Integrated Wild Pig Control™ Results from the EPD Pennahatchee Creek Project

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ABSTRACT: Feral swine (*Sus scrofa*) have the potential to negatively impact ecosystems in a variety of ways, including contamination of water sources. In response to increasing fecal coliform levels due to feral swine in the Pennahatchee Creek watershed in Dooly County, Georgia, the River Valley Regional Commission submitted a 319(h) Clean Water Act grant application to the Georgia Environmental Protection Division to fund efforts to monitor fecal coliform levels and identify their source. As a result of this investigation, JAGER PRO, LLC was hired to remove feral swine within a 2,000 ha target area.
We began surveillance of sounders using high definition infrared-triggered cameras deployed throughout the area at a density of approximately 10-16/100 ha. Images were used to determine direction and timing of travel from bedding areas to food sources, the number of sounders, and the size and demographics of each sounder. Using this information, we identified target areas for winter (December-March) trapping efforts, a time when alternative food sources are limiting. We then deployed digitally timed automatic feeders filled with whole kernel corn at a density of 1 feeder/100 ha. Each feeder was monitored using a camera. Once animals were conditioned to the feeders, we constructed 11-m diameter corral enclosures with 2.4-m wide gates at each site. Traps were triggered using either onsite user-operated remote control, or user-operated cellular remote control, once the entire sounder was routinely entering the trap. When multiple sounders were using a single enclosure at different times, we captured each sounder in reverse order, with the last sounder to visit each night being captured first. Captured animals were quickly dispatched using a suppressed .22 caliber firearm to minimize the potential for disturbance likely to create avoidance of the trap by remaining sounders. Occasionally, individual animals became trap shy and refused to enter standard, baited corral traps. In these instances we identified natural (e.g., streams) or anthropogenic (e.g., culverts) features that concentrated swine movements along field or food plot edges during the planting/growing seasons and installed a remote operated gate at these points. We then used cameras to determine when the entire sounder was willing to pass through the gate, and erected a large 12-panel enclosure attached to the gate. Observers then monitored the trap and trigger the gate with a handheld transmitter after the sounder crossed the trap threshold into the field. We used a similar technique, with only the remote operated gate and approximately 40 m of fencing or panels on either side, to assist in shooting an entire sounder in a single event by closing the gate and blocking retreat following the sounder's entrance into the field. During spring, summer, and fall, we primarily employed night shooting to remove swine, as this time coincides with greater availability of alternative food sources (e.g., row crops, food plots, and hard mast), making trapping more difficult. Night shooting operations primarily involved two techniques: spot and stalk and shooting over bait. During these operations, we used .308 caliber semi-automatic rifles equipped with infrared optics, which allowed identification and eradication of swine in complete darkness. The spot and stalk technique involved shooters stalking single file, into the wind, to within 60 m of foraging animals. A countdown was used to synchronize the first shot from each shooter. Baiting was typically used to remove individual adult boars or sows who previously avoided traps and feeders. Our baiting technique consisted of digging a 23-cm wide by 45-cm deep hole at a well-used bait site. We filled the hole with soured corn covered in dirt to prevent use by non-target animals and allow shooters ample time for observation and shooting of target animals. Bait sites were monitored with a cellular camera, allowing a shooter stationed in a central location to quietly

approach a site immediately upon receiving an image of a target animal using the site. We observed that targeted removal of adults from a sounder via one or more shooting techniques tended to increase trap susceptibility of remaining animals. During December 2012 to June 2014, 76 combined trapping and shooting events resulted in the removal of 624 swine (353 shot, 271 trapped). We used independent two-group t-tests to test for significant differences in catch-per-unit effort and the proportion of the sounder removed between trapping and shooting. Overall, shooting techniques required greater effort per animal removed than trapping techniques (t = 3.57, P = 0.001). However, the mean proportion of each sounder removed per shooting or trapping event did not differ (t = -1.31, P = 0.20). Despite the additional effort required to remove feral swine via shooting, we believe this technique is a necessary component of a complete feral swine control model due to observed differences in behavior and trap susceptibility among individuals. Furthermore, we believe our use of innovative control methods and technologies (e.g., remote cameras and trap-release mechanisms) increased the cost effectiveness and overall efficacy of feral swine removal.

Key Words: Integrated Wild Pig Control, feral swine, trapping system, hog trap, thermal shooting

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