

Reversing the Trend,

MSU Professor Works to Restore Bobwhite Quail



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By Karen Brasher

“FEDERAL CONSERVATION PROGRAMS ARE TOOLS THAT WE CAN USE TO CREATE, IN AGRICULTURAL SYSTEMS, HABITATS THAT BIRDS ARE DEPENDENT ON.”

WES BURGER

The whistle of the bobwhite quail—“bob-bob-white, bob-bob-white”—evokes fond memories of growing up in the South. Each spring the whistle can be heard throughout the countryside as male bobwhites use it to attract females. It’s a sound, however, that’s heard less and less often.

Bobwhite, along with certain sparrows, meadow larks, and other grassland birds, are declining in numbers because their habitat is shrinking.

“The reason they are in trouble is because we have converted virtually all of our native grasslands to agricultural use or to nonnative forage grasses,” said Wes Burger, professor and avian biologist in MSU’s Forest and Wildlife Research Center. “Across most of the continental U.S., these birds are in danger, they are in decline.”

Burger has been studying bobwhite quail ecology for 15 years and is considered a national expert on increasing habitat for popular game birds in agricultural landscapes. His research

began in the Missouri prairies and row crops that bobwhite call home.

“Most grasslands and prairie systems have been converted to agricultural production over the past few centuries, leaving just small populations of bobwhite remaining in the little idle corners and the strips of grass on the edge of crop land and pastures,” Burger said.

To address overproduction of commodities and soil erosion, Congress created the Conservation Reserve Program, or CRP, as part of the 1985 Farm Bill. A secondary benefit of the CRP was that it created grasslands that provide habitat for songbirds, including bobwhite. The CRP enables farmers to enter into contracts with the Department of Agriculture to take highly erodible land out of production and receive annual payments for returning the land to permanent vegetative cover and using management practices that lead to wildlife habitat development. “Federal conservation programs are tools that we can use to cre-

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ate, in agricultural systems, habitats that birds are dependent on," Burger said.

Since 1989, the MSU professor has been involved in various research projects that have measured the habitat value of CRP fields for bobwhite quail and grassland birds.

"CRP fields require management, but one of the first things we noticed was that some of the management practices can have a negative effect," Burger said. "For example, landowners were creating habitat and then destroying it by mowing the fields right during the nesting season."

Part of Burger's work is the study of how necessary disturbances, such as disking, prescribed fire and herbicide applications, can be planned to enhance habitat quality. However, management practices must be implemented in a way that will not compromise other objectives of CRP, like reducing soil erosion and improving water quality.

"The Natural Resources Conservation Service, which has the technical responsibility for conservation programs, was concerned about the effect of planned disturbances on soil erosion," Burger said. "With the help of NRCS and state wildlife and fisheries agencies, we conducted a series of studies in Missouri and Mississippi that demonstrated that a planned disturbance had little effect on soil erosion but could substantially enhance wildlife habitat value."

Because of this research and other similar studies, the USDA now cost-shares planned disturbances on CRP sites with landowners.

An additional benefit of the evaluation of CRP lands for wildlife habitat has been the identification of practices that can easily be added to a production agriculture system.

"Agricultural producers are the stewards of some of America's most important natural resources and are often interested in enhancing wildlife habitat value if management practices can be implemented without compromising their agricultural production goals," said Ed Hackett, wildlife biologist for the NRCS. "One practice is the use of field borders—a noncrop strip of native vegetation anywhere from 20 to 150 feet around

the outside edges of fields that has soil erosion and water quality benefits, but also provides habitat for bobwhite and grassland birds."

Burger and graduate students under his direction have documented the wildlife and agronomic benefits of field borders. In August of 2004, President Bush announced the availability of a new CRP practice called CP33 "Habitat Buffers for Upland Birds." Burger is coordinating a national monitoring program to evaluate the wildlife benefits of this new practice.

In addition to research aimed at improving practices that increase wildlife habitat on CRP land, Burger and other scientists in the Forest and Wildlife Research Center are involved in the Northern Bobwhite Conservation Initiative. The initiative is a national restoration plan for bobwhite that uses a habitat-oriented approach to restore populations.

"Over the last two years, we have worked with state and federal agencies, as well as nongovernmental agencies, in three different bird conservation regions to identify suitable habitat for quail and grassland birds," said Rick Hamrick, a research associate in the Department of Wildlife and Fisheries. "Through the use of land cover data and bird survey data, we have developed geospatial models that predict habitat quality across broad expanses of landscape."

The MSU team has worked with agencies in the Southeastern Coastal plain, the Mississippi Alluvial valley, and the Central Hardwood region of the Midwest. These three conservation regions are connected and cover approximately a third of the total bobwhite range.

The key to restoring populations, Burger said, is to start with areas that have the likelihood of already supporting bobwhite and then do two things to enhance it: expand those areas and connect them to form large continuous patches of habitat.

"Bobwhite quail are a passion for me and they are an important species recreationally and economically," Burger said. "I am fortunate to have the opportunity to work with the NRCS and state agencies on national initiatives that preserve this important species for future generations."

