

Sculpt brush, graze rangelands in Texas Rolling Plains to benefit bobwhites

Even in the Rolling Plains of northwestern Texas, considered one of the last bastions for viable northern bobwhite populations, quail are declining about 3.5 percent annually.

Brush management, one of the practices offered by U.S. Department of Agriculture (USDA) Farm Bill programs meant to improve grazing lands for both cattle and quail, was evaluated by Texas A&M University from 2005 to 2007.

Researchers evaluated bobwhite response to brush management practices of the USDA Environmental Quality Incentives Program (EQIP) at intervals 2 to 4 years after the practice was implemented. They used paired control-treatment plots in three counties to assess impacts of mesquite and prickly pear cacti control on bobwhite abundance.

Researchers used spring call counts to estimate breeding capital and simulated nests to evaluate impacts on nesting habitat. An array of vegetation measures (nest site availability, forb species richness, etc.) were monitored to assess floristic impacts of brush management as it relates to quail habitat.

“Our results showed that 3 to 5 years after treatment, brush management tended to increase call-counts,” says Dr. Dale Rollins with Texas A&M University in San Angelo, Texas. “On sites where we monitored more than 12 paired plots, brush management increased call counts by an average of 29 percent over control sites. Bobwhite abundance tended to become progressively greater on treated areas over the 3 years of our study.”

Treatments positively affected breeding capital, but it remains to be seen whether the increase in breeding capital parlays into greater quail densities during the fall hunting season.

Brush control has been a common practice in the Rolling Plains, with mesquite, juniper, and prickly pear being the species most commonly targeted for control.

While large-scale control of mesquite, juniper, and prickly pear is detrimental to quail, strategic brush control, or sculpting, can have significant benefits.

“Ideally, we’d like to know how much brush on a 200-acre basis is optimal for quail. I would say that’s anywhere from 10 percent canopy cover on the low end to 25 to 30 percent on the high end,” Rollins says.

Quail can spend most of the day in a good loafing cover, a bush or brush of some kind Rollins calls a quail house. “I have two rules of thumb as I talk to a landowner,” Rollins says. “One that a quail hunter can appreciate is that you ought to be able to see your bird dogs most of the time. The other is you ought to be able to throw a softball in the air from one quail house to another. So that gives you an idea of what a sculpted landscape should look like for optimal quail habitat.”

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 photo by Lynn Betts

NRCS District Conservationist providing technical assistance

Summary of:

One in a series of summaries from the NRCS Bobwhite Restoration Project, Agricultural Wildlife Conservation Center Project # 68-7482-3-121

For more information, see:

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

Ed Hackett
NRCS AWCC
Phone: (601) 607-3131
E-mail: ed.hackett@ms.usda.gov
Web site: <http://www.whmi.nrcs.usda.gov>

For more information on this summary, contact:

Dr. Wes Burger
MSU
Phone: (662) 325-8782
E-mail: wburger@cfr.msstate.edu