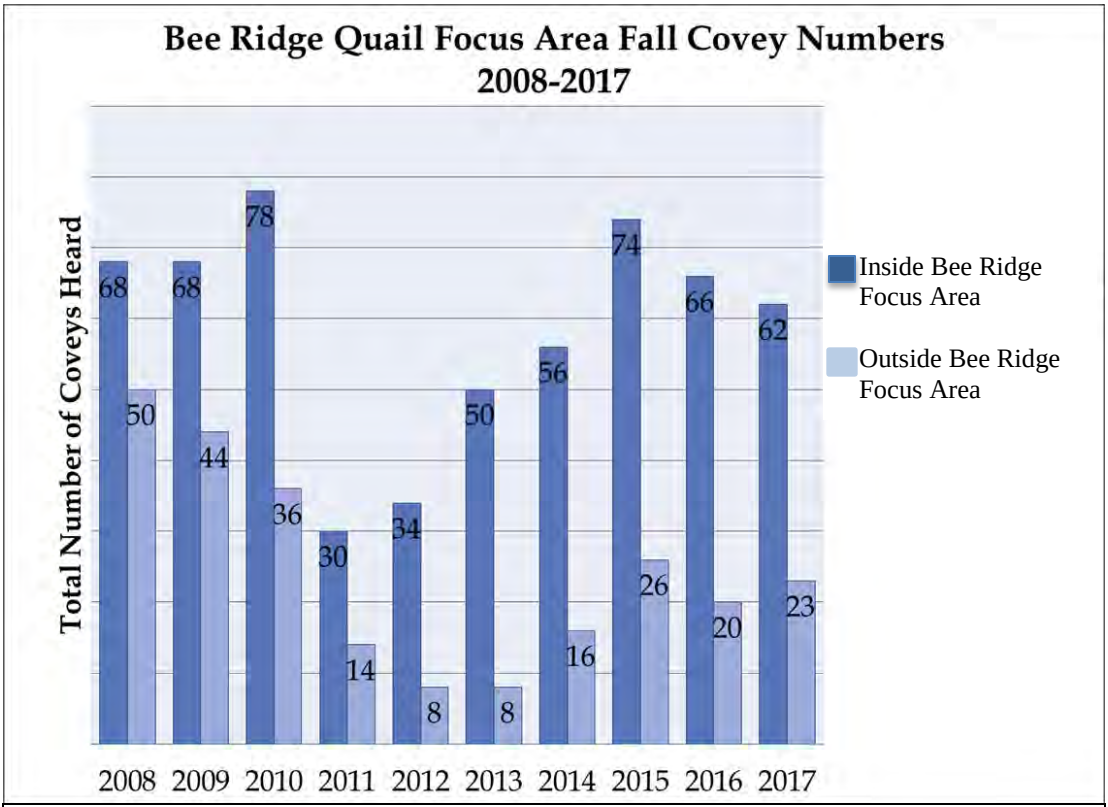
Quail populations in many of Missouri's Quail Focus Areas are benefiting from quail-friendly habitat practices. Interested landowners in focus areas work to create nesting, brood-rearing, and winter escape cover for quail. Monitoring has been conducted in the fall in Carroll, Knox, and Scott county Quail Focus Areas. In every instance, quail covey numbers are higher in areas where habitat work is being done than on nearby unmanaged properties.



Total number of coveys heard per point inside and outside the 2C Quail Focus Area from 2013-2017.

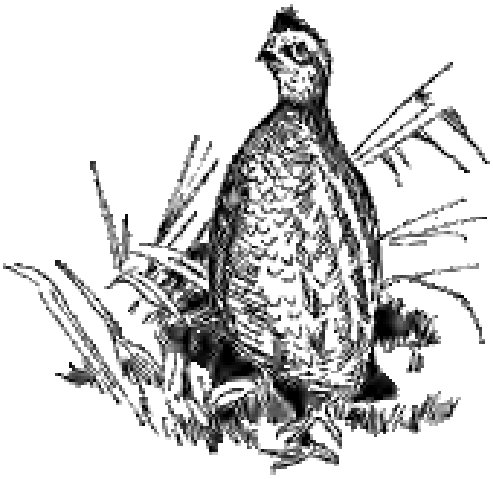


Total number of coveys heard per point inside and outside the Scott County Quail Focus Area from 2013-2017.



Total number of coveys heard per point inside and outside the Bee Ridge Quail Focus Area from 2008-2017.

Conduct breeding bird surveys in June –



To get an index of quail that survived the winter and are available for breeding, listen for whistling bobwhite males for 1-2 hours after sunrise during the month of June. Nesting by females is normally at its peak in June, so males are actively calling. Establish permanent listening stations throughout your farm. Establish the stations along ridges or in areas where you can hear a good distance. Whistling quail can be heard about 500 yards away, so listening stations should be spaced 1000 yards apart, or be separated by major chunks of woods or hills. Listen at each station for 3 minutes. Count and record the number of *individuals* you hear in that time span at each station. Be careful not to count the same individuals twice. If you listen every year within the same time frame, you can track how well your birds are surviving winter in relation to your quail management efforts. Along with quail, be sure to listen for Henslow's sparrow, grasshopper sparrow, field sparrow, dickcissel, bobolink, pheasant, and meadowlark as these species respond positively to quail management. Visit the following website to hear audio call examples of several bird species - www.mbr-pwrc.usgs.gov/bbs/ident.html

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