

W E S T V I R G I N I A

Bowhunter

COOPERATIVE SURVEY 2018



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2018 West Virginia Bowhunter Survey

West Virginia Division of Natural Resources

Wildlife Resources Section

And

West Virginia Bowhunters Association

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INTRODUCTION

Each year the West Virginia Division of Natural Resources (Wildlife Resources Section) in cooperation with the West Virginia Bowhunters Association conducts a survey of bowhunter activity during the deer archery season. Cooperators statewide record observations of deer and other selected wildlife species observed while bowhunting. The sedentary nature of bowhunting enhances the ability of the hunter to observe wildlife with minimum risks of altering their natural behavior. Hence, the number of animals seen by bowhunters while bow hunting should accurately reflect their abundance during the hunting season. Hunters will notice that an elk graces the front cover of the Bowhunter Survey this year. This was selected for two primary reasons: elk have been reintroduced into West Virginia and to reiterate that one of the primary purposes of the survey is to get accurate observation rates of wildlife. This great picture was taken by Mark Bias. We thank him for the contribution.

This report represents the 24th survey conducted by the survey committee. The survey continues to generate valuable information about game species that otherwise would not be easily obtained. The success of this and previous surveys lies upon the cooperators. Their efforts contribute greatly to our overall knowledge, management, and conservation of West Virginia's wildlife resources. During the 2018 survey period, 368 (397 in 2017) cooperative bowhunters returned survey forms contributing over 17,000 hours and 5,116 trips that were used to conduct the assessments in this report! Without the support of our great cooperators, this survey would not be possible. We welcome any comments or suggestions participating cooperators have to address questions of interest. The committee meets annually to construct the survey for the next hunting season. Because of the breadth of questions submitted by cooperators, some questions are cycled on a fixed year basis. This will explain why some may ask for a question and not see it on the survey for two or three years later.

The framework is designed to extend hunting opportunities to all who bow hunt for deer. At the suggestion of many cooperators, you will notice that we have some different results this year based off of your suggestions. We hope these changes yield interesting results in the future. We appreciate your suggestions and try to make as many changes as possible. We also changed a number of questions this year to take your thoughts into consideration.

DISTRIBUTION OF HUNT TRIPS

Cooperators reported hunting in all 55 counties of West Virginia for the 2018 season (Fig1). All trips, hours hunted per trip, and deer observations per 100 hours are

reported in Table 1. Statewide, 368 cooperators observed wildlife for 17,515 hours and logged a total of 5,116 trips with an average trip of 3.42 hours. That's a decrease from last year but we hope to get additional cooperators this year.

County – For the 2018 season, Randolph County contained the most hunting trips (427) followed by Berkeley (260). This year all counties contributed to our bow hunting survey. We have found that a minimum of 80 to 100 trips per county are necessary for any meaningful conclusions. We ask for additional contributors in the 30 counties that have less than 80 trips (Fig. 1).

Ecological – One region logged more trips in 2018 than 2017 and 5 logged fewer. The greatest decrease was the Central Region (1,465 in 2017 vs 564 in 2018) (Table 2). The Mountains Region increased from 413 in 2017 to 794 in 2018.

Landowner – The private and personal property continue to dominate the distribution of hunt trips based on landownership (81%) (Fig. 2). Hunt club/ lease properties was 8% in 2018. Company land (2%), state owned (6%) and National Forest (3%) make up the remaining landownership categories.

METHODS

Daily records and observations returned by bowhunter cooperators during the 2018 deer archery season were compiled and analyzed by the Bowhunter Survey Committee. This report is a summary of their findings. The survey instrument consisted of a list of instructions, daily hunting record, and a questionnaire of hunting experiences and observations (Appendix). Cooperators recorded observations for morning and afternoon hours of hunting. Daily observations reflect the number of hours hunted, county hunted, land ownership, land type and if the land was posted against trespassing. Cooperators were asked to record the number of spike and forked antlered deer, fawns and antlerless deer seen, number of bucks chasing does, deer harvested by sex, and number of new scrapes seen on each outing. Cooperators also recorded the number of bears, squirrels, turkeys, grouse, raccoons, dogs, house cats, foxes, coyotes, and rabbits seen while hunting. Weather conditions (precipitation and wind) and habitat were recorded for each hunting trip.

Daily hunting reports began on the opening day of deer archery season (September 29, 2018) and were collected through Sunday (November 18, 2018) prior to the 2018 buck gun season. The duration of the survey was seven (7) weeks. The survey included Sundays for counties open to Sunday hunting. **Daily records were excluded from the compilation if hours hunted were left blank.** Otherwise, all variables were assumed to be zero if a value for the corresponding variable was missing. Interest variables were stored in a database and summarized using a Pivot

table. An observation rate for each species was calculated for each trip taken by a cooperator. The observation rate was calculated by dividing the number of animals seen by the number of hours spent for the trip. All observation rates are reported as number seen per 100 hours unless otherwise noted. The questionnaire portion of the survey was analyzed by generating frequency distributions for each interest variable. Remarks and suggestions were compiled by reviewing each survey for content and then categorizing them into similar groups. **Filling the daily record out completely and thoroughly is extremely important for an accurate analysis of the results.**

DEER OBSERVATIONS

Deer observation data collected by bowhunters gives the WVDNR wildlife biologists and managers an additional form of trend data used to track the deer population. Total deer observation rates (deer seen per 100 hours) provide an index to the overall deer population within a region. These data are used to monitor long-term trends as an index to deer population, defend hunting regulation proposals, and validate data collected in other surveys. When combined with harvest data, mast survey data, spring gobbler survey data, spotlight distance sampling data, and public opinion, a clearer picture of what is happening with the Mountain State's deer population can be determined.

STATEWIDE

In 2018, 368 Bowhunter Survey cooperators took 5,116 trips afield, hunted 17,512 hours, and made 16,548 deer observations (Table 1). Every county in the state was sampled by cooperators (Figure 1), with Randolph County having the most cooperators (28). The average cooperator hunted 3.42 hours per trip and observed on average 3.56 deer per trip. Cooperators observed a total of 18,195 deer (including deer with unknown sex or age) at a rate of 113.67 deer per 100 hours, which is slightly above the 5-year average of 110.53 deer seen per 100 hours (Table 2). Cooperators observed 3,569 bucks, 8,939 does, and 4,040 fawns at a rate of 22.00, 55.36, and 25.64 deer per 100 hours, respectively. The rate of does seen per 100 hours in 2018 is below the 24-year average of 76.47, while the number of bucks and fawns seen per 100 hours in 2018 is relatively the same as the 24-year average (Table 3). Cooperators also collect information on the number of bucks chasing does (hereafter, chasing rate). The chasing rate for most regions typically increases during the two-weeks prior to the buck gun season, with statewide chasing rates peaking between 04 Nov. and 17 Nov.

Long-term trends in deer observation rates have remained relatively stable statewide while harvest per square mile has been steadily decreasing. Harvest rates

per 1,000 hours were 21.57, 12.53, and 9.04, for all deer, bucks, and does, respectively. All harvest rates per 1,000 hours were below the harvest rates reported by cooperators in 2017.

Cooperators collect information on the number of bucks, does, and fawn they observe while afield. This information allows us to estimate buck-to-doe ratios, fawn-to-doe ratios, and determine the percentage of spikes and forked antlered deer. In 2018, based on cooperator observations the estimated buck-to-doe ratio statewide was 1:2.50, which is below the 24-yr average, approximately the same at the 5-yr average, and within the range of observed buck-to-doe ratio of 3.52, 2.38, and 1.93 – 5.72, respectively. The observed doe-to-fawn ratio was 1:0.45, which is below the 14-yr average, below the 5-yr average, and within the range of observed doe to fawn ratio of 0.50, 0.49, and 0.26 – 0.61, respectively. Fear of predators eating all of West Virginia's fawns seem unfounded.

ECOLOGICAL REGRIONS

Eastern Panhandle – This region was surveyed by 65 cooperators who took a total of 1,017 trips, which is an increase in the number of cooperators and trips from 2017 (Table 2). These cooperators spent on average 3.14 hours hunting and saw 139.78 deer per 100 hours. They observed 28.45 and 62.55 bucks and does per 100 hours, respectively, which is an increase in the number of bucks seen per 100 hours and a decrease in the number of does seen per 100 hours compared to 2017 rates. In this region deer seen per 100 hours has remained relatively constant while harvest per sq. mi. has been decreasing over the past 24 years (Figure 3). Week 7 (Nov. 11 – Nov. 17) was the best time to see bucks chasing does in this region (Figure 4).

Mountains – This region was surveyed by 49 cooperators who took a total of 794 trips, which is an increase in the number of cooperators and trips from 2017 (Table 2). Cooperators spent, on average, 3.51 hours hunting and saw 126.57 deer per 100 hours. They observed 17.68 and 65.41 bucks and does per 100 hours, respectively (Table 1). This is an increase in observation rate for both bucks and does compared to the 5-yr average and 2017 observation rates. The number of deer seen per 100 hours has remained constant while harvest per sq. mi. has been decreasing over the past 24 years (Figure 3). Week 7 (Nov. 11 – Nov. 17) was the best time to see bucks chasing does in this region (Figure 4).

South – The southern region was surveyed by 82 cooperators (most in the state) who took a total of 1,090 trips, which is a decrease in the number of cooperators and trips from 2017 (Table 2). Cooperators spent, on average, 3.58 hours hunting and observed 18.31, 48.61, and 91.67, bucks, does, and deer per 100 hours (Table 1). Observation rates per 100 hours for bucks, does, and deer has increased compared to 2017. In this region, the number of deer seen per 100 hours has been increasing while the harvest per sq. mi. has been decreasing over the past 24 years (Figure 3).

Week 7 (Nov. 11 – Nov. 17) was the best time to see bucks chasing does in this region (Figure 4).

Central – This region was surveyed by 46 cooperators (least in the state) who took a total of 564 trips, which is a decrease in the number of cooperators and trips from 2017 (Table 2). Cooperators spent, on average, 3.31 hours hunting and observed 111.72 deer per 100 hours. Cooperators observed 26.11 and 57.1 bucks and does per 100 hours, respectively. This is a decrease in all observation rates compared to both the 2017 and 5-yr observation rates. Observation rates have been increasing in this region while harvest per sq. mi. has been decreasing over the past 24 years (Figure 3). Week 6 (Nov. 4 – Nov. 10) was the best time to see bucks chasing does in the Central region (Figure 4).

West – This region was surveyed by 74 cooperators who took a total of 984 trips, which is approximately the same as the number of cooperators and trips in 2017 (Table 2). On average cooperators hunted 3.23 hours and observed 105.66 deer per 100 hours. Cooperators observed 20.40 and 49.27 bucks and does per 100 hours. The observation rates are slightly lower compared to the 2017 rates while being relatively the same as the 5-yr average. Deer observation rates have remained relatively constant across the past 24 years while harvest per sq. mi. has been decreasing (Figure 3). Week 5 (Oct. 28 – Nov. 3) was the best time to see bucks chasing does in the West region (Figure 4).

Southwest – This region was surveyed by 52 cooperators who took a total of 703 trips, which is approximately the same as the number of cooperators and trips in 2017 (Table 2). Cooperators hunted, on average, 3.50 hours and observed 107.92 deer per 100 hours. This is an increase in the number of deer observed per 100 compared to the 2017 observation rate but is lower than the 5-yr observation rate. Cooperators observed 24.01 and 49.73 bucks and does per 100 hours, respectively. The buck and doe observation rates are like the 5-yr average and the rates reported in 2017. Deer observation rates have remained relatively consistent while harvest per sq. mi. has been decreasing (Figure 3). Week 7 (Nov. 11 – Nov. 17) was the best time to see bucks chasing does in this region (Figure 4).

WILDLIFE OBSERVATIONS

Cooperators are asked to record observations of wildlife seen while afield. Species included in these observations are squirrel, turkey, grouse, raccoon, fox, bear, coyote, and rabbit (Table 4). Additional observations of feral dog and housecat are also recorded. Elk observations are added this year, but these are not reflected in Figure 5, which represents observations per 100 hours of the previously listed species from 1995 to 2018. This information allows biologists to monitor population

trends by region and statewide and is an important component of management decisions.

According to 2018 cooperators observations, population trends for rabbit, grouse, feral dog, and housecat continued the downward trend from the previous year, while squirrel, turkey, raccoon, fox, bear, and coyote all increased from last year's observations (Table 5). These increases are most notable because of the sharp decline from 2016 to 2017 in raccoon, fox, and bear. Populations exhibit natural short-term fluctuations based on food availability, weather, and unique environmental conditions; these factors affect species survival, reproduction, and movement and likely also contribute to frequency of observations by our cooperators.

Long-term trends indicate that coyote populations have been fairly stable over the last five years but are remaining nearly twice as high as numbers observed through the 1990s and 2000s (Figure 5). While observations have increased in frequency, they remain below one observation per 100 hours for 2018 and over the 24-year average. Bear observations for 2018 are only slightly above the 24-year average after sharp increases in 2015 and 2016 (Figure 5). Squirrel observations are also slightly above the 24-year average (Figure 5). Turkey, raccoon, and fox populations have returned to observations rates nearly identical to the 24-year average (Figure 5). The decline in grouse observations is something biologists continue to monitor closely.

The continued downward trend in observations of feral dog and housecat are encouraging (Figure 5), as these species are not natural members of our forest ecosystems and can damage wild populations and their habitats through predation, nest disruption, and the spread of disease.

More information on trends and hunting outlooks can be found in the Big Game Bulletin and Mast Survey published by the WVDNR every year.

2018 WV BOWHUNTER SURVEY QUESTIONNAIRE

The WV Bowhunter Survey cooperators, in addition to recording observations of wildlife species while afield, are sent a questionnaire. The questionnaire (Appendix) asks cooperators a series of questions ranging from population status and antler size to additional season(s) hunted (e.g. buck gun, antlerless, or muzzleloader), to current topics such as hunting with a crossbow, which was recently made legal for all archery hunters statewide in 2015. In 2018, 399 cooperators filled out and returned the WV Bowhunter Survey Questionnaires (not all were able to hunt so observant readers will notice sample sizes don't match). Cooperators hunted Randolph, Mercer, Nicholas, Tyler, and Berkeley counties the most in 2018. Below is a summary of all 399 responses to the questionnaire.

Years spent hunting bowhunting

Cooperators were asked how many years they had hunted deer with a bow. Three-hundred ninety-nine respondents hunted a total of 11,413 years. Our average respondent has been bowhunting deer for nearly 29 years. We are lucky to have such an experienced group of hunters collecting data for us. The amount of experience sitting in a tree stand is incredible. We hope they like spending time observing nature as much as we do.

Deer Population

Cooperators were asked about the status of the population in the area they hunted the most. Of the cooperators who answered, 8%, 40%, and 52% felt that the population was increasing, decreasing or about the same, respectively. Deer densities are not equally distributed throughout WV and tend to vary by habitat quality. Areas such as the north-central, northern, and eastern panhandles have higher deer densities compared to areas in the high elevation mountains and southern coalfields which tend to have lower deer densities. The WVDNR currently uses hunting frameworks such as season length, bag limits, and other strategies to maintain deer densities at huntable, but healthy numbers.

Deer Racks

Cooperators were asked to compare antler size of bucks they observed during the 2018 hunting season with bucks they observed during the previous hunting season. Twenty-three percent, 11% and 66% indicated that antler size was smaller, larger or about the same, respectively. The amount of food available to bucks throughout their lifetime plays an important role in antler development. Antler size is indicative of age and overall health. Hunters who desire to harvest larger antlered deer should pass on younger bucks, allowing them to mature and develop larger antlers.

Oak Mast

Cooperators were asked to determine the level of oak mast (e.g. acorns) they observed in the county they hunted the most. Of the cooperators who answered, 32%, 34% and 34% said that oak mast was abundant, common, scarce, or no answer, respectively. The counties with the most cooperators reporting oak mast were Randolph, Mercer, Nicholas and Tyler. The mix of oak mast levels reported by the cooperators is indicative of the variety of mast conditions experienced across the state during the 2018 hunting season.

The WVDNR conducts an annual mast survey throughout the state to determine levels of both hard and soft mast. The 2018 West Virginia Mast Survey and Hunter Outlook showed all oak species (white, chestnut, black/red, and scarlet oaks) statewide were below their reported levels in 2017, except for white oak. Oak mast levels did vary by ecological region with black/red oak and scarlet oak mast index being lower in all ecological regions in 2018 compared to 2017. The white oak mast index was lower in 2018 compared to 2017 in ecological regions 1 and 6, while chestnut oak was lower in ecological regions 1, 2, and 6. Acorns are an important food resource for a variety of wildlife species, including the white-tailed deer. Variations in acorn abundance can affect deer movements as well as population dynamics in the following years. Lower mast levels during the 2018 hunting season should increase the hunter's chances of encountering deer because deer will need to travel more to acquire adequate forage to meet nutritional demands and potentially increase use of supplemental feed locations (e.g. bait sites).

Baiting and feeding deer

Forty-five percent of respondents said they bait deer while 55% said they did not. Thirty-six cooperators said they baited deer with apples, 16 with commercial feed, 13 with sweet feed and 150 used corn. The amount of apples cooperators said they used varied from 5 to 1,000 Lbs. with an average of 190 Lbs., and the common amount was 100 Lbs. Commercial feed varied from 20 to 2,000 Lbs. with an average of 455 Lbs. Sweet feed varied from 1 to 500 Lbs. with an average of 196 Lbs. and the most common was 100 Lbs. The amount of corn cooperators said they used was between 10 and 30,000 Lbs. with an average of 917 Lbs., and the most common answer was 200 Lbs. 30,000 Lbs. of corn, as indicated by one cooperator, may be an over exaggeration and contribute to skewing the data somewhat.

The use of baiting in hunting is a highly debated topic. Although it can increase the opportunity to harvest an animal and perhaps give an easier opportunity to young, elderly or handicap hunters, it has both ethical and biological complications. Ethically, baiting can be viewed as cheating and a way to get an unfair advantage and is not viewed as a traditional way of hunting. Biologically, baiting congregates animals and increases the spread of many diseases including chronic wasting disease in deer. This is why many counties in the eastern panhandle of West Virginia are under a baiting ban. Thirty-six states, including West Virginia, have baiting bans for all or portions of the state. Corn that is not quickly eaten by wildlife and left to rot can produce aflatoxins that when later eaten by wildlife can cause serious illness and death. This is particularly true with wild turkeys where population declines can be linked to aflatoxins. In addition, years of high oak mast provide abundances of natural food that deer and other animals prefer. This makes the animals have smaller home ranges and less prone to use artificial bait sites and may decrease hunting success when using bait.

Crossbow hunting

Of the 399 cooperators who participated in this survey, 180 or 45% reported to hunting with a crossbow during the 2018 season, while 169 or 42% reported they did not, and 50 (13%) failed to answer the question. For those who answered yes, 158 or 40% said they previously hunted with a compound, longbow, or recurve. This is down from 84% from the previous year. When asked if they continued to hunt with a compound, longbow, or recurve in addition to the crossbow, 63 or 16% said they used both traditional bows and crossbows. This is down from 60% from the previous year.

This data shows a general trend in the popularity in crossbow use since legalization in West Virginia in 2015. The decline of cooperatives who indicate that they previously hunted with a traditional bow may mean that new bowhunters who are starting for the first time are doing so with crossbows. This may be important information for the WVDNR and other hunting enthusiasts in our quests to recruit, retain, and reinstate new hunters. Our data also indicates that many cooperators have switched to crossbow hunting exclusively and no longer use traditional bows. However, many of our cooperators failed to answer the two follow up questions on previously hunting with a traditional bow and continuing to hunt with a traditional bow which limits our data. Suffice to say, crossbow hunting has gained popularity throughout the Mountain State with many hunters switching to crossbows or adding them to their archery season participation.

Mountaineer Heritage Season

One third of cooperators answering this question said that they plan on participating in the new Mountaineer Heritage Season while 68% said no. The inaugural Mountaineer Heritage Season occurred on January 10-13, 2019 in West Virginia as a way to connect West Virginia hunters with their history. During this four day season, hunters could harvest one deer and one bear using more primitive weapons such as long bows, recurves, percussion cap muzzleloaders and flintlock muzzleloaders. The season was initiated as a way for West Virginians to enjoy more time hunting while connecting to and understanding the historic traditions of hunting in the Mountain State. It is our hope that this season will be enjoyed by many West Virginia sportsmen and participation will increase throughout the future.

As mentioned above, only long bows and recurves, as well as percussion cap and flintlock muzzleloaders were allowed during the Mountaineer Heritage Season. Of the 399 cooperators, 26 or 7% said they planned to use a bow, 64 or 16% said they planned to use a muzzleloader, 27 or 7% said they planned to use both, while 282 or 70% failed to answer the question.

DNR Sportsmen's meetings

Sixty-seven percent of cooperators were aware that the DNR holds sportsmen's meetings each year, 21% said they were unaware and 12% failed to answer the question. When asked if they attended, 7% said yes, 25% said they did not attend, 5% said that they attended and submitted written comments, 27% did not attend and did not submit written comments and 36% of cooperators failed to answer the question. Our data shows that while many West Virginia hunters are familiar that the DNR holds sportsmen's meetings in which hunters can provide input into management decisions, only a small number attend and participate. Sportsmen's meetings are designed for hunters and fishermen of West Virginia to meet their local DNR biologists and managers and to provide input for management decisions such as season dates, lengths and bag limits. These meetings are beneficial to the sportsmen in that they can understand upcoming changes and learn the reasoning behind these changes. Participants are able to submit written comments on white boards in which these comments are collected by DNR personnel and considered in decision making processes. Sportsmen's meetings are held annually in March in Beckley, Fairmont, Harrisville, Martinsburg, Milton, Summersville, Buckhannon, Glen Dale, Logan, Moorefield, Parkersburg, and Princeton.

Outdoor or Hunting-based Organization Membership

This year cooperators were asked if they belong to an outdoor or hunting-based organization. Of the 399 cooperators, 42% answered 'yes' and 58% answered 'no'. Affirmative responses represented a wide variety of local, state, and national organizations, including National Wild Turkey Foundation, Rocky Mountain Elk Foundation, National Rifle Association, Quality Deer Management Association, and West Virginia Bowhunters Association. Many cooperators belonged to multiple organizations, ranging from one listed organization to five. West Virginia Bowhunters Association was the most common response, with over 50 cooperators listing the organization on their questionnaire.

Trail Cameras

Cooperators were asked whether they use trail cameras for deer observations and scouting. Two-hundred forty-two of 351 respondents (69%) said that they used trail cameras for scouting and deer observations.

Cooperators used between 1 and 25 trail cameras per person. The most common number of cameras being used by cooperators was 2. Ninety-two percent of cooperators used 6 or less cameras for deer observation and scouting. However, 1 cooperator reported using 20 cameras and 2 cooperators reported using 25 cameras.

One-hundred seventy-nine cooperators reported 15 different camera brands as their favorite. Moultrie (56 respondents) was the most popular, followed by Wild Game Innovations (30), Browning (26), Stealth Cam (20) and Bushnell (19).

Hunting methods

Cooperators were asked in 2018 what method of hunting they used. Multiple answers were accepted for each cooperator. It was no surprise that hunting from a treestand (70%) was the most popular hunting method in 2018. Hunting from a ground blind (38%) was also very popular among hunters. Twenty percent of our cooperators used stalking as a hunting method and 9% used a variety of other methods. Many of the “other” hunting methods were different types of homemade box blinds or elevated tower stands.

Number of deer “passed up”

One-hundred eighty-one respondents reported passing up at least 1 antlered buck that they could have legally harvested. The number of bucks passed up by hunters ranged from 1 (41 respondents) to a whopping 52. The most common number of bucks passed by hunters was 2 (43).

One-hundred sixty-three respondents reported passing up antlerless deer. The number of antlerless deer passed up ranged from 1 (12 respondents) to 99 (3). The most common number of antlerless deer passed up was 4 (27). However, 16 respondents reported passing up 20 antlerless deer. Hopefully the reason more cooperators passed up bucks than does was because they were taking the opportunity to harvest antlerless deer. Another reason may be that they are actually seeing more bucks than does (probably not the case but a good problem to have).

The majority of cooperators who passed up opportunities to harvest deer were waiting on a bigger one (59%). Five percent had enough meat already, 4% needed more tags and 24% had a variety of other reasons. Some of the more common reasons for passing up shot opportunities included a decreased deer population in the area hunted, unwillingness to break up family groups (does with fawns), waiting on a better shot angle, and the desire to watch the animals instead of kill them. However, the funniest response recorded by a cooperator as the reason for passing up a shot opportunity was, “I don’t shoot no pee pee deer”.

OBSERVATIONS AND REMARKS

Cooperators took the time to record nearly 200 observations and comments, for this, bowhunter committee expresses their thanks. The record rainfall during 2018 showed up on this year’s survey as the number one comment. This probably had an impact on deer sightings and hunter participation. Thus 26 cooperators expressed concerns about seeing less deer.

One of the most common listed concerns was a “want” for a reduced bag limit for bucks. Thirteen percent of comments felt the possibility of harvesting 3 bucks to be too liberal. With that in mind, checking data shows that very, very few sportsmen bag 3 bucks. The 3 buck limit allows hunters to be afield while hoping to see the deer of a lifetime. On the surface reducing the bag limit sounds like a good idea, while in reality it would have little effect.

A lot of hunters commented on the hot weather early in the season, while others stated that it was cold later on. That sounds about right for weather in the mountain state. Six percent of cooperators would like to see some type of antler restrictions. Interestingly, there are many sportsmen practicing this already. In fact, the data shows the chance of a hunter bagging an older buck in West Virginia has never been better!

Several cooperators noticed the rut was late or non-existent. The timing of fawn birthing this past spring would support their observations. Cooperators also saw “too many” coyotes, bears and raccoons. Comments also reflect a lot of squirrels and turkeys in some areas.

The concern for too much doe hunting and the need to stop baiting was recorded five times. Finally, several cooperators expressed that the DNR is doing a good job managing our wildlife. Thank you!

ATTENTION GETTERS

- As a bobcat crossed the road near Summersville in 1978, my wife said, “kill one and stuff it,” I replied that’s probably the only one I’ll ever see. November 2000, I got one with my bow! November 21, 2018, I saw a big one with a squirrel in its mouth. It was followed by a kitten, that’s now 13 cats seen!
- Saw a doe with only one ear.
- I took an 8 pt. and a doe on the same morning November 8, 2018. First time for that, what a morning!
- While hunting several miles from any houses, I saw and heard a flock of birds scratching on a nearby ridge. I saw them for many days. They also roosted on that ridge. Oh yeah, they were chickens!
- I killed my first deer with a recurve bow. It was a 120-inch 10 point.

- I've been seeing two all-white turkeys for 3 years now. They came very close to my stand, both gobblers had all black 9" beards.
- A grouse flew down to me in a field and walked around me like a chicken.
- While cocking my crossbow, I flipped over backwards. I rolled onto a large rock, bruising my thigh. I don't advise cocking your bow while standing on a slope!
- My daughter getting her doe meant more to me than killing a state record.
- Too much doe hunting. The DNR is trying to kill all the deer to make the farmers and insurance companies content while hunters suffer. We need more conservative regulations for deer. They can be killed off!
- Crossbows are real rifles.
- Very pleased with the current buck management policy. The one buck limit is a bad idea! Increasing tag fees while reducing harvest opportunities is bad business. No one "pays more to get less" just ask Kroger!!

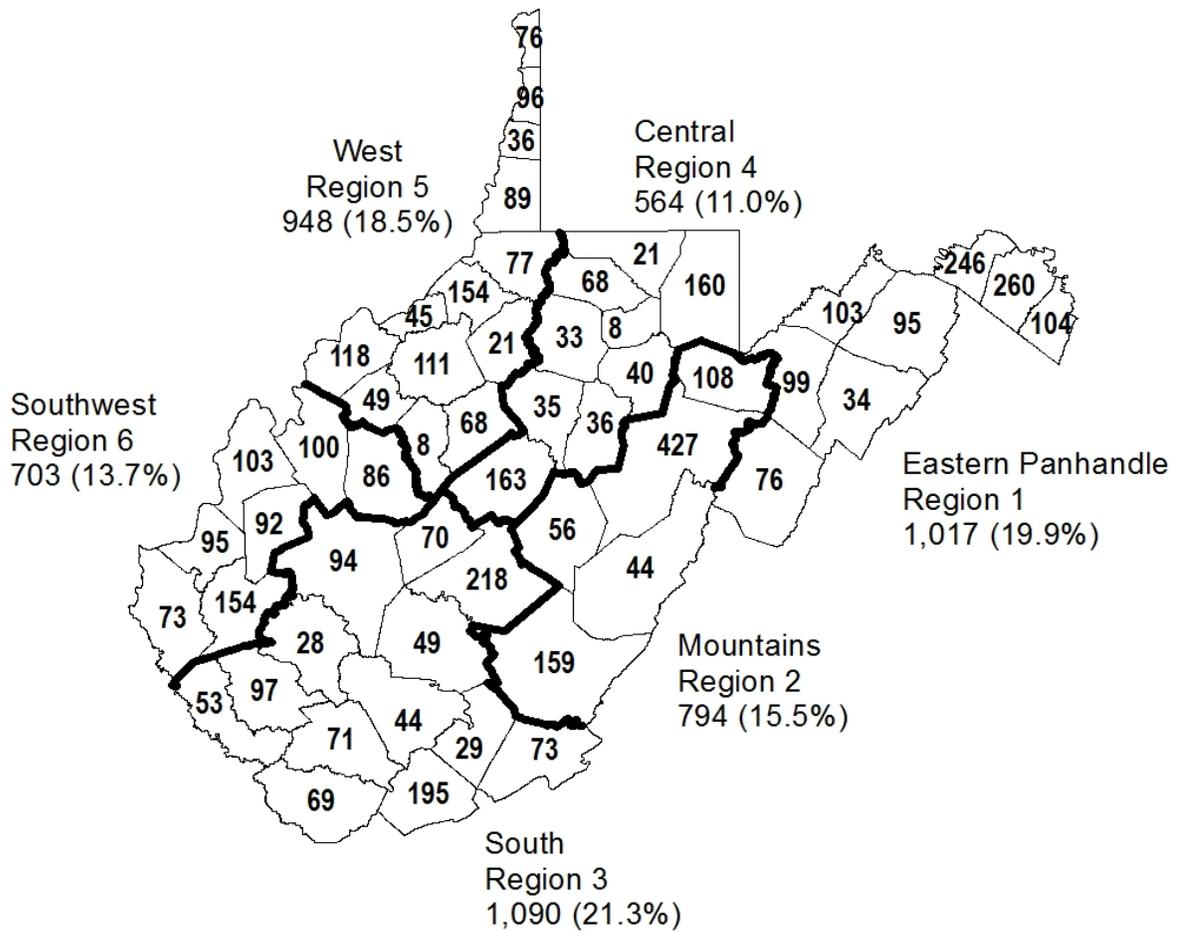


Figure 1. Number of West Virginia bowhunter survey cooperators trips by county and ecological region during the 2018 deer archery season.

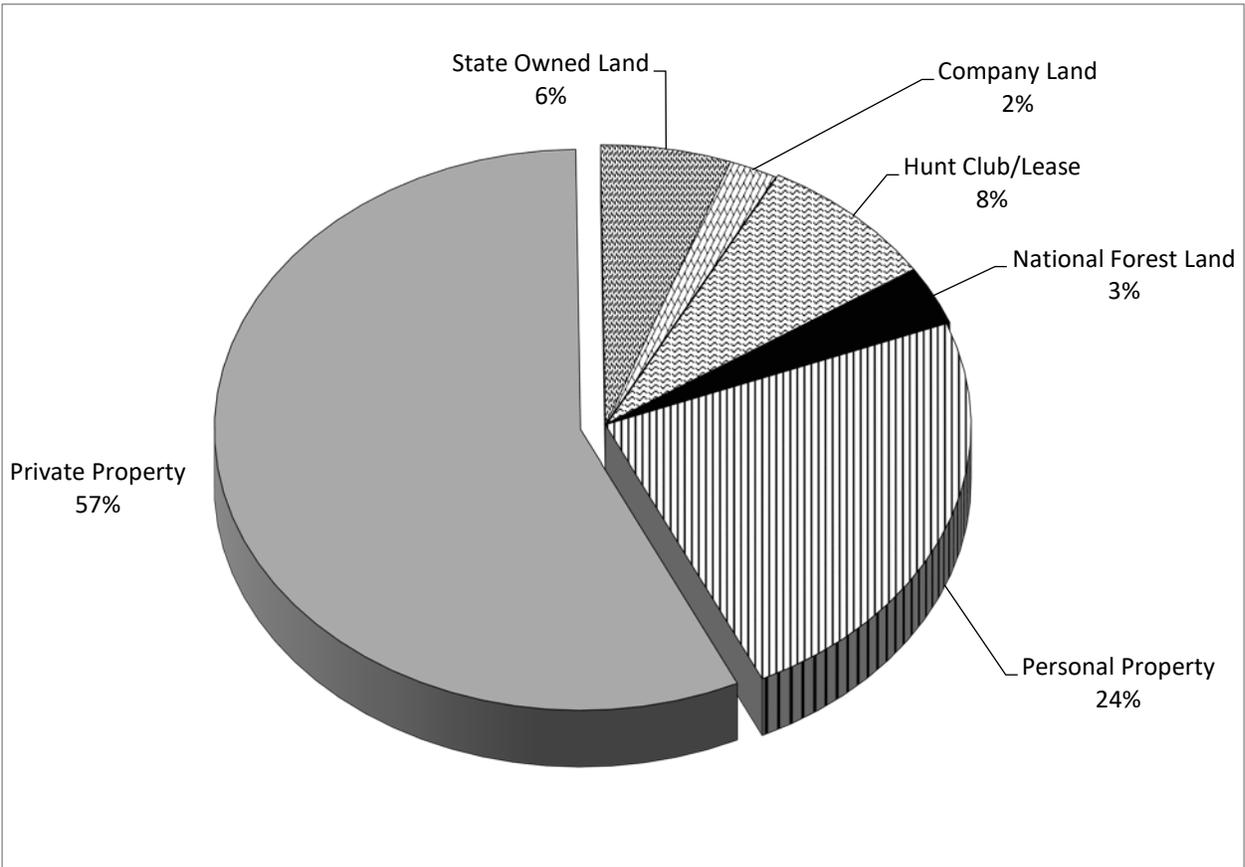


Figure 2. Frequency of hunting trips by landownership by West Virginia bowhunter cooperators during the 2018 deer archery season.

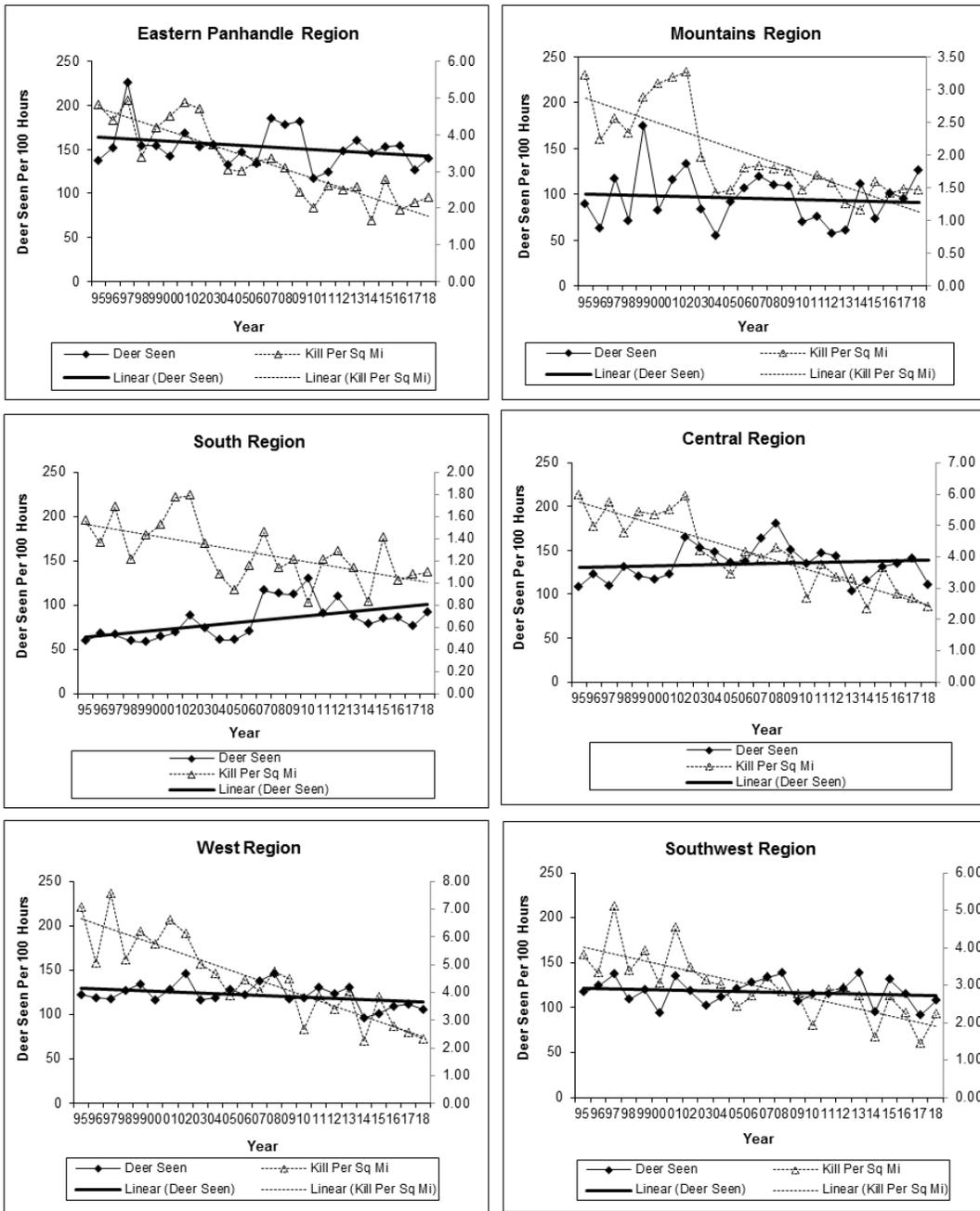


Figure 3. Deer seen per 100 hours during the deer archery season by West Virginia bowhunter cooperators and bucks killed per square mile by year and region, 1995-2018.

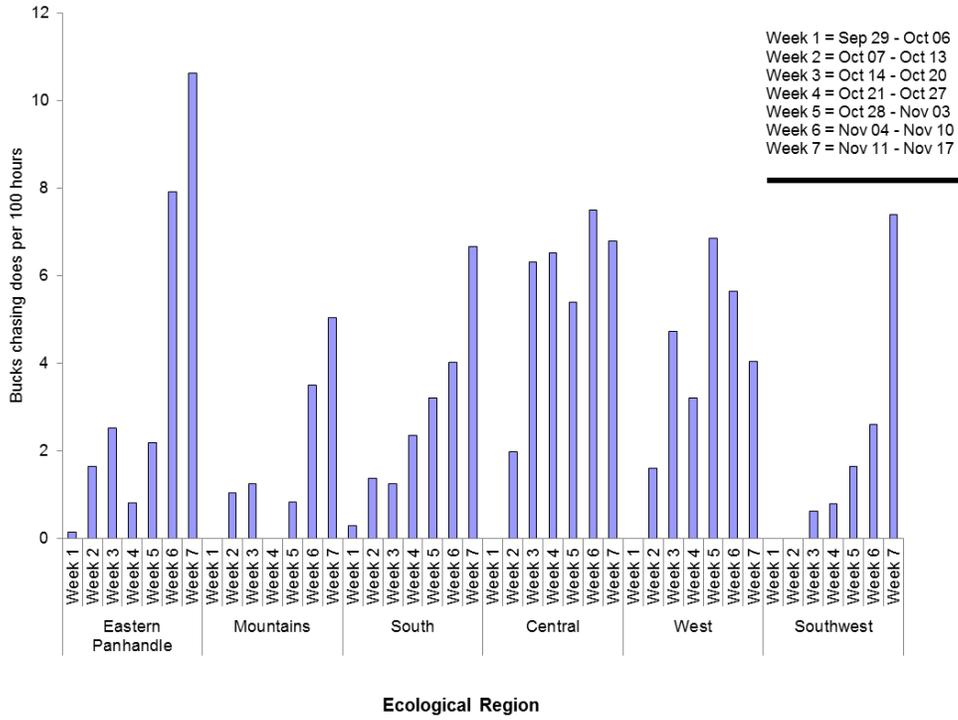


Figure 4. Bucks chasing does by week and ecological region by West Virginia bowhunter survey cooperators during the 2018 deer archery season.

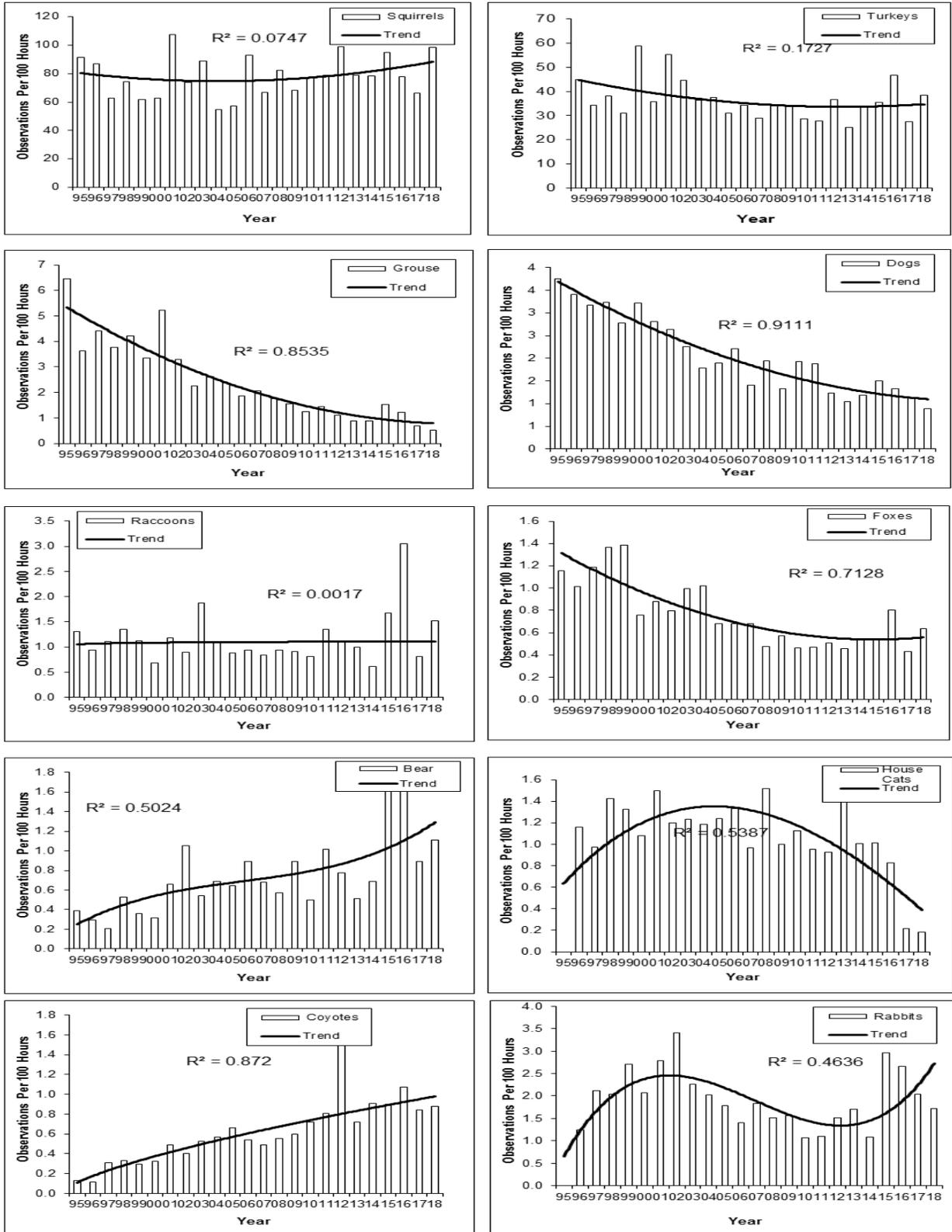


Figure 5. Statewide observation rates of wildlife species per 100 hours observed by West Virginia bowhunter survey cooperators from 1995 to 2018 during the deer archery season.

Table 1. Number of cooperators, hunt trips and deer seen per 100 hours by county and ecological region during the 2018 deer archery season by West Virginia Bowhunter Survey cooperators.

Ecological Region	County	Cooperators	Number Of Trips	Average Hours Per Trip	Buck Seen Per 100 Hrs	Does Seen Per 100 Hrs	Total Deer Seen Per 100 Hours	Bucks Killed Per 1,000 Hours	Does Killed Per 1,000 Hours	Total Killed Per 1,000 Hours
Eastern Panhandle	Berkeley	14	260	3.21	39.19	62.30	149.73	9.29	5.13	14.42
	Grant	7	99	3.05	20.21	53.46	122.31	14.98	20.88	35.86
	Hampshire	6	95	2.99	32.73	69.33	123.54	15.79	0.00	15.79
	Hardy	4	34	3.44	18.77	17.95	65.77	17.16	0.00	17.16
	Jefferson	7	104	2.87	36.19	80.48	181.83	10.74	3.21	13.94
	Mineral	7	103	3.07	30.54	70.60	147.68	12.94	15.37	28.32
	Morgan	12	246	3.13	17.18	49.07	120.21	3.73	2.98	6.71
	Pendleton	8	76	3.51	24.49	94.89	176.98	43.86	15.79	59.65
Eastern Panhandle Average		65	1,017	3.14	28.45	62.55	139.78	12.47	7.13	19.60
	Greenbrier	7	159	4.25	9.86	36.24	81.98	0.00	3.35	3.35
	Pocahontas	4	44	3.08	5.91	37.58	70.31	0.00	29.17	29.17
	Randolph	28	427	3.28	23.28	82.91	158.86	9.88	14.60	24.48
	Tucker	6	108	3.57	15.54	49.90	98.06	0.00	6.48	6.48
	Webster	4	56	3.35	10.54	66.57	106.17	5.95	8.93	14.88
Mountains Average		49	794	3.51	17.68	65.41	126.57	5.73	11.65	17.38
	Boone	2	28	2.95	39.77	37.40	100.04	95.24	14.29	109.52
	Clay	2	70	3.44	25.33	91.83	131.05	3.57	3.57	7.14
	Fayette	4	49	3.61	30.85	34.67	94.00	51.02	8.16	59.18
	Kanawha	2	94	2.68	12.59	27.25	56.51	17.22	10.64	27.86
	Logan	6	97	3.61	25.79	33.05	79.68	0.00	0.00	0.00
	McDowell	2	69	4.39	4.77	8.96	19.80	0.00	0.00	0.00
	Mercer	18	195	3.43	12.98	70.70	125.05	13.13	10.26	23.38
	Mingo	3	53	4.05	15.05	38.47	76.16	9.43	0.00	9.43
	Monroe	8	73	3.54	25.10	60.43	124.68	6.85	15.33	22.18
	Nicholas	20	218	3.81	18.50	52.74	94.96	6.19	7.80	13.98
	Raleigh	5	44	2.75	5.00	24.62	48.37	22.73	30.30	53.03
	Summers	3	29	3.53	21.84	61.26	124.71	17.24	0.00	17.24
	Wyoming	7	71	4.19	21.03	39.89	69.93	15.49	7.04	22.54
South Average		82	1,090	3.58	18.31	48.61	91.67	13.34	7.98	21.33
	Barbour	4	40	4.60	12.74	46.84	113.90	20.83	0.00	20.83
	Braxton	10	163	3.03	25.89	56.23	124.42	22.59	9.42	32.01
	Harrison	3	33	3.17	21.41	54.34	116.31	15.15	0.00	15.15
	Lewis	3	35	4.79	49.28	95.82	183.59	40.48	0.00	40.48
	Marion	6	68	2.87	22.08	38.30	91.18	14.71	25.49	40.20
	Monongalia	3	21	2.81	21.03	44.84	107.94	0.00	0.00	0.00
	Preston	12	160	3.60	18.49	49.75	101.16	10.12	15.33	25.45
	Taylor	2	8	2.50	4.17	37.50	41.67	0.00	0.00	0.00
	Upshur	3	36	2.53	19.01	39.65	81.23	13.89	18.52	32.41
Central Average		46	564	3.35	22.66	52.16	111.72	16.93	11.33	28.26
	Brooke	6	96	3.61	18.82	31.35	77.52	6.94	10.42	17.36
	Calhoun	0	8	3.63	30.42	85.42	139.58	0.00	0.00	0.00
	Doddridge	1	21	3.62	30.05	91.04	170.42	47.62	39.68	87.30
	Gilmer	5	68	3.94	37.75	57.60	124.06	13.97	8.58	22.55
	Hancock	4	76	2.73	33.16	61.87	148.72	13.16	0.00	13.16
	Marshall	7	89	3.14	18.30	29.71	74.05	40.52	4.49	45.01
	Ohio	3	36	2.60	39.59	43.76	128.25	12.35	37.04	49.38
	Pleasants	3	45	3.83	18.41	87.81	133.52	7.41	18.52	25.93
	Ritchie	7	111	3.09	21.83	55.15	117.11	0.00	11.26	11.26
	Tyler	16	154	3.75	11.70	40.36	79.56	11.58	18.40	29.98
	Wetzel	8	77	3.69	19.05	75.89	120.31	35.71	10.82	46.54
	Wirt	6	49	4.11	10.20	50.51	72.52	0.00	0.00	0.00
	Wood	8	118	3.45	17.95	61.41	109.31	12.85	12.71	25.56
	West Average		74	948	3.47	21.05	53.06	105.55	14.82	12.03
	Cabell	8	95	3.47	28.32	65.62	134.03	25.81	2.11	27.92
	Jackson	5	100	3.35	28.93	61.00	125.08	28.33	16.67	45.00
	Lincoln	9	154	3.60	28.84	48.58	113.65	11.18	4.33	15.51
	Mason	11	103	3.69	15.07	33.37	72.57	7.16	5.66	12.82
	Putnam	10	92	3.43	22.25	44.88	93.14	10.87	0.00	10.87
	Roane	4	86	3.58	21.07	53.81	116.89	0.00	1.66	1.66
Wayne	5	73	3.28	19.75	40.43	96.29	0.00	0.00	0.00	
Southwest Average		52	703	3.50	24.01	49.73	107.92	12.44	4.64	17.08
Statewide		368	5,116	3.42	22.00	55.36	113.67	12.53	9.04	21.57

Table 2. Deer seen per 100 hours by ecological region during the 2014 to 2018 deer archery seasons by West Virginia Bowhunter Survey cooperators.

Ecological Region	Year	Cooperators	Trips	Average Hours Per Trip	Bucks Seen Per 100 Hours	Does Seen Per 100 Hours	Fawns Seen Per 100	Unknown Seen Per 100	Total Deer Seen Per 100 Hours
Eastern Panhandle	2014	18	357	2.78	23.29	59.08	35.30	27.15	146.22
	2015	38	671	3.18	26.85	79.28	28.97	17.39	153.04
	2016	61	1,152	3.16	22.60	67.97	38.17	25.06	154.24
	2017	53	859	3.13	21.58	54.24	29.66	20.82	126.77
	2018	65	1,017	3.14	28.45	62.55	30.79	17.99	139.78
Eastern Panhandle Average		235	811	3.11	24.61	64.79	32.74	21.32	143.89
Mountains	2014	12	142	2.82	24.70	36.71	17.74	30.96	111.82
	2015	26	424	3.47	11.81	28.37	18.52	14.97	74.07
	2016	47	752	3.30	17.86	47.88	27.29	7.76	101.03
	2017	33	413	3.50	16.72	43.80	24.04	10.28	95.25
	2018	49	794	3.51	17.68	65.41	34.59	8.89	126.57
Mountains Average		167	505	3.40	16.99	48.82	27.00	11.08	104.20
South	2014	34	693	3.67	20.55	32.46	13.24	12.11	78.84
	2015	75	1,651	3.76	15.79	42.59	18.82	7.49	84.90
	2016	89	1,611	3.51	16.16	45.07	17.10	7.89	86.42
	2017	92	1,686	3.60	15.64	37.01	14.98	8.24	76.04
	2018	82	1,090	3.58	18.31	48.61	18.22	6.53	91.67
South Average		372	1,346	3.62	16.74	41.72	16.77	8.10	83.52
Central	2014	34	533	3.24	23.82	43.83	30.27	16.97	115.68
	2015	52	1,000	3.22	26.61	54.46	33.28	16.58	131.38
	2016	47	701	3.32	26.70	59.76	30.07	18.18	135.33
	2017	94	1,465	3.37	27.65	64.63	35.47	13.69	141.74
	2018	46	564	3.35	22.66	52.16	26.73	10.17	111.72
Central Average		273	853	3.31	26.11	57.19	32.26	15.06	131.02
West	2014	41	692	2.99	18.74	45.05	22.11	10.39	96.89
	2015	58	979	3.24	17.67	46.78	25.39	10.56	100.87
	2016	80	1,346	3.17	19.34	50.00	26.65	12.74	109.11
	2017	74	999	3.23	25.01	50.07	26.96	9.37	111.89
	2018	74	948	3.47	21.05	53.06	21.09	10.35	105.55
West Average		327	993	3.23	20.40	49.27	24.77	10.85	105.66
Southwest	2014	38	555	3.45	20.35	42.07	19.16	12.85	94.83
	2015	64	1,047	3.62	17.17	60.21	28.10	25.03	130.86
	2016	59	985	3.45	22.94	53.65	25.83	11.95	114.63
	2017	51	786	3.56	19.35	40.72	19.98	10.41	90.73
	2018	52	703	3.50	24.01	49.73	24.83	9.35	107.92
Southwest Average		264	815	3.52	20.60	50.59	24.20	14.69	110.34
5-Year Average		1,638	26,615	3.38	20.74	51.15	25.29	13.03	110.53

Table 3. Statewide observation rates for white-tailed deer from 1995 to 2018 by West Virginia Bowhunter Survey cooperators.

Year	Cooperators	Trips	Average Hours Per Trip	Bucks Seen Per 100 Hours	Does Seen Per 100 Hours	Fawns Seen Per 100 Hours	Unknown Seen Per 100 Hours	Total Deer Seen Per 100 Hours
1995	462	7,484	3.24	16.64	93.08	0.00	0.00	109.72
1996	330	6,077	3.30	17.10	95.50	0.00	0.00	112.59
1997	317	5,342	3.33	17.66	103.94	0.00	0.00	121.60
1998	504	8,291	3.25	19.65	91.20	0.00	0.00	110.85
1999	464	7,846	3.38	18.83	99.32	0.00	0.00	118.15
2000	492	8,164	3.42	20.99	81.56	0.00	0.00	102.55
2001	494	8,571	3.45	19.89	99.74	0.00	0.00	119.63
2002	409	7,553	3.39	20.80	109.66	0.00	0.00	130.46
2003	407	6,546	3.34	21.21	91.64	0.00	0.00	112.86
2004	416	6,651	3.54	19.31	87.50	0.00	0.00	106.81
2005	465	7,434	3.35	19.39	65.70	17.69	11.46	114.24
2006	386	5,623	3.45	20.83	49.99	29.01	16.38	116.20
2007	274	4,062	3.39	21.85	76.91	29.44	12.90	141.10
2008	252	3,889	3.32	27.15	62.11	37.93	15.35	143.30
2009	235	3,898	3.29	21.91	55.31	32.75	15.28	125.93
2010	222	3,489	3.33	23.13	54.43	28.27	13.87	119.71
2011	194	3,420	3.29	19.00	50.65	32.11	14.75	117.26
2012	177	2,868	3.34	23.81	52.70	28.19	16.22	121.77
2013	185	3,256	3.19	21.40	52.06	31.49	14.54	120.26
2014	177	2,972	3.25	21.21	42.62	22.33	15.44	102.31
2015	313	5,772	3.46	19.23	51.77	25.28	14.46	111.12
2016	383	6,547	3.32	20.29	53.30	26.64	13.61	114.18
2017	397	6,208	3.41	21.34	48.94	25.01	11.86	107.47
2018	368	5,116	3.42	22.00	55.36	25.64	10.67	113.67
24-Year Average	8,323	137,079	3.36	20.25	76.47	27.19	13.77	116.16

Table 4. Wildlife species seen per 100 hours by ecological region during the 2018 deer archery season by West Virginia Bowhunter Survey cooperators.

Ecological Region	County	Squirrels Seen Per 100 Hours	Turkeys Seen Per 100 Hours	Grouse Seen Per 100 Hours	Dogs Seen Per 100 Hours	Raccoons Seen Per 100 Hours	Foxes Seen Per 100 Hours	Bears Seen Per 100 Hours	Housecats Seen Per 100 Hours	Coyotes Seen Per 100 Hours	Rabbits Seen Per 100 Hours
Eastern Panhandle	Berkeley	122.55	24.28	0.00	0.87	2.21	1.95	0.19	0.00	0.32	3.71
	Grant	118.67	26.92	0.00	0.93	0.00	0.00	0.37	0.51	0.00	1.75
	Hampshire	105.48	11.23	0.00	0.00	0.00	0.00	0.53	0.00	0.00	1.05
	Hardy	72.85	6.12	0.00	0.00	1.07	1.18	0.00	0.00	0.00	0.00
	Jefferson	205.78	19.87	0.00	0.00	1.15	7.81	0.00	0.00	0.38	0.00
	Mineral	81.19	42.85	0.00	0.00	0.00	0.24	0.87	0.00	1.42	0.71
	Morgan	89.15	14.15	0.20	0.24	0.88	0.32	1.29	0.00	0.18	1.22
Pendleton	92.91	20.79	0.44	0.00	0.44	0.70	5.26	0.00	0.44	0.00	
Eastern Panhandle Average		112.94	21.43	0.08	0.37	0.96	1.49	0.93	0.05	0.34	1.58
	Greenbrier	43.30	36.70	0.16	3.79	0.90	0.13	1.31	0.00	0.34	0.25
	Pocahontas	84.57	5.11	4.62	3.41	0.00	0.91	5.68	0.45	0.00	1.48
	Randolph	46.20	52.24	1.75	0.70	0.98	0.06	1.38	0.20	1.10	0.12
	Tucker	51.57	22.77	1.22	0.00	1.47	0.00	3.22	0.00	0.00	0.00
	Webster	59.77	94.61	0.00	0.00	0.89	0.00	3.57	0.60	0.00	0.45
Mountains Average		49.43	45.50	1.39	1.33	0.97	0.11	2.01	0.18	0.66	0.23
	Boone	84.08	30.95	2.38	0.00	3.81	1.19	0.00	0.79	0.00	0.00
	Clay	169.90	1.71	0.00	1.07	2.50	9.29	0.00	0.00	1.67	21.79
	Fayette	61.51	3.78	2.16	8.16	0.00	1.02	1.77	0.00	3.30	0.00
	Kanawha	171.66	14.10	0.00	0.00	0.00	0.35	0.53	0.00	3.38	0.00
	Logan	52.18	24.91	1.58	0.77	6.69	0.29	1.42	0.52	1.70	2.72
	McDowell	32.27	9.15	0.00	4.06	0.00	0.00	2.17	0.00	0.53	0.00
	Mercer	81.52	59.31	2.06	1.66	3.46	1.87	0.10	0.00	0.05	3.41
	Mingo	71.11	3.02	0.00	0.00	0.00	0.00	0.75	0.00	2.26	0.38
	Monroe	56.35	6.56	0.00	0.00	1.14	0.00	1.53	0.00	1.14	0.00
	Nicholas	63.05	60.51	1.27	0.19	1.09	0.18	5.52	0.39	0.11	2.78
	Raleigh	162.95	9.09	0.00	0.00	0.00	0.57	0.00	1.14	0.00	0.00
	Summers	78.24	22.99	0.00	1.72	2.59	0.00	0.00	0.00	0.00	0.86
	Wyoming	69.37	44.80	1.46	1.13	0.47	0.00	0.23	0.00	0.00	0.47
South Average		84.93	32.28	1.02	1.22	1.87	1.12	1.67	0.19	0.95	2.88
	Barbour	61.17	21.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Braxton	138.98	45.82	0.00	0.94	1.63	0.20	6.39	0.18	1.23	3.31
	Harrison	118.13	44.44	0.00	0.00	8.69	1.01	0.00	0.00	3.03	0.00
	Lewis	131.13	49.91	0.00	1.14	0.00	0.00	0.00	0.95	0.48	1.43
	Marion	157.15	30.88	0.00	1.10	1.23	1.10	0.00	0.00	1.84	2.21
	Monongalia	70.71	24.21	0.00	0.95	2.38	1.59	0.00	0.00	0.00	0.00
	Preston	33.86	61.04	0.00	0.18	0.79	0.00	0.21	0.00	0.57	0.58
	Taylor	40.42	116.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Upshur	161.06	59.24	0.00	0.00	2.78	0.00	0.00	0.00	3.78	0.00
	Central Average		101.59	47.81	0.00	0.56	1.62	0.31	1.91	0.11	1.19
	Brooke	60.41	63.63	0.00	0.00	3.82	0.00	0.00	0.00	1.60	2.95
	Calhoun	114.79	43.75	21.88	0.00	0.00	2.50	0.00	0.00	0.00	9.38
	Doddridge	163.66	26.90	0.00	0.00	0.00	0.00	0.00	0.00	1.36	0.00
	Gilmer	86.70	41.64	0.00	0.00	0.00	0.00	0.00	0.98	2.08	0.37
	Hancock	82.57	61.40	0.00	0.00	11.93	0.00	0.00	0.00	1.47	1.32
	Marshall	38.90	42.82	0.00	0.00	3.59	0.00	0.37	0.00	0.54	1.32
	Ohio	74.41	78.94	0.00	0.00	0.00	0.00	0.00	0.00	0.93	3.40
	Pleasants	170.20	21.69	1.19	0.00	2.75	0.00	0.00	0.93	0.93	0.56
	Ritchie	163.85	61.19	0.30	0.00	1.43	0.60	0.30	1.41	0.75	4.07
	Tyler	130.98	34.67	0.22	1.67	0.69	0.32	0.72	0.63	0.32	2.16
	Wetzel	82.88	35.97	0.00	2.49	1.30	0.78	0.00	0.65	1.30	2.27
	Wirt	52.82	11.73	0.68	1.70	0.00	0.00	0.34	0.00	0.51	5.92
	Wood	151.47	133.35	0.00	0.49	0.21	0.28	0.00	0.00	2.84	0.21
West Average		106.89	56.29	0.35	0.62	2.22	0.24	0.21	0.43	1.21	2.13
	Cabell	198.59	30.23	0.00	2.02	2.89	0.00	0.00	0.00	2.98	0.00
	Jackson	91.08	43.04	0.00	0.00	1.54	0.00	0.00	0.00	0.65	2.00
	Lincoln	177.48	22.78	0.38	3.54	1.67	0.00	0.00	0.00	0.77	3.42
	Mason	109.92	30.46	0.24	0.39	0.60	0.00	0.49	0.00	0.00	2.06
	Putnam	123.13	46.63	0.00	0.54	2.08	0.00	0.00	0.00	0.91	0.00
	Roane	128.74	43.75	0.00	0.00	0.62	0.00	0.00	0.79	2.25	0.00
	Wayne	119.67	15.82	0.00	0.93	0.00	0.46	0.00	0.00	0.46	0.91
Southwest Average		139.07	32.76	0.12	1.27	1.41	0.05	0.07	0.10	1.10	1.43
Statewide		98.33	38.40	0.53	0.89	1.52	0.64	1.11	0.18	0.88	1.72

Table 5. Wildlife species seen per 100 hours by ecological region during the 2014-2018 deer archery seasons by West Virginia Bowhunter Survey cooperators.

Ecological Region	Year	Squirrels	Turkeys	Grouse	Dogs	Raccoons	Foxes	Bears	Coyotes	Rabbits
Eastern Panhandle	2014	58.10	25.56	0.00	0.59	0.54	1.80	0.53	0.51	0.58
	2015	87.39	30.40	0.79	0.86	1.28	2.12	0.85	0.59	3.36
	2016	96.03	29.45	0.94	0.91	1.44	1.31	0.96	0.92	1.44
	2017	79.95	16.89	0.28	0.44	0.79	0.62	0.82	0.68	1.16
	2018	112.94	21.43	0.08	0.37	0.96	1.49	0.93	0.34	1.58
Eastern Panhandle Average		92.10	24.60	0.48	0.64	1.08	1.39	0.87	0.63	1.66
Mountains	2014	55.73	48.12	2.21	0.00	1.06	0.00	1.88	0.85	0.70
	2015	63.09	35.02	5.66	2.08	0.45	0.19	5.31	0.77	1.03
	2016	50.10	33.03	4.20	1.86	4.00	0.43	6.62	0.53	1.95
	2017	60.90	24.96	3.23	0.79	0.78	0.24	3.25	1.62	2.33
	2018	49.43	45.50	1.39	1.33	0.97	0.11	2.01	0.66	0.23
Mountains Average		54.16	36.81	3.29	1.45	1.76	0.23	4.13	0.81	1.24
South	2014	80.92	22.38	1.35	1.46	0.80	0.52	0.66	1.40	0.60
	2015	103.44	27.04	2.50	1.98	2.33	0.40	3.18	1.33	5.06
	2016	64.37	29.92	0.84	1.81	2.36	1.12	1.79	1.50	5.81
	2017	69.61	20.52	0.83	1.44	0.75	0.91	1.34	1.26	3.75
	2018	84.93	32.28	1.02	1.22	1.87	1.12	1.67	0.95	2.88
South Average		80.30	26.47	1.33	1.63	1.71	0.83	1.88	1.30	4.10
Central	2014	66.34	49.44	0.62	1.05	0.91	0.62	0.11	1.20	1.68
	2015	84.54	50.18	0.79	1.18	1.87	0.44	1.01	0.91	1.33
	2016	79.81	87.12	1.13	1.38	3.40	0.88	1.64	1.12	1.80
	2017	50.17	42.90	0.25	0.76	0.93	0.07	0.45	0.52	1.35
	2018	101.59	47.81	0.00	0.56	1.62	0.31	1.91	1.19	1.48
Central Average		71.93	53.35	0.54	0.97	1.64	0.39	0.93	0.88	1.48
West	2014	82.00	34.40	1.03	0.96	0.43	0.40	0.49	0.53	1.40
	2015	90.50	35.05	0.86	0.92	2.02	0.15	0.12	0.41	1.65
	2016	81.75	60.53	0.96	0.55	4.21	0.55	0.45	0.77	2.02
	2017	74.88	26.80	0.92	0.93	1.12	0.13	0.29	0.65	2.11
	2018	106.89	56.29	0.35	0.62	2.22	0.24	0.21	1.21	2.13
West Average		86.93	44.26	0.83	0.77	2.25	0.31	0.31	0.73	1.90
Southwest	2014	101.65	31.92	0.59	1.92	0.29	0.03	1.34	0.76	1.17
	2015	113.93	38.89	0.17	1.78	0.90	0.34	0.23	0.92	2.96
	2016	91.90	57.28	0.25	1.61	3.54	0.26	0.18	1.36	1.00
	2017	65.65	27.00	0.04	2.30	0.43	0.35	0.33	0.57	0.40
	2018	139.07	32.76	0.12	1.27	1.41	0.05	0.07	1.10	1.43
Southwest Average		101.96	39.04	0.21	1.77	1.45	0.23	0.36	0.97	1.49
Statewide 5-year average		82.83	36.71	0.99	1.22	1.67	0.60	1.26	0.93	2.23

Table 6. Wildlife species observed per 100 hours from 1995 to 2018 during the deer archery season by West Virginia Bowhunter Survey cooperators.

Year	Squirrels	Turkeys	Grouse	Dogs	Raccoons	Foxes	Bear	House Cats	Coyotes	Rabbits
1995	91.66	44.99	6.46	3.75	1.31	1.16	0.39	N/A	0.13	N/A
1996	86.84	34.36	3.63	3.41	0.94	1.01	0.29	1.16	0.11	1.25
1997	63.00	38.00	4.43	3.16	1.11	1.19	0.21	0.97	0.31	2.12
1998	74.30	31.11	3.78	3.23	1.35	1.37	0.53	1.43	0.33	2.03
1999	62.04	58.73	4.21	2.78	1.12	1.39	0.36	1.33	0.29	2.71
2000	63.06	35.85	3.34	3.23	0.69	0.76	0.32	1.08	0.33	2.07
2001	107.54	55.15	5.23	2.81	1.18	0.88	0.66	1.50	0.49	2.79
2002	73.77	44.49	3.29	2.64	0.90	0.80	1.05	1.20	0.41	3.41
2003	88.91	36.38	2.26	2.26	1.88	1.00	0.54	1.23	0.53	2.26
2004	54.72	37.62	2.61	1.79	1.08	1.02	0.69	1.18	0.57	2.02
2005	57.26	31.02	2.36	1.90	0.89	0.68	0.64	1.24	0.66	1.78
2006	93.10	34.30	1.86	2.21	0.94	0.68	0.89	1.34	0.54	1.41
2007	66.99	28.96	2.06	1.41	0.84	0.68	0.68	0.97	0.49	1.84
2008	82.38	34.41	1.76	1.94	0.94	0.48	0.57	1.52	0.55	1.51
2009	68.37	34.12	1.55	1.33	0.92	0.57	0.89	1.00	0.60	1.56
2010	77.55	28.51	1.24	1.93	0.82	0.46	0.50	1.13	0.72	1.06
2011	79.01	27.85	1.45	1.88	1.34	0.47	1.02	0.96	0.81	1.10
2012	99.02	36.49	1.11	1.24	1.12	0.51	0.78	0.93	1.58	1.51
2013	79.11	25.10	0.88	1.04	0.99	0.45	0.52	1.45	0.72	1.71
2014	78.48	33.43	0.88	1.18	0.62	0.55	0.69	1.01	0.91	1.09
2015	95.05	35.53	1.54	1.50	1.68	0.54	1.64	1.01	0.90	2.96
2016	77.67	46.73	1.21	1.32	3.05	0.80	1.66	0.83	1.08	2.67
2017	66.22	27.43	0.69	1.12	0.82	0.43	0.89	0.22	0.84	2.04
2018	98.33	38.40	0.53	0.89	1.52	0.64	1.11	0.18	0.88	1.72
24-year average	77.97	38.10	2.76	2.25	1.20	0.83	0.72	1.10	0.56	2.08

2018 WEST VIRGINIA BIG BUCK CERTIFICATION PROGRAM

The West Virginia Big Buck Certification Program was established in 1964 to recognize hunters who harvested extraordinarily large-antlered bucks. Although the official “contest” was discontinued in 2013, the West Virginia Division of Natural Resources (WVDNR) continues to officially score deer as part of this program.

The Boone and Crockett Club and Pope and Young Club scoring systems are used to officially score each deer, depending upon method of harvest. Guidelines for the program are as follows:

1. Effective in 2015, deer must have a DNR-issued game check confirmation number (13-digit).
2. To be eligible, the deer must be officially scored after a 60-day drying period by an Official Scorer whom is approved by Boone and Crockett and/or Pope and Young.
3. Any bow or crossbow-killed deer must score at least 125 Typical or 155 Non-Typical. Any gun or muzzleloader-killed deer must score at least 140 Typical or 165 Non-Typical.
4. A signed Fair Chase Affidavit must accompany the Official Score Sheet.
5. For state record entries, field photos of the freshly killed deer (antlers attached) must be submitted at the time of scoring.

In 2018-2019, more than 160 hunters had their deer officially measured by an Official Scorer at a WVDNR District Office, WVDNR field office, at the WV Hunting and Fishing Show in Charleston (sponsored by the West Virginia Trophy Hunter’s Association), or by an Official Scorer at a different location. There are 17 WVDNR Wildlife Biologists and Wildlife Managers throughout the state who are certified as Official Scorers by Boone and Crockett and/or Pope and Young. During the 2018 hunting season, **86** bucks (*See attached table) were harvested with a gun, muzzleloader, bow, or crossbow and met the respective minimum score requirement, as well as the other requirements listed above. An additional **19** bucks from previous years were officially scored and met requirements needed for a WV Big Buck Certificate.

It is noteworthy that a few deer met the respective minimum score requirement but proper game check information or other important data was not provided. A good practice is to record the DNR-issued game check confirmation number and keep it with the mount/skull plate so that it is not misplaced. A hunter may only have their deer scored by one Official Scorer. It is the hunter’s responsibility to work with their Official Scorer to ensure that all documentation is accurately completed and submitted to the WV Big Buck Certification Program Coordinator by March 15th following the year during which the buck was harvested.

Thank you to all hunters who participated in the WV Big Buck Certification Program this year!

WV Big Buck Certification Program 2018 Score Rankings

Antler Configuration: Non-Typical

Weapon: Gun

Name	County	Harvest Date	Ranking	Score
Glenn Pauley	Kanawha	11/20/2018	1	196 4/8

Antler Configuration: Typical

Weapon: Gun

Name	County	Harvest Date	Ranking	Score
Jeffrey Bragg	Fayette	12/01/2018	1	170 2/8
Manuel Davis Jr.	Fayette	11/19/2018	2	165 7/8
Garland Carver	Clay	11/19/2018	3	165 6/8
Frank Palfrey Jr.	Webster	11/19/2018	4	163 5/8
Paul Woods	Webster	11/23/2018	5	161 1/8
Nicholas Bradley	Kanawha	11/21/2018	6	157 3/8
Mark Bartrug	Pleasants	11/19/2018	7	154 0/8
Jody Alderman	Pocahontas	11/19/2018	8	149 1/8
Jerry Toney	Raleigh	11/19/2018	9	149 0/8
Barbara Barnard	Jackson	11/23/2018	10	148 4/8
Joseph Garland	Webster	11/22/2018	11	145 7/8
Rodney Anderson	Webster	11/19/2018	12	142 5/8
Phillip Jones	Monroe	11/26/2018	13	140 7/8

Antler Configuration: Non-Typical

Weapon: Bow

Name	County	Harvest Date	Ranking	Score
Donny Baisden	Logan	10/08/2018	1	182 5/8
Aaron Fry	Logan	10/08/2018	2	171 0/8

Antler Configuration: Typical**Weapon: Bow**

Name	County	Harvest Date	Ranking	Score
David Miller	Boone	09/29/2018	1	173 5/8
Josh Bias	Logan	11/25/2018	2	171 2/8
Bucky Sargent	Logan	11/12/2018	2	171 2/8
Scott Ellis	Logan	11/13/2018	4	163 0/8
Colton Ratcliff	Wyoming	11/21/2018	5	161 4/8
Jeff Holbert	Mingo	11/12/2018	6	160 2/8
Evan Hewitt	McDowell	11/10/2018	7	158 6/8
Ronald Lambert Jr.	Wyoming	11/22/2018	8	155 2/8
Herbert Dawson	McDowell	11/23/2018	9	155 1/8
David Mahan	Jackson	10/29/2018	10	153 0/8
Brad Justice	Logan	11/22/2018	11	151 1/8
David Triplett	Wyoming	11/16/2018	12	150 7/8
Jason Cook	Wyoming	11/17/2018	13	149 5/8
Boyd Adams	Logan	11/10/2018	14	149 3/8
Chase Adams	Logan	10/06/2018	15	147 6/8
Lee Goodman	Logan	11/14/2018	15	147 6/8
Shaun Minnix	Wyoming	11/12/2018	15	147 6/8
Creed Conley	Logan	10/27/2018	18	147 3/8
Brandon Roberts	Boone	11/17/2018	19	147 0/8
Justin Cotton	Fayette	10/04/2018	20	145 1/8
Jimmy Mitchell	Boone	11/05/2018	20	145 1/8
Todd Snider	Ritchie	10/07/2018	22	144 7/8
Ronald Payne	Wyoming	11/14/2018	23	144 1/8
Perry Bailey	Logan	11/06/2018	24	143 5/8
Joshua Fry	Logan	09/29/2018	25	143 1/8

Herbert Castle III	McDowell	12/07/2018	26	142 6/8
Bryan Sizemore	Mingo	10/22/2018	27	142 5/8
Stacy England	McDowell	11/20/2018	28	142 1/8
Scotty Chinsolo	McDowell	11/06/2018	29	141 5/8
Raymond Marshall	McDowell	11/04/2018	29	141 5/8
Tyler Wilson	Lincoln	11/25/2018	31	140 1/8
Michael Shaw	Upshur	10/31/2018	32	140 0/8
Kevin Blevins	McDowell	11/22/2018	33	139 6/8
Ryan Huffman	McDowell	11/18/2018	34	138 6/8
Donald Napier	McDowell	11/17/2018	35	136 3/8
Jordan Butcher	Logan	10/11/2018	36	136 1/8
Zachary Little	McDowell	10/24/2018	37	135 6/8
Brandon Vinson	Wyoming	10/12/2018	37	135 6/8
Caleb Smith	Logan	11/21/2018	39	135 4/8
Devin Estep	McDowell	11/10/2018	40	134 7/8
Casey Lester	McDowell	10/21/2018	41	134 6/8
Jacob Miller	Logan	11/15/2018	42	133 6/8
Tori Butcher	Logan	12/03/2018	43	133 5/8
Josh Canterbury	Cabell	10/20/2018	44	132 7/8
Willie Owens	McDowell	11/19/2018	45	132 3/8
Tyler Harper	Kanawha	10/12/2018	46	132 2/8
Zachary Bolling	McDowell	11/22/2018	47	131 7/8
Shawn Reed	Mingo	11/12/2018	47	131 7/8
Brian Griffith	Raleigh	10/25/2018	49	131 6/8
Rod Miller	Ohio	11/08/2018	50	131 0/8
Keith Minnix	McDowell	12/08/2018	51	130 7/8

Ryan Campbell	Nicholas	11/15/2018	52	129 6/8
Brian Lingenfelter	Cabell	10/19/2018	52	129 6/8
Mark Pettry	Wyoming	11/11/2018	54	128 7/8
Holden Eads	Putnam	11/11/2018	55	127 6/8
Steve Kennedy	Logan	11/12/2018	56	127 1/8
Mike Howington	McDowell	11/20/2018	57	126 6/8
Trace Butcher	Logan	11/14/2018	58	126 2/8
Joshua Delida	McDowell	11/10/2018	59	126 0/8
Christopher Watts	Lincoln	11/16/2018	59	126 0/8

Antler Configuration: Typical

Weapon: Crossbow

Name	County	Harvest Date	Ranking	Score
Russell Mitchem	Wyoming	11/06/2018	1	147 6/8
Michael Patrick	Fayette	09/29/2018	2	144 6/8
Doug Smith	Boone	12/09/2018	3	140 6/8
John Taylor	Kanawha	11/16/2018	4	138 5/8
Jayden Elkins	Boone	10/13/2018	5	138 0/8
Jeff Bella	Boone	11/12/2018	6	134 4/8
Beverly Hurley	Mingo	09/29/2018	7	131 6/8
Earl Reynolds	Boone	10/21/2018	8	130 5/8
Cole Wriston	Nicholas	11/17/2018	9	126 7/8
Daniel Dorsey	Fayette	10/05/2018	10	125 5/8

Antler Configuration: Non-Typical

Weapon: Crossbow

None in 2018

Antler Configuration: Typical

Weapon: Muzzleloader

None in 2018

Antler Configuration: Non-Typical

Weapon: Muzzleloader

None in 2018

APPENDIX

2018 WEST VIRGINIA BOWHUNTER SURVEY DAILY RECORD

Please enter appropriate letter for land ownership.
 U. Personal property (you own the land)
 P. Privately owned by someone other than you
 H. Hunt club/hunting lease
 C. Company land (timber coal, power, etc.)
 S. State owned land
 N. National forest land

Land Posted

Land Type

DEER

PLEASE RECORD NUMBER SEEN, DEER KILLED,
NEW SCRAPES SEEN AND BUCKS CHASING DOES

OTHER WILDLIFE

PLEASE RECORD NUMBER SEEN!

Enter appropriate letter for Weapon Type
 L. Long Bow
 C. Compound
 R. Recurve
 X. Crossbow

Month/Day	Hours Hunted	County	Land Ownership	Posted Yes/No	Field (F), Woods (W), Edge (E) or Upland (U)	Antlered Bucks Seen		Adult Does Seen	Fawns Seen	Unknown Deer Seen	Deer Killed		New Scrapes Seen	Bucks Chasing Does	Bears Seen	Squirrels Seen	Turkeys Seen	Grouse Seen	Raccoons Seen	Dogs Seen	Bobcats Seen	Foxes Seen	Coyotes Seen	Rabbits Seen	Elk Seen	Weapon Type	
						Spike	Forked				M	F															
Saturday September 29																											
Sunday September 30																											
Monday October 01																											
Tuesday October 02																											
Wednesday October 03																											
Thursday October 04																											
Friday October 05																											
Saturday October 06																											
Sunday October 07																											
Monday October 08																											
Tuesday October 09																											
Wednesday October 10																											
Thursday October 11																											
Friday October 12																											
Saturday October 13																											
Sunday October 14																											
Monday October 15																											
Tuesday October 16																											

PLEASE RETURN BY DECEMBER 31, 2018

2018 WEST VIRGINIA BOWHUNTER SURVEY

1. **How many years have you hunted deer with a bow?** _____ years.
2. **What is your zip code?** _____
3. **Please enter your DNR ID number.** _____
4. **Is the deer population in the area you hunt most (circle)?** 1. Increasing 2. Decreasing 3. Constant
 List the County _____
5. **Compared to last year, were deer racks this year (circle)?** 1. Smaller 2. Larger 3. About the same
6. **Is the oak mast (acorns) this year in the area you hunt (circle)?** 1. Abundant 2. Common 3. Scarce
 List County _____
7. **Do you bait or feed deer (circle)?** 1. Yes 2. No
 If yes, circle each type of bait/feed you use and enter number of pounds each year?
 1. Corn _____ # Lbs 2. Apples _____ # Lbs
 3. Sweet Feed _____ # Lbs 4. Commercial Feed _____ # Lbs
8. **Did you hunt with a crossbow during the 2018 deer archery season?** 1. Yes 2. No
 If Yes, did you previously hunt with a compound, longbow or recurve? 1. Yes 2. No
 If Yes, did you also hunt with a compound, longbow or recurve? 1. Yes 2. No
9. **Are you planning participating in the new Mountaineer Heritage Season (circle)?** 1. Yes 2. No
10. If question 9 is Yes, what weapon are you planning on using during that season?
 ___ Bow _____ Muzzleloader _____ Both _____
11. **Do you put out trail cameras for deer observation/scouting?** 1. Yes 2. No
 If yes, how many do you put out during the season? _____
 If yes, what is your favorite brand of trail cameras? _____
12. **What method of hunting did you use during the 2018 bowhunting season (circle all that apply)?**
 Tree Stand _____ Ground Blind _____ Stalking _____ Other (list) _____
13. **How many deer did you pass up during the 2018 West Virginia bow season that you could have legally harvested?**
 Antlered Bucks _____ Antlerless Deer _____
14. If you did pass up a deer for question 13 why did you do that (circle all that apply)?
 a. Already have enough venison
 b. Waiting for a larger animal
 c. Needed more tags for archery season
 d. Other(s) _____
15. **Are you a member of an outdoor or hunting based organization?** 1. Yes 2. No
 a. If yes, please list _____
16. **Are you aware that the DNR holds Sportman's meetings each year and solicits comments on regulations?**
 1. Yes 2. No
 If yes, did you attend or submit comments (circle one)?
 a. Attended meeting c. Attended meeting and submitted written comments
 b. Did not attend meeting d. Did not attend meeting and did not submit written comments
17. **Remarks or observations (please include unusual experiences, your opinion on hunting season regulations, weather, etc.)** _____

18. **Please list the name and address of a friend or relative who might want to participate in this survey next year:** _____

PLEASE RETURN BY DECEMBER 31, 2018

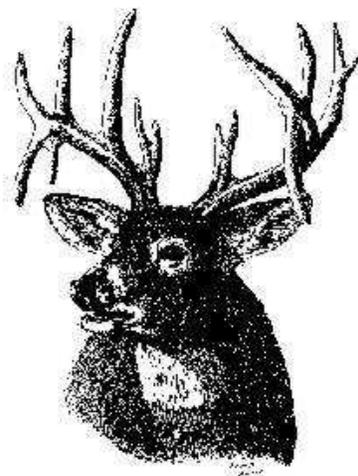
INSTRUCTIONS

2018 BOWHUNTER SURVEY

1. Post your survey form in a convenient spot such as your refrigerator door, mud room or garage entrance, etc., where you'll see it when you return from hunting.
2. For the appropriate date, enter the **number of hours hunted** in the morning (**am**) or afternoon (**pm**) or both if you hunted both am and pm (see example).
3. List the **county** where you hunted. If you hunted in a different location in the morning and afternoon, record the county you hunted each half of the day (see example).
4. Record the **ownership of the land** where you hunted and whether land was **posted, yes or no**. If you hunted in different locations in the morning and afternoon, record the land ownership and posted vs. Not posted for each half of the day (see example).
5. Enter the dominant **land type** where you hunted. If you hunted in the woods, enter 'w' for woods. If you hunted in a field, enter 'f' for fields. If you hunted along the edge of a field (clearing, opening), enter 'e' for edge. If you were hunting in an Urban setting, enter "u" for urban.
6. If you saw no animals or birds while hunting, **simply** leave the spaces blank or enter 0.
7. If you observed any of the animals and birds listed, enter the **number of animals or birds seen** under the animals or birds column (see example). Do not record second or third sightings of the same animal or bird on the same hunt as more than one animal or bird sighted; if you see what you feel is the same animal or bird on different hunts, record it for each hunt.
8. For the deer you see, please record the **number of spike and fork antlered bucks, adult does and fawns**. If you are not **completely sure** of a deer's sex, record it as an unknown. If you killed a deer, **record the number of deer killed by sex. A forked antlered deer will have at least two points on one antler.**
9. Enter the type of weapon used while hunting. Enter "L" for long bow, "C" for compound bow, "R" for a recurve and "X" for crossbow.
10. At the end of the survey period or if you stop hunting before November 19, return the daily record form by taping the folded forms and attaching a stamp where indicated.

THANKS FOR YOUR HELP!!

NOTICE



You must purchase your RB stamps BEFORE hunting season begins on September 29, 2018.

Hunting Regulations:

A bag limit of two deer may be taken per day during any deer season, but only one antlered buck may be taken in a day. You may check your harvested deer using the Electronic License System by phone, internet or visit a licensing agent. See season bag limits pages 14-19 in the 2018-2019 Hunting and Trapping Regulations Summary for further details.

Hunters need to check the 2018-2019 regulations regarding harvesting an antlerless deer in some counties before harvesting a second buck. There were changes to this regulation this year.

There are two additional changes that will interest bowhunters this year. The Urban Archery Season has more days in January and there is the addition of the Mountaineer Heritage Season. Please consult the regulations.

THANKS FOR YOUR HELP!!

Place Stamp Here

BOWHUNTER SURVEY
WV-DNR
PO BOX 67
ELKINS WV 26241



Your purchase
of hunting equipment
supports
Wildlife Restoration



Wildlife Resources Section

West Virginia Division of Natural Resources

324 Fourth Avenue
South Charleston, West Virginia 25303

(304) 558-2771

Fax: (304) 558-3147

