2016-2017 Deer Season Report

Abstract

Post-wide Quality Deer Management (QDM) continues to facilitate the primary objective of ensuring a healthy and sustainable population of white-tailed deer remains available for all future generations of hunters to pursue! Three consecutive seasons of Post-wide QDM has thus far validated that QDM is the solution for achieving our desired long term objective. We will continue to monitor the population and total harvest in subsequent seasons to ensure that remains the case. Reported harvest of 1,252 deer this season represents a 15-20% increase in total harvest compared to the previous two seasons, the first two seasons Post-wide QDM was implemented. Harvest data suggests that the antler restrictions in place the previous two seasons resulted in more bucks being eligible for harvest in the population this season. As a result, total buck harvest (404) increased by 15% compared to last season and 26% compared to two seasons ago. Doe harvest also increased in comparison to the previous two seasons and yielded a 2:1 doe to buck harvest ratio for the second consecutive season. The pre-season deer survey completed in September again suggested that the deer population continues to remain stable around 25-30 deer per square mile with doe to buck ratios hovering between 1.7:1 and 2:1 Post-wide. Herd health data collected during the 17 mandatory deer check station days also continues to indicate a relatively stable population of white-tailed deer on Fort Benning. At least 4 bucks were known to be harvested this season which scored from 148-162” Boone and Crockett, which is more high quality bucks than we have observed in the recent past.
Harvest

One positive aspect of QDM, which has been realized each of the past three seasons, relates to the fact that total harvest on QDM areas is typically lower than harvest on Traditional Deer Management (TDM) areas. Overharvest, which was becoming a primary point of concern, with Fort Benning divided into QDM and TDM areas from 2010-2013, no longer appears to be an issue with Post-wide QDM. By 2013, total deer harvest in the TDM areas was over 7.6 deer/sq.mi. and approaching harvest levels near 30% of preseason population estimates. Average total deer harvest across the installation this season was 5.6 deer/sq. mi. Based on preseason population estimates, the Fort Benning deer population still remains around 25-30 deer/sq.mi. Total reported harvest represented about 18-21% of the preseason deer population. Average doe harvest across the installation was 3.79 does/sq.mi. Based on preseason doe to buck ratios, total reported doe harvest represented about 18-22% of the preseason doe population. Generally speaking, with harvest at these levels, as long as cumulative recruitment in subsequent seasons is sufficient, the deer population should remain relatively stable if no additional factors contribute to significant increased mortality.

Immature (1.5 year old and younger) buck harvest has stabilized on its downward trend (Figure 1), as expected, with Post-wide QDM. The expectation is that 1.5 Y.O. and younger buck harvest will typically represent 35% or less of harvest. One and a half year old and younger buck harvest this season was 26%.

Figure 1: Percent Harvest of Bucks 1.5 Years Old or Younger Compared to Bucks 2.5 Years Old or Older, 2008-2016
Hunter reported doe harvest was 838, 30% above the 25 year average. The total reported buck harvest was 404, about 68% of the long term average and 15% higher than last season. Percent harvest of yearling bucks was 11%, compared to a long term average of around 30% and nearly equal to the 10% rate observed the last season. Fawn harvest, both buck and doe, accounted for 15% of total deer harvest which is in line with the long term average of 15-20%.

Reproduction

After the lactation rates of reproductively mature does fell below 50% last season, the lactation rates this season returned to the 65-70% level which has been observed in five of the past six seasons (Figure 2). Recruitment increased as well to nearly 0.4 fawns per reproductively mature doe compared to the .22 rate recorded in the 2015-16 season. While not as high as the .45-.65 recorded from 2011-2014, the .4 rate should have been sufficient to account for any natural and hunter harvest mortality. This positive result is encouraging and suggests that the observed declines in 2015, which were similar to those observed in 2010, should not impact the long term sustainability of the herd. Considering we saw a similar decline in lactation and recruitment in 2009 and 2010 it is possible that there is some cyclical trend occurring. Of importance when considering this issue, the lactation and recruitment data collected in 2010 and 2015 were single points of data. It will be important to continue to keep a keen eye on these two metrics as we work to effectively manage the deer herd on Fort Benning.

Figure 2: Annual Lactation and Recruitment Rates Based on Mature Does 2.5 Years Old and Older.
Herd Health

Herd health as measured by average field dressed weights of 1.5 year olds continues to remain well below desired levels. Average field dressed weights were 71 and 58 pounds respectively for bucks and does this season. Those weights continue to indicate that the deer population remains at or above carrying capacity as they are well below levels observed in other populations in our region (Figure 3). This issue may simply be the new norm on Fort Benning though as white-tailed deer continue to compete for resources with the wild pig population. In an effort to help alleviate some of the potential resource competition issues which could be occurring due to the wild pig population and to attempt to reduce other negative impacts wild pigs have on the ecosystem as a whole, Conservation Branch has increased in-house trapping efforts, continues to facilitate a volunteer pig trapping program and supports liberal hunting opportunities. As a result, over 2,000 pigs have been removed from Fort Benning over the past 16 months.

![Average Field Dressed Weights of 1.5 YO Bucks and Does 2008-2016 Seasons](image)

Figure 3: Average Field Dressed Weights of 1.5 Y.O. Bucks and Does.

Alabama Harvest

Total harvest on the Alabama side of the Installation was 133 deer (40 bucks and 93 does), 10.7% of Post wide harvest. Total harvest was 18% higher than last season but the percentage of total Post-wide harvest was identical to last season. Increased harvest could be attributed to the new extended deer season in Alabama or it could just be attributed to better hunting conditions this season as deer harvest was up equally
across the entire installation. Buck harvest was only up slightly (8%) while doe harvest was up 22%. While access was still limited this season due to training, it was similar to the previous season and much improved in comparison to the 2014-15 season.

**Check Station Data**

With the increased number of mandatory check station days this season, biological data was collected from 465 deer. This represented nearly 40% of total annual harvest. This sample size far exceed the 15-20% sample typically collected on an annual basis and is more than an adequate sample size for analysis.

While the large sample size collected is positive there were some days which may not have added value for the amount of time required to man the check station. In an effort to maximize our return on investment but continue to collect a robust amount of data we will likely adjust the number of mandatory check station days for the 2017-18 season. Ideally, check stations would be held every weekend in October and November during gun season and on Veterans Day and any associated training holidays. Other weekday check stations will likely be forgone.

**Quality Deer Management**

Total deer harvest in the original QDM Area was 116 deer (48 bucks and 68 does). Doe to buck harvest ratio was 1.42:1. Total harvest was nearly equal (+ 7 bucks, - 2 does) to last season. This data continues to suggest that harvest is equalizing with population demographics after 7 years in Fort Benning’s most established QDM area.

In the expanded QDM Area a total of 227 deer were harvested, 60 bucks and 162 does. Doe to buck harvest ratio was 2.7:1. This doe to buck harvest ratio is a dramatic increase compared to what was observed last season. Harvest increased dramatically (50%) in the expanded QDM area compared to last season but is nearly equal to what was observed prior to implementing QDM. The only reasonable explanation for this increase relates to increased accessibility during the deer season. The increased accessibility coupled with increased doe harvest should be viewed positively for this geographic area. Originally, mature buck harvest was expected to begin to increase dramatically in these areas this season (5 years into QDM) as there should have been more mature bucks in the population available for harvest. However, reduced access, insufficient doe harvest, and documented harvest of immature bucks in 2012 & 2013 resulted in the desired outcome not being fully realized in this area. Hopefully the increased harvest in these areas will help balance herd demographics and ultimately help with realizing the anticipated results of QDM in future years.

In the New QDM area 904 deer were harvested, 296 bucks and 608 does. Doe to buck harvest ratio was 2.05:1, nearly identical to the ratio observed Post-wide. Total harvest, buck harvest, and doe harvest all increased 14%.

With the exception of the expanded QDM area, which can be explained due to access issues, the differences in doe to buck ratio from oldest to newest QDM areas are dramatic and further support the idea that; with time, harvest ratios will adjust to desired levels as a result of balancing population demographics and general hunter harvest behavior. For reference, Map 1 depicts the spatial layout of how QDM was incrementally implemented on Fort Benning.
Cantonment Area Archery Hunt

A total of 108 participants successfully qualified and harvested 38 deer (28 does and 10 bucks). Total harvest was up 15% compared to the 2015-16 season and was identical to the total harvest observed in the 2014-15 season. Success rate was 35% which is nearly identical to those observed the previous two seasons and remains below the long term average of 45%. Lifting the antler restriction requirement did not significantly increase buck harvest. Harvest levels seem to indicate the 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 again.

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 that objective is met, data must be collected and analyzed and management actions implemented based on that data and an appropriate consideration of hunter opinion and desire.

One of the most important metrics which relates to sustainability is harvest. Overharvest can and has led to declining deer populations on other Installations, Regions and States. Ensuring Fort Benning hunters do not overharvest deer is a major priority. There were some concerns in years past, with the Post divided into QDM and TDM areas, that potential overharvest was occurring in TDM areas. All indications are that overharvest has not and should not be an issue in QDM areas on Fort Benning as long as historical recruitment rates are maintained, the hunting population does not increase significantly and no severe disease outbreaks occur. Figure 4 includes deer harvest per square mile in QDM and non-QDM areas from the 2009-10 to 2016-17 seasons.

Figure 4: Total Harvest, Doe Harvest, and Buck Harvest per square mile (2008-2017) in QDM and Non-QDM Hunting Areas, and thresholds for considering harvest reductions.

Based on current conditions, maintaining total deer harvest levels below 6 deer per square mile and doe harvest levels below 4 does per square mile should be the goal for sustaining current deer densities. As is shown in Figure 4, to date harvest levels in QDM areas have never exceeded those thresholds whereas both total harvest and doe harvest began exceeding those levels in TDM areas in 2012 and 2013.
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 discussed 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 2016 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 0.4-0.5 or higher in a majority (65-75%) of seasons. At present, based on data collected the past 8 season, those metrics have been achieved in 85% of seasons.

In order to ensure these metrics can continue to be tracked and analyzed data must continue to be collected, at least at the levels facilitated over the past eight seasons. Any additional data collection, and subsequent understanding, would be beneficial to effective management of the deer populations. Continuing with additional deer check stations to collect biological data can provide value. Doing so would further inform effective management decisions and increase the quality of both the herd and hunting opportunities.

One other data collection issue which must be addressed is the reporting of buck fawn harvest. Due to current harvest reporting system limitations, and confusion among hunters, many buck fawns get reported as does. That shortfall in data collection results in increased reporting of doe harvest and under reporting of buck fawn harvest. While total doe and fawn harvest can be estimated, the actual harvest would provide greater value. Transition to the iSportsman system in June will facilitate the ability to track this hunter reported information more accurately.

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 as necessary. At present, all indications suggest there is not a need to make major adjustments to the harvest and management strategies currently in place on Fort Benning. Conservation Branch staff will continue to work with State DNR, Academia, fellow colleagues, Post leadership, the CGNRAC and the hunting community to ensure the white-tailed deer population remains sustainable and provides the opportunity for high quality recreational opportunities now and in the future.