

# More songbirds and quail with prescribed fire and strip disking in Arkansas

A comparison of managed and nonmanaged landscapes in Arkansas shows landscapes with managed habitats support more quail and songbirds.

The comparisons by Arkansas State University (ASU) and Arkansas Tech University also show a greater diversity of songbirds in managed landscapes.

“We conducted point counts in 2005 to 2007 at 68 points in Fulton County and 60 points in Searcy County on land set aside by the Arkansas Fish and Game Commission for use as demonstration areas,” says Dr. James Bednarz of the Department of Biological Sciences at ASU. “Half of the points in each area were in managed areas and half were in reference areas. We also established two Breeding Bird Survey (BBS) routes in both counties. The BBS data allowed us to examine landscape-level responses by birds to management. We also radio-tagged quail to determine habitat use in the managed area of Fulton County.”

Dr. Bednarz, Dr. Chris Kellner, Richard Baxter, and Kevin Labrum found significantly higher densities (more than 50% higher) of all songbirds in managed areas (.4 birds/acre) than reference areas (.25 birds/acre) in Fulton County during 2005. Birds classified as early successional species also had significantly higher densities in managed areas in 2005 (.07 birds/acre) than reference areas (.02 birds/acre). In 2006, managed areas again supported significantly higher total birds, 1.7 birds per acre, than reference areas at 1.3 birds per acre. Early-successional species were also more abundant in managed areas (.44 birds/acre) than in reference areas (.07 birds/acre) in Fulton County in 2006, although this last trend was not significant.

In Searcy County, densities of all birds and early successional birds were

not statistically different in managed areas compared to reference areas in both years.

Quail were detected more frequently on the managed area routes compared to the reference area routes each year. Species diversity was also slightly greater on the Fulton and Searcy county managed BBS routes.

“We documented 1,992 radio-tagged quail locations in 2005 and 2006. Our telemetry data suggested that areas with prescribed burns were higher quality habitat than unburned areas,” Baxter says.

The response by quail and other birds was more pronounced in Fulton County than Searcy County, and this may be due to the fact that a greater proportion of the Fulton County focal area has been managed (>20%) compared to the Searcy County focal area (<10%). Prescribed burning and strip disking were the most beneficial practices for quail and songbirds. There was also a noticeable positive response by some songbirds, especially prairie warblers and yellow-breasted chats, to thinning and burning of woodlands.

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.



NRCS photo by Lynn Betts

## Conducting prescribed burn

### 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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