Button Bucks?

By Brian Murphy

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  Quality Deer Management programs often require the harvesting of numerous does, sometimes button bucks are killed by mistake. You could feel the tension in the air as the truck neared the property's deer check-in station. Word had spread that Billy had mistakenly harvested a second buck fawn for the season and disappointed club members were gathered in anticipation of his arrival back at camp. Just one month earlier at the pre-season hunt club meeting, members were strongly encouraged to harvest does, but cautioned against harvesting buck fawns or "button bucks." In fact, this year the club even instituted a $100 fine for the first button buck and a $250 fine for the second to drive this point home. This sounded reasonable because the club was in its third year of their Quality Deer Management (QDM) program and wanted to limit the harvest of their "bucks of tomorrow." This strategy is fine in principle, but is it based in biology? Over the past two decades, whitetail researchers have conducted numerous studies on the movements of male whitetail deer with some interesting findings. Collectively, the results of these studies have significant implications for QDM programs attempting to maximize the number of adult bucks on their properties. The primary justification for not harvesting button bucks is that they will remain on your property until they reach maturity and become eligible for harvest. Let's examine this premise in closer detail. Button buck dispersal

Studies show that a majority of bucks between 6-18 months of age will disperse some distance from their birth area before establishing a new home range. A study conducted by Dr. Chris Rosenberry and others in Maryland provided some interesting findings. During this study, they captured and radio-collared 75 male whitetails ranging from six to 18 months of age. Of these, 51 were followed until death or the end of the study. Of these, 70 percent dispersed from the 3,300-acre study area with half dispersing more than 3.7 miles. Dispersal distance varied greatly from 1.2 to 36 miles. A couple of these young bucks even swam a mile-wide river during dispersal. A similar study conducted by Dr. Harry Jacobson and others in Mississippi reported that 42 percent of the 52 male whitetails captured as fawns died in excess of three miles from their original capture site. A Florida study by John Kilgo and others reported that all seven male fawns captured and followed in their study dispersed from their original capture area by 18 months of age. Interestingly, the Jacobson study found that once the young bucks had dispersed, they generally remained within their new home range until death. In their study, 60 percent of bucks captured at two years of age or older died within one mile of their capture site and none died more than three miles from their original capture site. Collectively, these studies show that a majority of bucks between 6-18 months of age will disperse some distance from their birth area before establishing a new home range. But, once their new home range is established, they will generally remain in this area until death.   These results have significant implications for QDM, especially on small properties. Implications for small properties **It is believed that dispersal in young male whitetails (and many other mammals) may be a mechanism to prevent inbreeding.** Given that the average dispersal distance of young bucks in these studies was 1-4 miles, this means that even properties 3,000 acres and larger are potentially losing the majority of the button bucks produced on their properties. To a large degree, protecting button bucks on your property increases the number of bucks for the "neighborhood," but may do little to increase the number that will mature on your property. This emphasizes the need for a cooperative approach to QDM. Since the button bucks being produced by your neighbors may be "your" adult bucks of tomorrow, the extent to which your neighbors protect their young bucks is at least as important as how well the hunters on your property protect theirs. This also provides a possible explanation for why some properties that consistently pass all button bucks and yearling bucks never observe an increase in the number that reach 2.5 years of age or older. It could simply be that the young bucks passed on your property disperse to your neighbors and are harvested there. In other words, your neighbors are not only harvesting their button bucks and yearling bucks, they are harvesting yours as well. Many hunters practicing QDM fail to observe significant increases in body weight or antler development of yearling bucks despite monumental increases in high-quality forage through food plots and intensive habitat management. It is possible that the yearling bucks observed on your property actually spent their lives on your neighbor's property, where the habitat quality was lower, and only recently dispersed to your property. Understanding dispersal **The average dispersal distance of young bucks is 1-4 miles, this means that even properties 3,000 acres and larger are potentially losing the majority of the bucks produced on their properties.**

While dispersal is a common occurrence in whitetail deer populations, the causes for it are not fully understood. A study conducted by Stefan Holzenbein and Dr. R. Larry Marchinton in Georgia revealed that dispersal of young bucks was greatly reduced if the buck's mother was harvested prior to dispersal. Prior to this study, it was believed that adult bucks in the area were responsible for forcing young bucks to leave their birth area. The Holzenbein study monitored 34 buck fawns divided into two groups — 19 that were left with their mothers (non-orphans) and 15 whose mothers were harvested or removed (orphans). The results were surprising. By 30 months of age, 87 percent of the non-orphans had dispersed from their birth areas, but only nine percent of the orphans had left theirs. In addition, the non-orphans died at more than twice the rate of the orphans. They reasoned that dispersing bucks were less aware of their new surroundings and more likely to succumb to harvest by hunters as well as death from predation, accidents and other mortality factors. This was supported by the Rosenberry study, which revealed that only 36 percent of yearling bucks that dispersed survived their first hunting season, whereas 66 percent of those that did not disperse survived. The primary reason for death of the dispersers in this study was harvest by hunters on surrounding properties that were not practicing QDM. The Rosenberry study also revealed another possible dispersal mechanism. They found that dispersers were more likely to associate with other yearling bucks and participate in breeding season behaviors more often than non-dispersers. In addition, dispersers tended to be more subordinate in these

interactions. They concluded that sexual competition among yearling bucks was a potential explanation for dispersal. Given that the social structure of a deer population may be affected by age structure (buck and doe), sex ratio, density, habitat quality, and more, it's not surprising that these studies reported different dispersal mechanisms.

About the Author

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