

Estimating Illegal Take of White-tailed Deer in East Alabama by Using Bait

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White-tailed deer (*Odocoileus virginianus*) are the most widely hunted game animal in the United States. Deer hunter expenditures on land access, hunting equipment, and supplies provide a major economic benefit to rural communities and conservation funding, particularly in Alabama and other southeastern states. Although deer populations are flourishing throughout most of their range, it is important that deer harvest occurs in a sustainable, ethical manner. Accordingly, many states, including Alabama, prohibit the use of artificially concentrated bait (e.g., corn) to aid in hunter harvest of deer. Specifically, any bait must be ≥ 100 yards away and out of sight of the hunter. Nevertheless, poachers often disregard this law, and we lack sound estimates of the number of deer illegally killed by using bait each year in Alabama. For this study, we collected data to assess baiting prevalence in Alabama and compared it to a state where baiting is legal.

To address this objective, we sampled deer from two deer processing facilities in east Alabama, where hunting over bait is illegal, and three facilities in west Georgia, where hunting by using bait is legal (as a control), during October 2018 to February 2019. At each processing facility, we aged and sexed deer and inspected their oral cavity for the presence of corn (the most popular bait used for deer). We assumed deer with corn present in their oral cavity were harvested with the aid of bait.

We sampled a total of 221 deer in Alabama, 20 (9.0%) of which had corn present in their mouths, and 31 deer in Georgia, 3 (9.7%) of which had corn present in their mouths. The proportion of deer harvested by using bait in each state did not differ statistically ($P = 0.91$; χ^2). The percentage of males (8.3%) versus females (9.7%) harvested by using bait in Alabama did not differ statistically ($P = 0.72$; χ^2).

Our results indicate that harvesting deer by using bait is a relatively common practice, regardless of legality. However, it should be noted that sample size was limited

for our control group (i.e., Georgia). Considering this, the impact of a disease outbreak may be amplified through the commonality of baiting because baiting increases animal contact (Thompson et al., 2006). It is also worth noting that because many hunters who harvest deer by using bait do so before the animal has the opportunity to ingest bait from the pile, our estimates of the proportion of deer harvested over bait may be low. These data provide a benchmark to the amount of illegal baiting occurring throughout eastern Alabama and can be used to infer that illegal deer baiting may have important implications for current and future management decisions as well as future white-tailed deer populations.

Statement of Research Advisor

Walker was required to consider and design an appropriate sampling scheme to address his research objective, then coordinate with private businesses to obtain samples. Though his study was relatively small, it revealed useful information on a relevant topic in white-tailed deer management, and established baseline information useful in discussions among state wildlife agency personnel and stakeholders.

– *William D. Gulsby, Forestry and Wildlife Sciences*

References

Thompson, A. K., M. D. Samuel, and T. R. VanDeelen. 2008. Alternative feeding strategies and potential disease transmission in Wisconsin white-tailed deer. *Journal of Wildlife Management* 72:416-421.