

Woody cover and deferred grazing make habitat for quail in Texas High Plains

In the High Plains of Texas, percent woody cover and visual obstruction to a height of about two and a half feet are critical predictors of bobwhite quail abundance, a study by Texas Tech University shows.

Researchers examined practices used in the U.S. Department of Agriculture's (USDA) Environmental Quality Incentives Program (EQIP) for their usefulness to quail on eight study sites in Bailey, Cochran, Hockley, and Yoakum Counties in Texas. Five sites were treated with brush management, three with prescribed grazing.

"We estimated quail abundance on each study site and an adjacent control site using call counts from 2005 to 2007," says Dr. Brad Dabbert, Associate Professor in the Department of Natural Resources Management at Texas Tech. "We also went out on those areas and looked at habitat features including percent woody cover, percent forbs, percent grasses, and percent bare ground. And we examined visual obstruction, which is how well the habitat obstructs the view of quail predators."

What they found surprised Dabbert. "Generally, if you look at the scientific quail and brush management literature, most of it indicates quail need from 5 to 20 percent woody cover in the environment. So we thought on a lot of these sites we might have too much woody cover. What we ended up finding was that woody cover was the number one important variable for the presence and abundance of quail," Dabbert said. "If you got below about 10 percent woody cover, populations pretty much didn't exist. But the site with about 40 percent woody cover had the highest quail populations of any of the sites we examined."

The second most important factor was visual obstruction, whether it was grassy and weedy cover or woody

cover. "You needed visual obstruction, approaching 3 feet off the ground. The better a habitat area was able to obscure the vision of predators, the more quail we had on those sites," Dabbert adds.

"EQIP's incentives for prescribed grazing, brush management, and prescribed burning can be a powerful tool for encouraging proper grazing management. And it can help increase the acreage of suitable habitat for northern bobwhite in the High Plains, where rangeland provides the most potential for adding usable habitat," Dabbert says.

"We recommend, when implementing the prescribed grazing practice here, that stocking rates and deferral periods be tailored so that visual obstruction is established and maintained at a height of 16 inches or more to help northern bobwhites."

Brush needs to be controlled, the study indicates, but at least 10 percent brush cover is needed. In contrast to brush management (removal), range planting and prescribed grazing may be more useful tools for providing quail with the necessary mix of woody and grass components, the study 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 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.



NRCS photos by Lynn Betts

Measuring visual obstruction; Dog on point (inset)

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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