Abstract

Post-wide Quality Deer Management (QDM) continues to facilitate the primary objective of ensuring a healthy and sustainable population of white-tailed deer for all future generations of hunters to pursue. Data collected prior to and during this fifth consecutive season of Post-wide QDM continues to indicate that QDM is the solution for achieving the primary objective.

Reported harvest of 1,358 deer this season is 10.7% above the 10 year average. Harvest data indicates that the QDM antler restrictions, in place for the previous five seasons, increased the number of mature bucks available for harvest. As a result, 56% of the buck harvest this year were 3.5 years of age or older. Doe harvest increased slightly over the previous season and yielded a 1.5:1 doe to buck harvest ratio, which is a desired and anticipated outcome compared to the 2:1 ratio observed prior to the Post-wide QDM antler restriction.

Based on the multiple data sets available, herd health data collected during the 12 mandatory deer check station days continues to indicate the total population of white-tailed deer on Fort Benning is relatively stable. In-house collection of biological data at check stations, as well as monitoring population demographics and total hunter-reported harvest, should continue in subsequent seasons. The information collected and subsequent analysis will help ensure Fort Benning can adjust regulatory policies via adaptive management strategies, to ensure sustainability of the herd and quality recreational opportunities for users, as necessary and appropriate.

Harvest

Average total deer harvest across the installation this season was 6.1 deer/sq.mi. Average doe harvest was 3.7 does/sq.mi while average buck harvest was 2.4 bucks/sq. mi. This is encouraging when considering that the doe/buck harvest ratio is holding consistently at 1.5 to one or less, despite the significant reduction in harvest of 1.5 year old (YO) and younger bucks since 2010 (Figure 1).

Without question, immature (1.5 YO and younger) buck harvest has stabilized after downward trends that began in 2009. This was another anticipated result of implementation of Post-wide QDM. The expectation is that 1.5 YO and younger buck harvest will typically represent 25-30% or less of total buck harvest. 1.5 YO and younger bucks this season made up 23% of the total harvest. Hunter reported doe harvest was 817, 8.2% above the 10 year average and the total reported buck harvest was 541, which is 14.8% above the 10 year average. Percent harvest of yearling bucks was 10.8%, compared to pre QDM average of around 30%. Fawn harvest, both buck and doe, accounted for just over 12.3% of total deer harvest and was just under the long-term average of 15-20%. Independent of any significant unanticipated mortality and provided that cumulative recruitment in subsequent seasons is sufficient, Fort Benning can maintain similar harvest levels moving forward and the total deer population should remain relatively stable.
Reproduction

The lactation rate observed from this year’s deer check station data is 58%, which is just under the 10 year average of 60.5% (Figure 2). The recruitment rate observed from the deer check station data is 0.46 fawns per reproductively mature doe. This year’s recruitment rate is just over the 10 year average of 44% and just under the nine year average of 47%; omitting the 2010 rate of 8.9% as an abnormality. This recruitment rate should be sufficient to offset both natural and hunter harvest mortality. It will be important to continue to monitor these two metrics with a focus on sustainable management of the deer population on Fort Benning in order to afford quality hunting opportunities in the future.

Figure 1
Herd Health

Herd health as measured by average field dressed weights of 1.5 YOs is consistent with or slightly above regional averages. Regional averages are based on data collected from nearby State Wildlife Management Areas and published data for the Coastal region of Georgia. The regional averages used in Figure 3 below are 72.5 and 53.6 pounds respectively for bucks and does. Average field dressed weights for Fort Benning were 68.7 and 60.45 pounds respectively for bucks and does this season. Both buck and doe weights are slightly up compared to last season. This trend indicates that the population is in a healthy condition with adequate resources to support the current deer density. There is an apparent greater degree of fluctuation in the dress weights for bucks compared to does in Figure 3. This may simply be because the sample size for 1.5 YO bucks on the installation is much smaller than that of does due to QDM practices protecting most of the bucks in that age class.
Check Station Data

Biological data was collected from 411 deer which provided a representative sample of over 30% of total annual harvest. The 2019 sample provides a sufficient sample size for analysis and exceeds the 15-20% sample historically collected on an annual basis (prior to increasing the number of check station days in 2016).

Cantonment Area Archery Hunt

A total of 119 participants successfully qualified and harvested 40 deer (26 does and 14 bucks). Total harvest for this season was slightly higher than the six year average harvest of 38. Doe harvest increase from 21 last season to 26 this season, while buck harvest decreased from 15 last season to 14 this season. Harvest levels seem to indicate reduced densities are in fact being sustained, but it will be important to continue to track Cantonment Area deer to vehicle collisions to attempt to determine if this initiative is in fact maintaining reduced deer density in those areas. If reduced densities are not sustained, deer to vehicle collisions are likely to increase.

Discussion/Summary/Conclusion

The single most important consideration with respect to white-tailed deer management on Fort Benning is ensuring sustainable hunting opportunities remain available for all future generations to enjoy. In order to ensure this objective is met, data must be collected. Application of an adaptive management approach should be based on a collective and collaborative analysis of the data collected and an appropriate consideration of user opinions and desires.
One of the most important metrics which relates to sustainability is harvest. Overharvest can and has led to declining deer populations on other Installations and in other Regions and States. Ensuring the Fort Benning hunting community does not overharvest deer must remain as a primary emphasis in efforts to avoid undermining the primary objective. Analysis of annual data and comparisons against historical trends continues to suggest that overharvest has not and should not be an issue with QDM strategies applied on Fort Benning. At least as long as adequate recruitment rates are maintained, the hunting population does not increase significantly and no severe disease outbreaks or other unanticipated excessive mortalities occur. Based on current conditions, maintaining total deer harvest levels below six deer per square mile and doe harvest levels below four does per square mile should be the goal for sustaining current deer densities.

Sex ratios need to continue to be monitored to ensure sufficient does are available to facilitate recruitment. Based on current information, doe density does not appear to be a limiting factor as long as harvest levels remain within the ranges addressed above. Based on current conditions, maintaining doe to buck ratios between 1:1 and 2:1 should be the goal for sustaining densities.

Recruitment and lactation rates also need to continue to be monitored. There is no questioning the fact that recruitment rates were poor in 2015 (Figure 2) and likely resulted in harvest exceeding recruitment. However, in 2018 and again in 2019 lactation and recruitment returned to more desirable and acceptable levels respectively. Based on current conditions, in order to sustain densities, annual recruitment likely needs to be 0.4 to 0.5 or higher in a majority (65-75%) of seasons. At present, based on data collected the past 10 season, the desired recruitment metrics have been achieved in 80% of seasons.

In order to ensure all the referenced metrics can continue to be tracked and analyzed, data must continue to be collected at levels similar to those in the recent past. Continuing deer check stations with a goal of collecting reliable biological data on a 25% sample of total harvest should be the goal. Doing so will further inform effective and adaptive management and support efforts to ensure both the deer herd and quality hunting opportunities are sustained.

The modern challenges (disease, potential for overharvest, fawn predation, etc.) of managing white-tailed deer demands a commitment to adequately collect and analyze data and requires a willingness to adjust accordingly and adaptively manage as necessary. Transition to the iSportsman system has dramatically improved the quality and reliability of hunter reported harvest data. Analysis of that information coupled with the pre-season population survey and collection of biological data continues to suggest there is not a need to make major adjustments to the harvest and management strategies currently in place on Fort Benning.