

Fire, heavy disking, other management maintain bobwhite habitat in Tennessee

Early successional habitat, the plant communities often found in fields and forest openings, require disking, burning, or some other form of management to keep the grass and forb plant community from becoming a forest plant community.

“The quality of early successional habitat is determined by the types of plants that are present and the structure of the vegetation at the ground level,” says Dr. Craig Harper, associate professor and Extension wildlife specialist at the University of Tennessee (UT).

“Many species, including quail, thrive in early successional habitats made up of a diverse mixture of native grasses for nesting substrate, forbs to provide food, and shrubs for escape cover. Such plant communities are open at ground level with a dense canopy of vegetation at about waist high that allows small wildlife to move about easily without being exposed to predators or extreme weather conditions,” he adds.

Harper’s research on management options has led him to a number of conclusions on managing for quail.

- Prescribed burning removes litter, improves ground level vegetation structure, and stimulates desirable plants in the seedbank.
- Disking improves habitat structure and composition by incorporating litter, reducing ground level vegetation density, and stimulating desirable forbs.
- The effects of disking and burning vary greatly based on the timing and frequency of disturbance and the local seedbank.
- Mowing (or bush hogging) is the least desirable practice for managing early successional habitats because it creates dense thatch at the ground level, reduces

cover, and is not effective in controlling tree saplings.

- Herbicides are particularly useful for controlling undesirable plants in early successional habitats.

Harper has a number of recommendations for landowners wanting to see more quail on their land.

- Burning during spring (March) on a shorter rotation (2–3 years) in larger blocks (50–100 acres) will promote a greater density of warm-season grasses ideal for grassland song birds.
- Burning in September or spraying herbicides may be necessary in some years to control woody succession. Disking areas during the fall/winter (October–February) on a 3-year rotation will create better brood-rearing and feeding cover for bobwhites.
- Breaking fields into smaller management units (5–10 acres) will create a more diverse array of cover types for a greater variety of species. Desirable shrubs provide important cover and should be protected.

It is critical that landowners think beyond their property boundaries and partner with neighbors to conserve, sustain, and increase populations of early successional wildlife, Harper concludes.

The results add to the science available on bobwhites, says Dr. Wes Burger of Mississippi State University (MSU), who coordinated 11 studies across the quail range, and Ed Hackett, a biologist with the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Agricultural Wildlife Conservation Center (AWCC), which funded the study.

The AWCC, located in Madison, Mississippi, is a fish and wildlife technology development center.



Photo by Craig Harper, UT

Early successional habitat

Summary of:

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For more information, see:

USDA/NRCS Bobwhite Restoration Project online at <http://www.cfr.msstate.edu/nbci>

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