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SURVIVAL AND HABITAT USE OF PEN-RAISED NORTHERN BOBWHITES AT CAMP ROBINSON WILDLIFE DEMONSTRATION AREA, ARKANSAS

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ABSTRACT

Post-release survival of pen-reared northern bobwhite (*Colinus virginianus*) is often extremely low. Although predation is usually assumed to cause low survival rates, very little detailed research has been conducted into cause-specific mortality of pen-reared bobwhites in natural settings. Further, little is known about habitat selection by pen-reared bobwhites, and the relationship between habitat and survival. We report results based on 110 radiomarked bobwhites out of 2500 banded and released at Camp Robinson Wildlife Demonstration Area in Arkansas. Birds were released at 125 sites in coveys of 20 birds per site. Release sites were ranked based on habitat quality. In addition, habitat analyses were conducted over each individual's area of activity. In March 2001, when monitoring of birds ended, 6 birds remained alive. Mortality agents included avian predators (51%, $n = 49$), mammalian predators (36%, $n = 35$) and unknown predators (13%, $n = 12$). Other causes of mortality included radio collars (5%, $n = 5$) and apparent heat stress (3%, $n = 3$). Most mortality occurred within 1 month of release (66%, $n = 73$). Overall mean survival was 36.4 ± 4.3 days. We found no significant difference in length of survival among birds released at good, medium, or poor sites ($P = 0.97$). Regardless of release site, birds were located most often in shrub cover (50%, $n = 388$ locations) while the second most common habitat used was herbaceous cover (29%, $n = 230$ locations). During callback trapping in May 2001, we recaptured 14 bobwhites that were banded and released in August of 2000, and 6 wild birds, suggesting that pen-reared birds actually outnumbered wild birds.

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