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RESPONSE OF NORTHERN BOBWHITE TO LONGLEAF PINE ECOSYSTEM ENHANCEMENT THROUGH THE STATE WILDLIFE GRANT PROGRAM

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ABSTRACT

The State Wildlife Grant (SWG) program provides funding through the U.S. Fish and Wildlife Service to benefit species of greatest conservation need as recognized by State Comprehensive Wildlife Conservation Plans (SCWCPs). The northern bobwhite (*Colinus virginianus*) is an important game bird that shares habitat overlap with many priority species identified within SCWCPs. Specifically, in longleaf pine forests the Federally Threatened gopher tortoise (*Gopherus polyphemus*) is dependent upon similar understory conditions as are bobwhite. As part of a multistate competitive SWG funded to enhance gopher tortoise habitat, we applied selective herbicide treatments and prescribed fire to longleaf pine forests representing approximately 20% of a public Wildlife Management Area in Mississippi. Our objectives were to rapidly restore forest understory indicative of functional longleaf ecosystems, and increase populations of high priority wildlife, including bobwhite. We used line transect sampling and breeding season call counts to respectively document the response of vegetation and bobwhite to treatments. Coverage of woody shrubs was reduced, whereas coverage of herbaceous plants and grasses increased following treatments. Use of occupancy modeling suggested that bobwhite breeding season colonization of treated areas was increased over that of control areas. Our work documents significance of nongame habitat enhancement for an important game species, and demonstrates nontraditional use of funding for bobwhite management.

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Key words: northern bobwhite, *Colinus virginianus*, State Wildlife Grants, longleaf pine, *Pinus palustris*, Gopher tortoise, *Gopherus polyphemus*, occupancy modeling

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