

Effects of Opportunistic Shooting on Trap Visitation by Wild Pigs

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ABSTRACT: Wild pigs (*Sus scrofa*) are a non-native, invasive species that cause in excess of \$1.5 billion of damage annually in the United States. Although lethal removal by trapping is oftentimes the most cost- and time-effective means for managing local wild pig populations, many landowners and natural resource professionals implement additional non-trapping techniques such as opportunistic daytime shooting, night shooting, hunting with dogs, and shooting over bait to further enhance removal rates. However, these non-trapping techniques may significantly alter the behavior of wild pigs and subsequently reduce trapping success. Our objective was to provide a preliminary assessment of the effects non-trapping techniques on wild pig visitation to traps. During the summer of 2012, we monitored trap visitation of wild pig sounders and boars using game cameras at 26 corral traps on 6 study sites in Alabama. We implemented combinations of non-trapping removal techniques (recreational stalk hunting, night shooting, and shooting of pigs at traps) coupled with increase vehicular (ATV and truck) traffic along property trails (hereafter collectively termed disturbance) for 3-5 days on 3 study sites while continually monitoring sounder and boar visitation to traps on all 6 study sites. On each site, we pre-baited traps for ≥ 2 weeks to condition approximately 3-4 sounders to visit traps and used game cameras to determine sounder composition. Once sounders became conditioned to visiting traps daily, we recorded the total number of days traps were visited, number of visits per 24-hour period, and the duration (min) of all visits during a one-week period prior to the implementation of disturbance. Repeated trap visits were segregated by ≥ 1 hour absence of pigs between image recordings and visit duration began when the first pig of a sounder was recorded on camera until after the last pig of the sounder left the trap. After one week of monitoring visitation metrics, we applied disturbance to one of each pair of sites. We classified non-trapping removal techniques as either direct or indirect disturbance. Indirect disturbance was a combination of non-trapping removal techniques that were not knowingly applied directly to wild pigs, such as stalk hunting and the periodic discharge of firearms and cracker shells in the immediate vicinity of traps and increased vehicular traffic. Direct disturbances were applied directly to specific wild pigs, mainly the shooting of non-trapped pigs while they are at a trap which is somewhat of a common practice among novice pig control operators. To simulate this direct disturbance, we set several traps to capture a portion of pigs from a sounder. Once captured, we then released the pigs while discharging several rounds as the pigs exited the trap. After disturbance was implemented, we continued monitoring trap visitation metrics on both sites within each pair of study sites. We used a Before-After-Control-Impact (BACI) design to test for interaction effects among the visitation metrics between treatment and control sites before and after disturbance implementation. We monitored trap visitation of 16 sounders and 8 boars and 10 sounders and 8 boars on treatment and control sites, respectively. Overall, we applied 39 hours of indirect disturbance and 3 hours of direct disturbance (via use of dogs) including the discharge of 112 cracker shells and 63 high-powered rifle rounds on treatment (disturbance) sites. Additionally, we simulated the shooting of pigs while at traps (direct disturbance) on an additional 6 sounders. Total number of days ($P=0.349$) and total number of visits ($P=0.130$) 1-week before and after disturbance on treatment and control sites were similar; however, total visit duration differed before and after disturbance on treatment and control sites ($P=0.038$), demonstrating a change in pig behavior in response to disturbance. Although we did not detect treatment effects for total days visited and total number of visits, we speculate this may be due to our relatively small sample sizes coupled with inherent

variability in pig response. Moreover, we only applied disturbance for a relatively short period of time (3-5 days) with somewhat minimal levels of disturbance. Within the context of one year of data, we suggest non-trapping techniques be implemented cautiously, and strategically, when conducting wild pig removal as these techniques may reduce overall trapping success.

Key Words: behavior, disturbance, trap visitation, wild pigs

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