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Article

Resource selection reflects fitness associations for an endangered bird in restored habitat

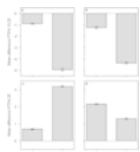
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ABSTRACT

Conservation practitioners frequently have limited information on the structure and function of the ecosystems they wish to preserve, and as a result, they may use shortcuts to guide conservation actions. One such shortcut is the umbrella species approach, whereby conservation actions are geared toward one or a few key species, with the assumption that the entire community will benefit. However, fitness–habitat associations and resource use may vary across space and across management regimes, and so too may the utility of umbrella species as ecosystem surrogates. The federally endangered red-cockaded woodpecker (*Picoides borealis*) has been used as an umbrella species in the restoration of the longleaf pine ecosystem of the southeastern US. Restoration efforts were based on early habitat selection information in largely degraded landscapes. We examined patterns of resource selection of 97 social groups of red-cockaded woodpeckers in a restored landscape in northwest Florida. Similar to previous studies in degraded landscapes, woodpecker groups selected forest stands containing higher densities of large pines and lower densities of small pines for foraging. However, we found no evidence for another aspect of habitat selection widely documented in degraded habitat, the avoidance of areas with substantial components of hardwoods. These results align with new woodpecker fitness–habitat associations within restored landscapes and lend support to previous findings that current ecosystem restoration efforts in the study area, namely prescribed burning, may have reduced hardwood densities to below those at which they have negative impacts. The red-cockaded woodpecker has served as an effective umbrella species in degraded longleaf ecosystems by promoting management, especially prescribed burning, that benefits many other species. Whether it will continue to do so in restored habitat is not yet clear, but its tolerance of a range of hardwood conditions provides reason for optimism.

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