Vertebrate Community Response to Wild Pig Control in an Agroecosystem

DJ Steakley, Mississippi State University, Mississippi State, MS

Adrienne Dykstra, Mississippi State University, Mississippi State, MS

Garrett Street, Mississippi State University, Mississippi State, MS

Bronson Strickland, Mississippi State University, Mississippi State,

Kurt VerCauteren, USDA, APHIS, National Wildlife Research Center, Fort Collins, CO

Michael Colvin, Mississippi State University, Mississippi State, MS

Marcus Lashley, Mississippi State University, Mississippi State, MS

ABSTRACT: Biological invasions often have negative effects on native wildlife and in the case of feral swine, also can cause extensive agricultural damage. As a result, the rapidly increasing swine populations and associated damages have led to wide-spread control efforts focused in agricultural areas. In a previous study, via camera trapping, we determined feral swine reduced observed vertebrate species richness by 26% when they invaded remnant forest patches in the Mississippi Alluvial Valley. To determine the effectiveness of removal efforts in recovering the lost vertebrate richness, in January 2018, we initiated a before-after control-impact designed experiment in 5 forest patches to monitor species richness before and after swine removals with camera traps. Also, we calculated swine activity patterns before and after aerial gunning to determine the degree to which feral swine alter behavior to avoid detection in future efforts. Preliminary data suggests a minimal species recovery following swine removal which may result from a lag in response to decreasing swine abundance or continued suppression from remaining swine populations. Preliminary data also indicate that swine immediately shifted their activity to avoid times of day when aerial gunning occurred. Thus, shifting swine behavior is likely to exacerbate the diminishing returns in removal effectiveness in a patch over a short time period. However, swine activity returned to normal within a year. These results are preliminary to a long-term experiment where we intend to increase patch sample size and continue to monitor species richness recovery as removals decrease swine populations.

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