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POPULATION RESPONSE OF THREE QUAIL SPECIES TO HABITAT RESTORATION IN SOUTH TEXAS

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ABSTRACT

Maintaining and increasing usable space is paramount for maintaining and increasing wild quail. Aside from weather and other factors that can temporarily reduce densities, range-wide, no factor has as much influence on quail populations as the amount of habitat present across the landscape. In the field of quail management, "bad news" is the norm, as many articles begin by explaining how a select species has declined. Here we provide good news and use 4 empirical examples of population increases for 3 quail species following creation of usable space and restoration of patch connectivity. From 2008–2014, a suite of independent projects aimed at increasing usable space for quail was initiated across South Texas. These projects included 3 focused on northern bobwhites (*Colinus virginianus*), 1 focused on scaled quail (*Callipepla squamata*), and 1 landowner-executed project focused on Montezuma quail (*Cyrtonyx montezumae*). Through the correction of attributes limiting habitat, bobwhite numbers increased 22–378% across 2 studies. On one particular study site, native grassland restoration resulted in the colonization of bobwhites from adjacent areas to 1 bobwhite/1.2 ha from nearly 0. For scaled quail in South Texas, reducing buffelgrass standing crop via grazing from about 2,240 kg/ha to 1,008 kg/ha resulted in the recolonization of a previously unoccupied habitat patch to a density of 1 scaled quail/6 ha. Finally, clearing monotypic stands of the invasive native plant, ash juniper (*Juniperus ashei*) in the Edwards Plateau of Texas, resulted in the reestablishment of native grasses and forbs and thus recolonization by Montezuma quail from nearby areas. Although habitat restoration and management

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can be a painstaking and lengthy process, addressing limiting factors to quail occupancy is the only known way to increase wild quail populations. We hope that highlighting these particular studies will provide inspiration to those interested in restoring and increasing quail across the US.

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Key words: usable Space, habitat restoration, northern bobwhite, *Colinus virginianus*, scaled quail, *Callipepla squamata*, Montezuma quail, *Cyrtonyx montezumae*, South Texas