

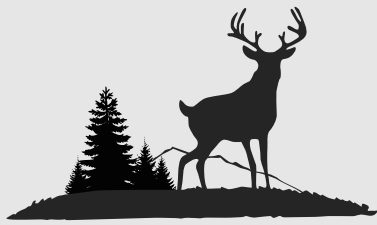
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BLACK BEAR

By

Colin P. Carpenter

Season Results and Highlights

West Virginia hunters harvested 3,012 black bears during the combined 2016 archery and firearms seasons (Tables 1, 2 and 3). This is the second straight year the harvest has topped 3,000. The harvest of 2016 was 6% lower than the record harvest of 2015 (3,201) and is the second highest bear kill recorded (Figure 1, Table 4).

The 2016 Mast Survey and Hunting Outlook documented mast production for all species combined that was 27% below the long-term average. However, oak mast production statewide increased significantly over 2015 and was above the long-term average. The greatest increases in oak mast production in 2016 were in black, red and scarlet oaks. Abundant oak mast typically leads to a decreased archery harvest and an increased December firearms harvest. However, it was obvious in 2016 that oak mast production was spotty or had been consumed in most areas by the time the December firearms season opened. The archery harvest decreased 7% (as predicted) and the traditional December firearms harvest also declined 13% instead of increasing as was predicted. The greatest increase in harvest in 2016 was during the September/October firearms seasons (21%).

Hunters took 1,019 bears during the first segment of the 2016 archery season (September 24 – November 19). The top five counties were Randolph (82), Fayette (74), Nicholas (60), Greenbrier (55) and Preston (52) (Tables 1 and 2). In all bear seasons combined, hunters using vertical bows killed 633 bears and hunters using crossbows killed 449 bears.


Hunters harvested 1,993 (1,198M: 795F) bears during the 2016 combined firearms seasons (Table 2). This is a 6% decrease over the 2,110 bruins killed in 2015 (Table 4). Hunters took 883 bears in September and October, 342 during the concurrent buck/bear season and 768 during the traditional December season (Table 1). The top five counties were Pendleton (177), Randolph (167), Pocahontas (161), Nicholas (153) and Hardy (133).

Non-hunting Mortalities

Two-hundred forty-four bears were killed on highways, died as a result of illegal or marauder activities, or succumbed from other non-hunting causes (electrocution, mange, etc.) (Tables 4 and 5). This is up 58% from the 154 non-hunting mortalities recorded in 2015 (Table 4). There were 108 deaths from vehicles

in 2016 compared to 60 in 2015. The number of illegal deaths was down from 3 to 1 from 2015 to 2016, respectively. Miscellaneous deaths stayed the same in 2016 (8). Bears killed for nuisance or damage activity (marauders) increased to 127 from the 83 reported in 2015. The combined seasonal and non-seasonal deaths (3,256) is the second highest ever recorded in West Virginia (Table 4).

Damage Payments and Nuisance Complaints

All hunters who pursue bears are required to buy bear damage stamps (Class DS). Funds derived from stamp sales are deposited in a special bear damage account to reimburse property owners for real and personal property damage caused by bears. 

The number of bear damage claims was up 8% from 150 in 2015 to 162 in 2016 (Table 6). Total payments of \$203,922 were 32% higher than the \$154,981 paid out in 2015. Claims were reported in 30 counties in 2016 and 37 counties in 2015. There were 42 claims for bees (compared to 38 in 2015) totaling \$33,047, 12 for livestock at \$3,508 (14 in 2015), 74 for corn at \$155,126 (40 in 2015), and 34 (58 in 2015) miscellaneous claims at \$12,241.

Preston County had the greatest dollar amount in compensations at \$42,877 followed by Greenbrier (\$41,981), Pendleton (\$26,748), Pocahontas (\$19,425) and Monroe (\$13,366). Greenbrier County had the highest number of claims (32) followed by Pocahontas (17), Preston (15) and Mercer, Nicholas and Raleigh (10 each).

West Virginia Division of Natural Resources (DNR) employees received 987 nuisance bear calls in 2016 compared to 721 in 2015. The 5 counties with the most complaints were Greenbrier (116), Raleigh (87), Nicholas (73), Mercer (54) and Hampshire (52).

Tooth Collections

Age data from the 2015 tooth samples have been received and hunters will be notified of their bear's age. Hunters submitted 224 useable teeth (correct tooth, identification matched check tags, etc.) for age consideration. There were 3 cubs, 24% (54) were yearlings, 30% (67) were 2-year olds, 13% (30) were 3- year olds, and the remaining 31% (70) were 4-years old or older. Biologists use age data from hunter-harvested bear teeth to calculate population estimates and mortality rates for black bears in West Virginia. The 224 useable teeth submitted in 2015 represent only 7% of the total black bear harvest and is the lowest percentage of the harvest ever collected. The good news is that mandatory tooth submission for the 2016 season has allowed managers to collect teeth from >50% of the total harvest. This rate should improve in the years to come which will allow for more precise estimates of population size.

Reproductive Tract Collections

Wildlife managers and biologists have been collecting female reproductive tracts to estimate litter size around the state for many years. The data gathered from reproductive tracts (cubs/female) mirrors data collected from visiting the dens of radio-tagged females. The information collected from examining female reproductive tracts can be obtained at far less cost than maintaining a large sample of radio-tagged females

Managers collected only 10 reproductive tracts that supplied useful information in 2015. Reproductive tract data lags one year behind because researchers are waiting on age data. Information from reproductive tracts obtained in 2015 cannot be fully analyzed until ages are determined. No yearling tracts were examined in 2015. Two 2-year olds showed evidence of breeding in 2015 and averaged 2 corpora lutea per female. These bears would have given birth at age 3 to their first litter. Three sows over the age of 3 showed evidence of breeding and averaged 2.33 corpora lutea. Four females over the age of 3 showed evidence of giving birth in 2015 and had 2.5 placental scars. One 6 year old sow had no evidence of corpora lutea or placental scars.

In 2016, the West Virginia Division of Natural Resources offered hunters who turned in complete reproductive tracts a \$20.00 gift card for their cooperation. The goal in the first year was to buy up to 100 reproductive tracts. Hunters submitted 15 reproductive tracts in 2016 and wildlife biologists collected an additional 12 reproductive tracts from bears that died throughout the year. These results will be reported next year. In 2017, the reproductive tract collection effort will be advertised to a much greater extent to encourage hunter participation.

Black Bear Research

Reproductive tracts and tooth collections from harvested bears provide the most cost-effective way to monitor the black bear population and are being used to help make decisions about changes in hunting regulations. Therefore, radio collars have only been left on a small number of females in the northern and southern part of the state (6 in 2016). In 2016, managers visited 3 sows with yearlings. Managers visited 3 sows with neonate cubs ($\bar{x} = 2$).

Monitoring the status of West Virginia's black bear population has always been a top priority for the West Virginia Division of Natural Resources. Trends in bear population size are more realistic to obtain than absolute population numbers. In recent years, managers have shifted gears from growing the bear population to stabilizing population growth or reducing bear numbers in some management units. Accurate trend data is essential to making sound decisions on bear hunting seasons and bag limits.

The implementation of mandatory bear tooth submission will add

confidence to estimates of population size and survival estimates. In addition, mandatory tooth submission will allow managers to explore other methods of population estimation to support estimates obtained from ages alone.

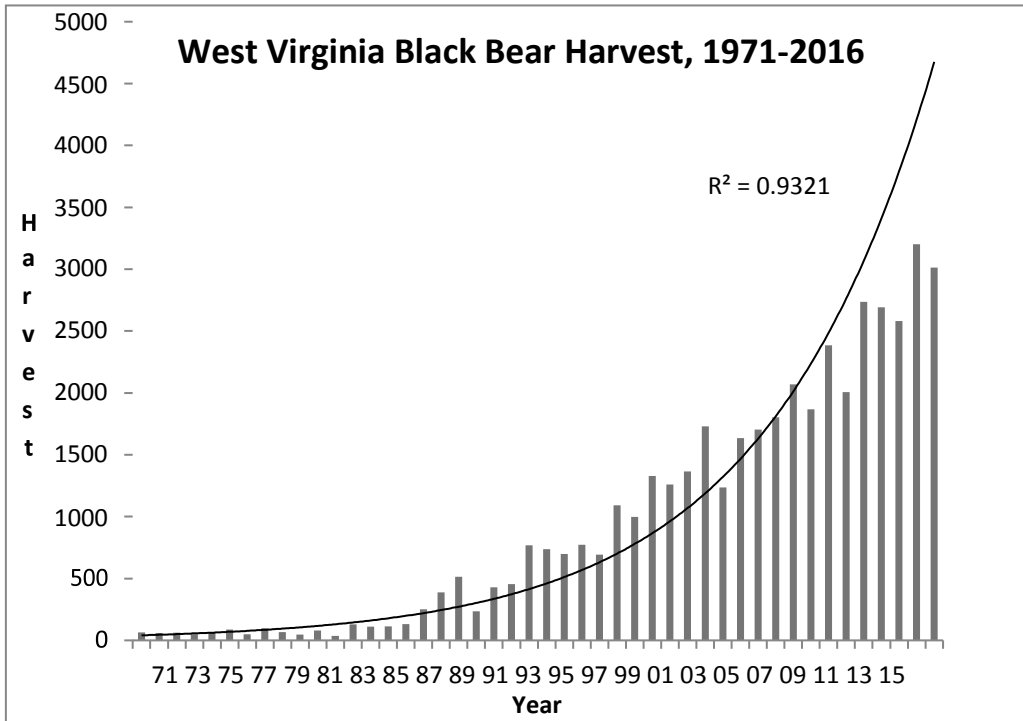


Figure 1. West Virginia black bear harvest, 1971-2016.

Table 1. West Virginia 2016 black bear harvest by season and county.

County	Bow*	Sept/Oct	Buck Gun	December	Total
Barbour	45	20	1	0	66
Brooke	0	0	0	0	0
Hancock	0	0	0	0	0
Harrison	16	0	2	0	18
Marion	3	0	0	0	3
Marshall	2	0	0	0	2
Monongalia	7	0	2	0	9
Ohio	0	0	0	0	0
Preston	52	41	22	22	137
Taylor	17	0	1	0	18
Tucker	35	37	6	50	128
Wetzel	1	0	0	1	2
District I Subtotal	178	98	34	73	383
Berkeley	3	0	3	0	6
Grant	25	31	6	39	101
Hampshire	17	0	29	4	50
Hardy	26	61	14	58	159
Jefferson	3	0	2	0	5
Mineral	11	0	0	9	20
Morgan	8	0	11	0	19
Pendleton	37	100	10	67	214
Dist. II Subtotal	130	192	75	177	574
Braxton	36	11	4	11	62
Clay	9	13	7	16	45
Lewis	13	0	5	0	18
Nicholas	60	56	31	66	213
Pocahontas	23	62	11	88	184
Randolph	82	99	4	64	249
Upshur	14	10	2	6	32
Webster	38	50	9	52	149
Dist. III Subtotal	275	301	73	303	952
Fayette	74	21	39	13	147
Greenbrier	55	45	12	73	185
McDowell	54	38	0	16	108
Mercer	33	0	4	2	39
Monroe	24	27	17	29	97
Raleigh	36	25	9	7	77
Summers	26	0	8	0	34
Wyoming	25	30	0	2	57
Dist. IV Subtotal	327	186	89	142	744
Boone	23	28	30	32	113
Cabell	0	0	0	0	0
Kanawha	26	38	33	28	125
Lincoln	1	0	0	0	1
Logan	23	26	0	2	51
Mason	0	0	0	0	0
Mingo	13	14	0	7	34
Putnam	0	0	0	0	0
Wayne	1	0	0	0	1
Dist. V Subtotal	87	106	63	69	325
Calhoun	1	0	3	0	4
Doddridge	3	0	0	0	3
Gilmer	7	0	4	3	14
Jackson	0	0	0	0	0
Pleasants	0	0	0	0	0
Ritchie	4	0	0	0	4
Roane	1	0	0	0	1
Tyler	2	0	0	0	2
Wirt	4	0	1	1	6
Wood	0	0	0	0	0
Dist. VI Subtotal	22	0	8	4	34
STATE TOTAL	1019	883	342	768	3,012

*"Bow" refers to bears killed with a bow or crossbow from September 24, 2016 - November 19, 2016.

All other bow and crossbow bear kills have been separated based on the dates in which they were killed.

Table 2. Sex ratios of West Virginia black bears for September or November gun season, bow season, and December gun season, 1964-2016.

Year	Bow or gun season September/October		Bow season and/or Early Nov. gun season		Late Nov. or December gun season		Annual Kill		Total*
	Male	Female	Male	Female	Male	Female	Male	Female	
1964-1983	0	0							
20-Yr Total	0	0	345	360	415	152	760	512	1,272
Sex Ratios	0	0	49%	51%	73%	27%	60%	40%	
1984	0	0	8	8	51	43	59	51	110
1985	0	0	14	7	68	24	82	31	113
1986	0	0	31	14	61	26	92	40	132
1987	0	0	40	14	146	51	186	65	251
1988	0	0	21	16	198	165	219	181	400
1989	0	0	81	96	198	135	279	231	510
1990	0	0	41	20	114	60	155	80	235
1991	0	0	72	57	186	111	258	168	426
1992	0	0	112	89	169	85	281	174	455
1993	0	0	141	96	340	190	481	286	767
1994	0	0	111	73	290	258	401	331	732
1995	0	0	152	75	310	153	462	228	690
1996	0	0	114	101	355	198	469	299	768
1997	0	0	225	198	178	85	403	283	686
1998	0	0	167	97	481	337	648	434	1,082
1999	0	0	256	168	369	201	625	369	994
2000	0	0	196	102	655	364	851	466	1,317
2001	0	0	302	165	482	301	784	466	1,250
2002	0	0	540	321	327	169	867	490	1,357
2003	0	0	605	422	450	222	1,055	644	1,699
2004	0	0	319	219	479	218	798	437	1,235
2005	0	0	432	285	616	301	1,048	586	1,634
2006	0	0	399	266	727	312	1,126	578	1,704
2007	0	0	521	328	637	318	1,158	646	1,804
2008	348	322	283	177	597	343	1,228	842	2,070
2009	118	79	575	417	464	215	1,157	711	1,868
2010	215	248	314	146	932	530	1,461	924	2,385
2011	332	306	356	254	483	276	1,171	836	2,007
2012	380	310	462	261	844	478	1,686	1,049	2,735
2013	375	309	523	330	743	412	1,641	1,051	2,692
2014	265	240	402	165	1008	501	1,675	906	2,581
2015	423	303	685	406	843	541	1,951	1,250	3,201
2016	457	426	600	419	741	369	1,798	1,214	3,012
33-Year Total	2,913	2,543	9,100	5,812	14,542	7,992	26,555	16,347	42,902
Average Sex Ratios	53%	47%	61%	39%	65%	35%	62%	38%	
2016 Sex Ratios	52%	48%	59%	41%	67%	33%	60%	40%	

*Represents bears of known sex and not the total harvest in each year.

Table 3. West Virginia total black bear harvest by county, 2012-2016.

County	2012	2013	2014	2015	2016
Barbour	43	46	43	66	66
Brooke	0	0	0	0	0
Hancock	0	0	0	0	0
Harrison	3	4	2	7	18
Marion	1	2	0	4	3
Marshall	0	0	0	0	2
Monongalia	8	11	7	10	9
Ohio	0	0	0	0	0
Preston	132	131	119	155	137
Taylor	7	4	6	10	18
Tucker	94	108	106	116	128
Wetzel	1	1	2	2	2
District I Subtotal	289	307	285	370	383
Berkeley	3	2	5	7	6
Grant	116	95	119	73	101
Hampshire	72	35	42	59	50
Hardy	146	123	169	114	159
Jefferson	12	3	2	3	5
Mineral	14	22	14	17	20
Morgan	18	11	12	12	19
Pendleton	197	221	205	190	214
Dist. II Subtotal	578	512	568	475	574
Braxton	42	48	40	48	62
Clay	47	37	34	59	45
Lewis	13	7	11	21	18
Nicholas	149	146	164	266	213
Pocahontas	187	140	199	191	184
Randolph	240	297	219	267	249
Upshur	22	18	34	38	32
Webster	223	178	218	222	149
Dist. III Subtotal	923	871	919	1112	952
Fayette	192	138	111	162	147
Greenbrier	183	180	199	209	185
McDowell	67	69	49	109	108
Mercer	15	32	13	34	39
Monroe	34	63	55	89	97
Raleigh	71	103	63	124	77
Summers	13	18	15	14	34
Wyoming	52	99	34	108	57
Dist. IV Subtotal	627	702	539	849	744
Boone	117	116	100	130	113
Cabell	0	0	0	1	0
Kanawha	122	79	103	102	125
Lincoln	2	3	1	7	1
Logan	51	63	34	84	51
Mason	0	0	0	0	0
Mingo	11	32	12	39	34
Putnam	0	0	0	1	0
Wayne	2	1	1	5	1
Dist. V Subtotal	305	294	251	369	325
Calhoun	2	2	8	5	4
Doddridge	0	0	0	2	3
Gilmer	3	0	2	11	14
Jackson	0	0	0	0	0
Pleasants	0	0	1	1	0
Ritchie	4	3	2	1	4
Roane	4	1	1	1	1
Tyler	0	0	0	1	2
Wirt	0	0	5	4	6
Wood	0	0	0	0	0
Dist. VI Subtotal	13	6	19	26	34
STATE TOTAL*	2,735	2,692	2,581	3,201	3,012

*Totals change as late tags are added to the database.

Table 4. Number of black bears killed each year in West Virginia and cause of death.

Year	Hunting Season		Illegal Kill	Road Kill	Marauders	Others	Total
	Bow	Gun					
70's Subtotal	14	523	70's Average Annual Bag: Bow 2; Gun 65				
80's Subtotal	261	1,542	80's Average Annual Bag: Bow 26; Gun 154				
90's Subtotal	2,363	4,506	90's Average Annual Bag: Bow 236; Gun 450				
2000	305	1,023	6	16	8	4	1,362
2001	475	785	18	43	22	1	1,344
2002	726	670	14	82	28	10	1,530
2003	774	958	17	87	61	7	1,904
2004	374	861	7	55	22	11	1,330
2005	585	1,076	15	62	18	10	1,766
2006	516	1,188	8	61	36	10	1,819
2007	728	1,076	4	62	155	7	2,032
2008	460	1,610	3	38	34	6	2,151
2009	992	876	11	70	184	9	2,142
00's Subtotal	5,935	10,123	00's Average Annual Bag: Bow 600; Gun 1,002.				
2010	460	1,925	6	66	35	5	2,497
2011	610	1,397	8	107	85	6	2,213
2012	723	2,012	5	72	104	2	2,918
2013	853	1,839	4	65	94	12	2,867
2014	593	1,988	2	81	86	7	2,757
2015	1,091	2,110	3	60	83	8	3,355
2016	1,019	1,993	1	108	127	8	3,256
10's Subtotal	5,349	13,264	10's Average Annual Bag: Bow 764; Gun 1,895				

*November Gun Seasons held in 1989, and 2002 - 2016 in certain counties.

**September Season held in 2008-2016 in certain counties.

***Check tags without season (<0.05%) marked were assumed gun kills for this table.

****Bow kill for 2015 indicates bears killed between September 26 - November 21, 2015, not all bears killed with a bow or crossbow.

****Bow kill for 2016 indicates bears killed between September 24 - November 19, 2016, not all bears killed with a bow or crossbow.

Table 5. West Virginia 2016 nonseasonal black bear mortalities by county and type.

County	Roadkills	Illegal	Marauders	Misc.	Total
Barbour	2	0	1	0	3
Brooke	0	0	0	0	0
Hancock	0	0	0	0	0
Harrison	5	0	1	0	6
Marion	0	0	0	0	0
Marshall	0	0	0	0	0
Monongalia	2	0	4	1	7
Ohio	0	0	0	0	0
Preston	7	0	8	2	17
Taylor	0	0	0	0	0
Tucker	0	0	2	0	2
Wetzel	0	0	1	0	1
Dist. I Subtotal	16	0	17	3	36
Berkeley	0	0	0	2	2
Grant	0	0	0	0	0
Hampshire	3	0	1	2	6
Hardy	2	0	11	0	13
Jefferson	0	0	0	0	0
Mineral	0	0	0	1	1
Morgan	0	0	0	0	0
Pendleton	5	0	12	0	17
Dist. II Subtotal	10	0	24	5	39
Braxton	13	0	4	0	17
Clay	1	0	0	0	1
Lewis	16	0	0	0	16
Nicholas	19	0	11	0	30
Pocahontas	2	0	34	0	36
Randolph	2	0	1	0	3
Upshur	2	0	1	0	3
Webster	1	0	2	0	3
Dist. III Subtotal	56	0	53	0	109
Fayette	9	0	3	0	12
Greenbrier	2	1	14	0	17
McDowell	0	0	0	0	0
Mercer	2	0	2	0	4
Monroe	1	0	0	0	1
Raleigh	4	0	7	0	11
Summers	0	0	1	0	1
Wyoming	1	0	0	0	1
Dist. IV Subtotal	19	1	27	0	47
Boone	2	0	2	0	4
Cabell	0	0	0	0	0
Kanawha	1	0	3	0	4
Lincoln	0	0	0	0	0
Logan	0	0	1	0	1
Mason	0	0	0	0	0
Mingo	0	0	0	0	0
Putnam	0	0	0	0	0
Wayne	1	0	0	0	1
Dist. V Subtotal	4	0	6	0	10
Calhoun	0	0	0	0	0
Doddridge	1	0	0	0	1
Gilmer	0	0	0	0	0
Jackson	0	0	0	0	0
Pleasants	0	0	0	0	0
Ritchie	1	0	0	0	1
Roane	1	0	0	0	1
Tyler	0	0	0	0	0
Wirt	0	0	0	0	0
Wood	0	0	0	0	0
Dist. VI Subtotal	3	0	0	0	3
Unknown	0	0	0	0	0
State Total	108	1	127	8	244

Table 6. Black bear damage claims paid and payments by county 2012-2016.

County	2012		2013		2014		2015		2016	
	Claims	Payments	Claims	Payments	Claims	Payments	Claims	Payments	Claims	Payments
Barbour	0	\$0	1	\$208	1	\$399	2	\$1,396	1	\$673
Berkeley	0	\$0	3	\$899	0	\$0	0	\$0	0	\$0
Boone	2	\$587	0	\$0	6	\$2,770	3	\$9,443	2	\$777
Braxton	1	\$383	9	\$3,332	4	\$750	1	\$263	2	\$486
Brooke	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0
Cabell	0	\$0	0	\$0	0	\$0	1	\$411	0	\$0
Calhoun	0	\$0	0	\$0	0	\$0	2	\$364	1	\$52
Clay	1	\$225	1	\$149	8	\$1,954	2	\$291	1	\$205
Doddridge	0	\$0	0	\$0	1	\$141	0	\$0	0	\$0
Fayette	4	\$1,672	8	\$5,352	10	\$6,695	7	\$4,008	3	\$1,891
Gilmer	1	\$1,040	2	\$185	1	\$398	1	\$100	1	\$349
Grant	5	\$9,064	5	\$7,425	2	\$5,578	4	\$4,817	2	\$1,086
Greenbrier	24	\$63,572	33	\$46,475	23	\$24,999	28	\$46,693	32	\$41,981
Hampshire	15	\$8,993	11	\$5,791	3	\$328	5	\$2,927	5	\$8,980
Hancock	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0
Hardy	13	\$28,052	15	\$40,965	8	\$14,839	8	\$3,382	8	\$10,128
Harrison	0	\$0	0	\$0	2	\$1,570	1	\$150	0	\$0
Jackson	0	\$0	1	\$1,817	0	\$0	0	\$0	0	\$0
Jefferson	0	\$0	0	\$0	0	\$0	1	\$144	0	\$0
Kanawha	2	\$199	2	\$820	1	\$299	1	\$138	3	\$591
Lewis	3	\$888	1	\$669	1	\$541	3	\$1,733	1	\$293
Lincoln	1	\$328	0	\$0	0	\$0	0	\$0	0	\$0
Logan	8	\$3,256	6	\$1,868	5	\$1,793	2	\$293	0	\$0
Marion	1	\$834	2	\$952	4	\$1,360	4	\$1,823	0	\$0
Marshall	0	\$0	0	\$0	0	\$0	1	\$578	1	\$951
Mason	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0
McDowell	1	\$2	0	\$0	0	\$0	2	\$212	1	\$125
Mercer	2	\$580	6	\$5,679	2	\$633	6	\$3,575	10	\$6,089
Mineral	8	\$4,107	1	\$863	3	\$1,200	1	\$80	7	\$6,294
Mingo	1	\$313	3	\$824	0	\$0	5	\$4,900	0	\$0
Monongalia	0	\$0	1	\$54	2	\$7,999	1	\$606	0	\$0
Monroe	3	\$10,753	11	\$26,745	1	\$5,765	0	\$0	5	\$13,366
Morgan	1	\$1,150	2	\$610	5	\$5,523	1	\$674	1	\$623
Nicholas	15	\$5,039	9	\$7,206	5	\$1,107	5	\$3,608	10	\$3,519
Ohio	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0
Pendleton	17	\$32,054	14	\$9,910	13	\$14,000	11	\$21,839	9	\$26,748
Pleasants	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0
Pocahontas	22	\$22,211	8	\$9,190	11	\$9,818	12	\$13,155	17	\$19,425
Preston	11	\$33,158	12	\$39,988	10	\$23,758	7	\$18,134	15	\$42,877
Putnam	1	\$1,000	0	\$0	0	\$0	0	\$0	0	\$0
Raleigh	6	\$1,447	4	\$1,093	7	\$2,726	3	\$557	10	\$8,004
Randolph	9	\$1,651	8	\$2,581	13	\$3,123	3	\$363	5	\$1,004
Ritchie	0	\$0	1	\$350	0	\$0	0	\$0	0	\$0
Roane	0	\$0	1	\$2,403	2	\$854	0	\$0	0	\$0
Summers	2	\$742	2	\$813	3	\$2,557	1	\$173	3	\$4,512
Taylor	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0
Tucker	12	\$28,290	9	\$17,672	2	\$1,874	2	\$5,288	2	\$1,552
Tyler	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0
Upshur	0	\$0	1	\$75	1	\$227	4	\$1,099	1	\$45
Wayne	1	\$299	1	\$451	0	\$0	0	\$0	2	\$696
Webster	9	\$7,471	4	\$1,659	0	\$0	1	\$250	1	\$600
Wetzel	5	\$4,154	3	\$2,244	0	\$0	3	\$960	0	\$0
Wirt	0	\$0	1	\$919	2	\$775	0	\$0	0	\$0
Wood	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0
Wyoming	3	\$815	4	\$1,517	1	\$118	5	\$554	0	\$0
Total	210	\$274,329	206	\$249,753	163	\$146,471	150	\$154,981	162	\$203,922

WILD TURKEY

By
Christopher W. Ryan

Spring Harvest

Spring gobbler season began in 1966 on our wildlife management areas and went statewide in 1968. The 2016 harvest, which started on the third Monday in April, was 10,361, which was 15% higher than 2015 (Table 1). All six administrative Districts in the state recorded a higher harvest with District I having the most birds at 2,092, followed by District IV (1,982), District VI (1,927), District V (1,810), District III (1,617) and lastly District II (933). Mason County hunters led the state with 378 birds checked; rounding out the top 5 were Preston (371), Nicholas (330), Wood (328), and Wyoming (320). Rounding out the top 10 counties were Greenbrier (308), Jackson (302), Fayette (292), Harrison (286), and Kanawha (285).

The 2016 season ran from April 18 through May 14. It was the first time in recent history that the season started so early. In 2015, 58% of the harvest occurred in week one and 17% in occurred the last two weeks, which was similar to past harvest trends. This distribution changed slightly this year because of the earlier opening with 52% of the harvest in week one and 23% of the harvest in the last two weeks of the season. Good weather, an earlier opening date, and a constant harvest throughout the season led to the higher total. The Youth Season accounted for 4% of the spring gobbler harvest, which was the same as 2015.

Fall Harvest

All 55 counties had a fall season for the first time in recent history:

- Fourteen (14) traditional fall hunting counties open to a four-week split season (October 8 - October 15 and October 24 - November 12, 2016).
- Seven (7) counties open to a two-week split season (October 8 - October 15 and October 24 - 29, 2016).
- Thirty-four (34) counties open to a one-week season (October 8 - October 15, 2016).

Fall turkey hunters electronically checked in a total of 2,066 birds this year (Table 3). District III continued to lead the state in total harvest with 564 turkeys registered. District I was second (412) followed by District IV (368), District VI (275), District V (238) and lastly District II (209). All of the districts had higher harvests in 2016.

The top ten fall harvest counties were: Nicholas (140), Randolph (116), Preston (105), Upshur (92), Webster (91), Wood (84), Greenbrier (74), Mason (64), Wyoming (62) and Monroe (61). Preston county hunters have a two-week season, Upshur a one-week season whereas the others in the top five had four-week seasons. The 14 “Traditional” fall hunting counties accounted for 37% of the total fall harvest, which was much lower compared to previous years. Hunter participation, recruitment of turkeys into the population, and availability of hard mast account for most of the variability in fall turkey harvests. Although acorns were more plentiful in 2016, increased reproduction and having more counties open to fall hunting led to a better harvest, as was predicted in the 2016 Mast Survey and Hunting Outlook.

The 17-year cicada, which emerged in 2016 across much of the state, increased poult survival in areas of cicada abundance. This high-protein food source helped in turkey recruitment which was noted by an increased number of broods observed throughout much of the State in 2016. In addition, hunters enjoyed the new season format that enabled them to chase this magnificent bird throughout the entire state.

Opening day hunters checked in 18% of the total fall turkey harvest in 2016 (Table 4). The first week supplied 72% of the harvest because of the larger number of counties with a one week season. The 14, 4-week Traditional Fall counties account for only 37% of the total statewide harvest. A total of 12,427 turkeys were taken in the combined seasons ranking it 16th all time (Table 5).

Surveys

Spring Gobbler Survey

The Wildlife Resources Section and the West Virginia Chapter of the National Wild Turkey Federation conduct an annual survey of spring gobbler hunters. The survey is done entirely by volunteer sportsmen who donate their time and effort to gather information to help the DNR manage wild turkeys. Typically, the West Virginia Chapter sends survey forms to its members and the Wildlife Resources Section compiles the data from these and other participants. A survey report is written and provided free to cooperators. Due to staffing changes, the results of this survey were not available at the time of printing.

Hunters desiring a copy of the annual survey report need to participate in the survey. Spring gobbler hunters wanting to help are encouraged to contact Tammie Thompson, West Virginia Division of Natural Resources, P.O. Box 67, Elkins, WV 26241, phone 304-637-0245. Those wishing to participate will be sent necessary forms and a questionnaire prior to the spring hunting season. The survey is simple to conduct and a hunter does not have to harvest a gobbler to provide useful data. Most of the information collected deals with what hunters hear, see, or have an opinion on related to turkeys.

Brood Survey

Past studies have shown that the quantity of gobblers born two years prior to a spring turkey season is a fairly accurate forecaster of that spring's gobbler harvest. In the near term, the number of turkey broods observed helps inform the fall hunter outlook. A very productive turkey brood observation season was observed in the Western Region, with more than triple the number of broods this year. The Southern Region was down nearly 50% with the other two being normal. Overall, turkey brood observations were up across the state.

The increase in brood production corresponded to the 17-year cicada hatch of "Brood V". This increase in protein helped increase recruitment rates to a level not seen since 1999, the last hatch. Spring turkey harvests should be higher in the western part of the state for the next few years as these poult mature into adult gobblers.

Mast Survey

Active duty personnel and retirees from the Wildlife and Law Enforcement Sections of the Division of Natural Resources and the Division of Forestry devoted their time to perform mast surveys this year. This, our longest running survey since 1970, had 200 locations covering all regions of West Virginia and were surveyed in 2016. Mast from 18 tree and shrub species important to wildlife were monitored again this year.

Compared to the 2015 survey, the mast index for all species combined was down. Last year hickory and walnut were abundant, but this year they were much lower. Hickory produced less than half as many nuts in 2016. This year, indices for white and chestnut oaks are up. Compared to last year, indices for all oak species increased. Statewide, scarlet oak had the largest increase at 168%.

All soft mast except black cherry was below the 2015 production. Apple, yellow poplar and grape, three of the more important fall soft mast foods showed a dramatic reduction in production. Dogwood, crabapple and hawthorn also exhibited significant declines and will have an impact on hunting seasons and population dynamics this fall. Hunters, especially grouse and some other species, should take note of this information and look for areas of higher food abundance.

When comparing all species, the 2016 index was 27% below last year and slightly below the long-term trend. Hickory, cherry and oaks were below the

average but up slightly from last year with all oaks being very close to the long-term average. The lack of beech, hickory and walnut was offset by better oak mast. However, it should be noted that oak production was very bad in 2015. Hickory was very poor statewide in 2016 with an index of 20. All hard mast species were slightly below their long-term average.

Table 1. Spring harvest of wild turkeys in West Virginia, 2012-2016.

County	2012	2013	2014	2015	2016
Barbour	182	162	178	127	165
Brooke	74	104	84	67	78
Hancock	92	110	110	89	98
Harrison	282	355	264	247	286
Marion	163	218	149	170	192
Marshall	224	300	220	174	207
Monongalia	221	262	174	199	197
Ohio	87	131	91	109	111
Preston	330	403	344	333	371
Taylor	93	103	87	72	101
Tucker	62	57	88	82	90
Wetzel	210	256	203	168	196
Dist. I Subtotal	2,020	2,461	1,992	1,837	2,092
Berkeley	88	98	112	124	115
Grant	114	129	129	131	161
Hampshire	120	124	138	156	170
Hardy	101	129	135	116	132
Jefferson	43	60	57	82	79
Mineral	86	87	96	118	134
Morgan	56	54	62	64	54
Pendleton	95	117	95	94	88
Dist. II Subtotal	703	798	824	885	933
Braxton	119	238	175	194	197
Clay	77	147	68	83	101
Lewis	181	221	180	194	211
Nicholas	161	221	164	213	330
Pocahontas	124	160	130	145	144
Randolph	94	217	186	225	250
Upshur	199	262	229	231	228
Webster	94	118	113	114	156
Dist. III Subtotal	1,049	1,584	1,245	1,399	1,617
Fayette	176	287	244	239	292
Greenbrier	235	299	245	242	308
McDowell	154	308	215	218	200
Mercer	146	177	170	161	176
Monroe	162	206	212	181	184
Raleigh	185	277	214	231	283
Summers	176	258	209	199	219
Wyoming	132	291	255	257	320
Dist. IV Subtotal	1,366	2,103	1,764	1,728	1,982
Boone	144	230	159	138	157
Cabell	129	138	80	110	114
Kanawha	214	332	231	227	285
Lincoln	157	213	178	169	215
Logan	133	246	181	172	181
Mason	343	370	293	314	378
Mingo	92	141	93	91	131
Putnam	196	225	150	181	210
Wayne	92	144	103	108	139
Dist. V Subtotal	1,500	2,039	1,468	1,510	1,810
Calhoun	138	179	135	128	145
Doddridge	111	138	126	118	137
Gilmer	132	191	147	124	132
Jackson	244	326	293	264	302
Pleasants	81	83	73	71	80
Ritchie	233	326	245	218	216
Roane	193	236	232	210	231
Tyler	133	211	136	144	182
Wirt	164	193	177	153	174
Wood	236	294	271	248	328
Dist. VI Subtotal	1,665	2,177	1,835	1,678	1,927
State Total	8,303	11,162	9,128	9,037	10,361

Table 2. Spring wild turkey harvest in West Virginia by week of season, 2015-2016.

Week of Season	2015		2016	
	N	%	N	%
Youth	385	0.0426	378	0.0365
Week 1	5,259	0.5819	5,446	0.5256
Week 2	1,864	0.2063	2,196	0.2119
Week 3	890	0.0985	1,214	0.1172
Week 4	639	0.0707	1,126	0.1087
Unknown	0	0.0000	1	0.0000
State Total	9,037	1.0000	10,361	1.0000

Table 3. Fall harvest of wild turkeys in West Virginia, 2012-2016.

County	2012	2013	2014	2015	2016
Barbour	30	0	18	0	29
Brooke	7	9	2	6	15
Hancock	11	8	5	8	6
Harrison	26	20	20	28	41
Marion	15	4	6	19	38
Marshall	28	10	22	9	50
Monongalia	18	24	15	25	30
Ohio	12	9	3	6	21
Preston	63	77	53	71	105
Taylor	11	8	5	2	23
Tucker	25	14	25	13	14
Wetzel	14	2	18	0	40
Dist. I Subtotal	260	185	192	187	412
Berkeley	18	36	19	30	21
Grant	31	41	17	38	57
Hampshire	22	41	15	35	30
Hardy	30	34	18	31	27
Mineral	22	28	16	25	22
Morgan	5	14	15	15	9
Pendleton	46	26	31	25	35
Jefferson	0	0	0	0	8
Dist. II Subtotal	174	220	131	199	209
Lewis	0	8	0	25	21
Nicholas	98	39	88	63	140
Pocahontas	79	57	54	62	49
Randolph	77	59	83	114	116
Upshur	43	28	0	59	92
Webster	58	35	50	48	91
Clay	0	0	0	1	12
Braxton	0	0	0	0	43
Dist. III Subtotal	355	226	275	372	564
Greenbrier	138	64	81	81	74
McDowell	0	33	0	0	30
Mercer	0	0	2	0	27
Monroe	89	71	52	61	61
Summers	73	42	41	26	29
Wyoming	0	37	35	41	62
Raleigh	0	0	0	0	47
Fayette	0	0	0	0	38
Dist. IV Subtotal	300	247	211	209	368
Cabell	12	4	0	0	12
Lincoln	0	14	0	0	26
Mason	41	26	33	43	64
Putnam	21	2	0	19	27
Logan	0	17	0	0	25
Boone	0	0	0	2	21
Wayne	0	0	0	0	17
Kanawha	0	0	0	0	38
Mingo	0	0	0	0	8
Dist. V Subtotal	74	63	33	64	238
Calhoun	14	8	0	0	19
Doddridge	0	0	0	0	12
Gilmer	0	6	0	0	10
Jackson	39	18	37	24	48
Pleasants	5	4	3	6	7
Ritchie	0	2	12	0	21
Tyler	6	1	8	15	18
Wirt	23	19	23	17	30
Wood	44	20	31	47	84
Roane	0	0	0	0	26
Dist. VI Subtotal	131	78	114	109	275
State Total	1,294	1,019	956	1,140	2,066

Table 4. Fall wild turkey harvest in West Virginia by week of season, 2015-2016.

Week of Season	2015		2016	
	N	%	N	%
Opening Day	162	0.1421	370	0.1791
Week 1	506	0.4439	1,113	0.5373
Week 2	198	0.1737	302	0.1462
Week 3	102	0.0895	112	0.0542
Week 4	160	0.1404	171	0.0813
Unknown	1	0.0009	6	0.0000
Total	1,140	1.0000	2,066	1.0000

Table 5. Total spring and fall wild turkey harvest, West Virginia, 1966-2016.

Year	Spring	Fall	Total	Rank
1966	12	1,334	1,346	50
1967	42	989	1,031	51
1968	134	1,697	1,831	49
1969	243	3,430	3,673	39
1970	370	3,020	3,390	42
1971	421	2,374	2,795	46
1972	589	2,353	2,942	45
1973	554	3,038	3,592	40
1974	596	2,158	2,754	47
1975	585	2,827	3,412	41
1976	721	1,860	2,581	48
1977	719	2,998	3,717	38
1978	566	2,803	3,369	43
1979	873	2,421	3,294	44
1980	1,459	3,696	5,155	35
1981	1,970	3,135	5,105	36
1982	2,458	5,684	8,142	31
1983	2,627	2,224	4,851	37
1984	3,387	2,414	5,801	34
1985	4,215	2,343	6,558	33
1986	4,774	3,130	7,904	32
1987	5,665	4,114	9,779	27
1988	6,526	2,939	9,465	29
1989	7,245	2,204	9,449	30
1990	9,152	3,504	12,656	15
1991	10,097	3,690	13,787	13
1992	11,299	3,518	14,817	8
1993	13,428	3,536	16,964	6
1994	15,501	3,351	18,852	4
1995	16,770	3,211	19,981	2
1996	16,618	2,870	19,488	3
1997	14,021	3,385	17,406	5
1998	12,467	1,678	14,145	11
1999	11,241	2,901	14,142	12
2000	12,794	1,541	14,335	10
2001	17,875	3,505	21,380	1
2002	13,385	2,808	16,193	7
2003	12,535	1,841	14,376	9
2004	10,573	1,357	11,930	19
2005	10,957	1,130	12,087	18
2006	11,735	1,186	12,921	14
2007	9,965	1,511	11,476	20
2008	9,929	1,206	11,135	22
2009	9,787	1,208	10,995	23
2010	10,209	1,126	11,335	21
2011	9,190	1,186	10,376	24
2012	8,303	1,272	9,575	28
2013	11,162	1,019	12,181	17
2014	9,128	956	10,084	26
2015	9,037	1,140	10,177	25
2016	10,361	2,066	12,427	16
Total	364,270	122,887	487,157	

WILD BOAR

By
Christopher W. Ryan

Hunters killed 46 boars during the 2016 season. The harvest was down tremendously compared to the 99 killed in 2015. Mast conditions were very poor in 2015 which caused boars to travel and find food and then concentrate around those sources. In addition, the good reproduction because of the 2014 acorn crop, contributed to the high success hunters had in the fall of 2015. The poor mast conditions of 2015 led to decreased reproductive rates in 2016. This factor coupled with the increased mast conditions led to a lower harvest in 2016.

Firearms hunters took 16 boars (11 in Logan County and 5 in Boone County) and archers killed 30 (20 in Logan County and 10 in Boone County). Crossbow hunters accounted for 6 kills. Raleigh and Wyoming County had no reported kills.

Boars were introduced in 1971 to supplement big game populations and did well enough to accommodate a hunting season in 1979. Harvests have ranged from 3 that year to 158 in 1995. The decline in the population since the late 1990's led to the removal of the December season in 2003. The single October firearms season is designed to reduce the harvest and to allow boars to move into unoccupied habitats. Traditionally, hunters have been less successful during Octobers when weather conditions are warm and dry and leaf fall makes boar sign more difficult to find.

Biologists do not believe that hunting contributed to the population decline. Hunting seasons have been short and hunter participation was restricted by permits. The main reason for fewer animals in Boone, Logan, Raleigh, and Wyoming counties is loss of habitat resulting in poor reproduction and survival.

Harvest is expected to change from year to year due to changing weather patterns and mast conditions. The decline in this year's harvest was predicted based upon the mast conditions. Wildlife personnel will continue to monitor the wild boar population in the southern 4 counties and will make management recommendations accordingly.

Table 1. West Virginia wild boar harvest, 1979-2016.

Year	Total Kill
1979	3
1980	10
1981	33
1982	72
1983	54
1984	81
1985	58
1986	35
1987	74
1988	34
1989	116
1990	86
1991	59
1992	130
1993	82
1994	86
1995	158
1996	139
1997	141
1998	58
1999	96
2000	46
2001	43
2002	38
2003	5
2004	7
2005	12
2006	14
2007	22
2008	14
2009	35
2010	16
2011	37
2012	62
2013	49
2014	51
2015	99
2016	46
Total	2201

Table 2. Wild boar harvest by weapon, 2016.

County	Crossbow	Archery	Gun	Total
Boone	3	7	5	15
Logan	3	17	11	31
Total	6	24	16	46

WHITE-TAILED DEER

By
JAMES M. CRUM

Deer Season 2016

The following Tables 1 through 6 contain the 2016 white-tailed deer hunter harvest information for each of West Virginia's 55 counties. In 2016, deer hunters harvested a total of 112,384 deer in the combined deer seasons. This is a 19% decrease from the 2015 harvest of 138,493 and 15% less than the previous five-year harvest average of 132,466. The combined deer season harvest for 2016 is the 29th largest total deer harvest on record for West Virginia. The 2016 total deer harvest represents one deer killed for every 131 acres of deer habitat in the state (Table 6), and a 56% harvest decrease from the record harvest of 255,356 deer in 2002. From 1945 through 2016, a total of 6,246,909 deer have been recorded as harvested in West Virginia (Fig.1). Fifty three percent (3,334,349) of the total recorded deer harvest of the past 71 years has occurred in the last 20 years.

WV DEER HARVEST 1945-2016

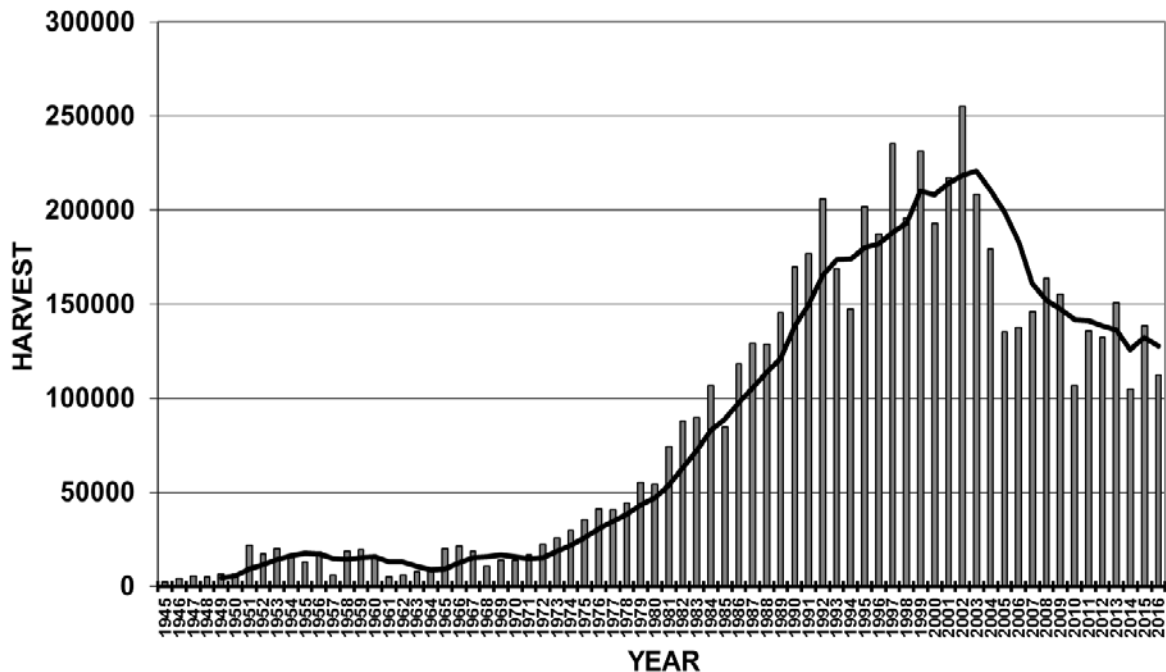


Figure 1. White-tailed deer harvest in West Virginia from 1945-2016.

In 2016, the traditional bucks-only firearm season harvest of antlered bucks was 46,071, a decrease of 24% from the 2015 harvest (Table 1). This is 15% less

than the five-year average bucks-only firearm season harvest of 54,265 and ranks 34th among all past years.

The 2016 antlerless deer harvest taken with a firearm decreased by 13% from that of 2015 and was 67% less than the record harvest of 104,199 recorded in 2002. A total of 34,792 antlerless deer (Table 3) were taken with a firearm during the antlerless deer season and the Youth, Class Q/QQ (physically challenged) and Senior Lifetime Class XS deer season. This year marked the fifth year for a three-day October firearm antlerless deer season and a reduction of the traditional December antlerless season from six to three days that was moved to follow muzzleloader season in mid-December (December 15-17). The antlerless deer maximum season bag limit was decreased from 4 to 3 in 2012 and continued to remain at 3 for 2016. In comparison to 2015, the antlerless bag limit in 2016 was increased in 8 counties and portions of 6 counties. The bag limit was increased from 1 to 3 antlerless deer in 5 counties. In 3 counties and portions of 6 counties that were closed in 2015 were opened to limited permits in 2016. However, the bag limit for antlerless deer in one county (Ohio) was decreased from 3 to 1. The firearm antlerless deer season was open in 2016 for 22 days on private land in 51 counties or portions thereof. In 4 counties and portions of 4 more, the season was closed. Of the counties open for antlerless deer hunting to resident and nonresident hunters, 28 counties and portions of 3 counties had a bag limit of three antlerless deer, and 10 more counties and portions of one county had a bag limit of one antlerless deer. Six counties and portions of 6 counties in 2016 were limited to resident and nonresident hunters who had to apply for limited permits. The antlerless season was closed on a large portion of National Forest land. Similar to 2015, all Monongahela National Forest land in Pocahontas, and Randolph counties was closed to firearm antlerless hunting. Qualifying youth, Class Q/QQ and Senior Lifetime Class XS license holders had an additional three-day antlerless-only season on private and public land in counties having a firearms deer hunting season. The 2016 special split deer season for youth, Class Q/QQ and Senior Lifetime Class XS hunters was the ninth year for the season to be open on private land in all 51 counties open to a deer firearms season, the fifth year that all public lands in the 51 counties were open and also the fifth year that Senior Lifetime Class XS license holders could participate. The 2016 antlerless season harvest was 29th highest on record and 21% less than the five-year average antlerless harvest of 44,239.

The 2016 deer statewide archery (bow/crossbow) season opened September 24, 2016, two days earlier than the 2015 season and two weeks earlier than any season prior to 2011. In the 2016 archery season (including urban archery), a harvest of 26,524 was recorded which includes 12,044 deer harvested during the archery season with a crossbow. Deer reported as harvested with a crossbow represented 45% of the total archery season harvest and ranged from 14% to 64% of archery harvest of antlered deer by county. This year's archery harvest was a decrease of 18% from the 2015 archery season, 18th highest on record and 4% below the five-year average of 27,596 (Table 2).

The 2016 muzzleloader season harvest was 4,997, a decrease of 3.5% from 2015. This is 21% below the five-year average harvest of 6,344, and the 30th out of 34 years the muzzleloader season has existed in West Virginia (Table 4). Major changes to the muzzleloader season that occurred in 2012 remained in place for 2016. In 2012 the early 6-day special antlerless muzzleloader deer season in September was dropped and the traditional mid-December portion of the season was moved to early December opening the Monday following the close of buck firearm season.

In 2016, hunting on Sunday was permissible in West Virginia for the 16th year since 1956. In 2001, all counties were open to hunting on Sunday. In 2002, a total of 20 counties were open to hunting on Sunday. From 2003 through 2013, there were 14 counties open to hunting on Sunday. In 2014 19 counties, in 2015 20 counties and in 2016 22 counties were open to hunting on Sunday. These 22 counties had 11 additional days available for deer hunting in 2016 deer seasons. All 11 days were open for bow and crossbow hunters who recorded taking 968 deer on Sundays, or 4% of the total 2016 archery (bow/crossbow) harvest. One Sunday was open for firearms deer hunting (the Sunday after Thanksgiving November 27th), and 385 deer were recorded as harvested.

In the 2016 deer season, 51 counties were open to the two-week bucks-only season. The desired buck harvest per square mile was not exceeded by more than one buck per square mile in any county open to firearms deer hunting. There were 3 counties, with a buck harvest one buck per square mile lower than the desired harvest. For the remaining 48 counties, the buck harvest was within one buck per square mile of the desired harvest for the county. In contrast to 2015, 13 counties exceeded the desired buck harvest per square mile by at least one buck per square mile and no counties were lower than the desired harvest while 38 counties were within one buck per square mile of the desired buck harvest.

The harvest of antlerless deer is the key to healthier, heavier, and more productive deer herds. This is because there are natural limits to the number of deer the land can support. When these natural limits are exceeded, deer body weights, reproductive rates, antler development, and herd health declines, including an increased likelihood that deer will die over winter. If deer exceed natural limits long enough, habitat quality is reduced which produces a long-term reduction in the natural limit of deer the land can support. To avoid these problems a minimum of 70 females for every 100 bucks is generally required just to stabilize a deer herd. If a decrease in the herd is warranted, the percentage of females needs to be above 40%. Figure 2 depicts the total deer harvest in West Virginia from 1993 through 2016 by the sex composition of the harvest for each year in relation to the percentage of female deer harvested. This figure appears to reflect the stabilizing effect the 40% female harvest has on the number of deer harvested. The 2016 deer harvest records indicate the percentage of female deer in the harvest was 39% up from the 37% recorded in 2015 which is expected to stabilize

the statewide deer herd. However, the percentage of female deer in the harvest of individual counties in 2016 varied from 23% to 54% which reflects antlerless deer season frameworks design for individual counties to grow, reduce, or stabilize the deer population on a county basis.

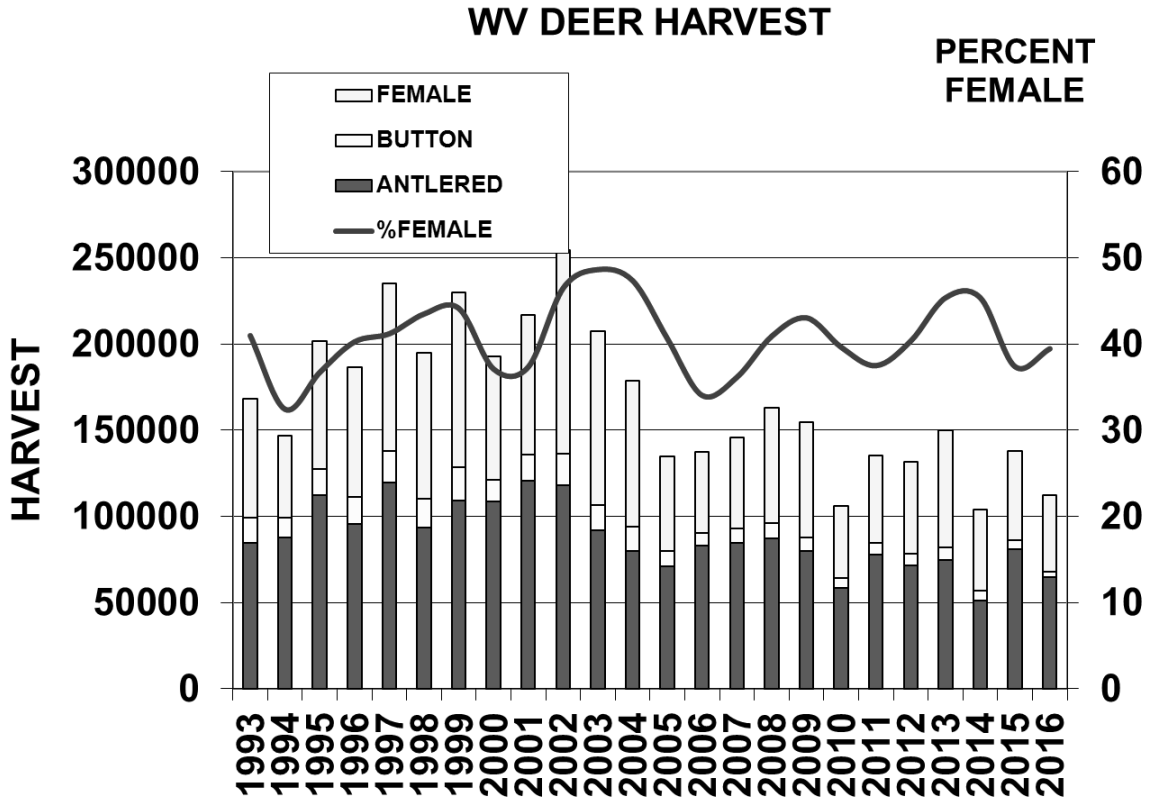


Figure 2. Deer harvested by sex in West Virginia from 1993-2016.

Over the last 10 years the yearly average number of reported antlered bucks harvested during all deer seasons is 3.2 antlered bucks per square mile of deer habitat in West Virginia or one buck per 211 acres. Hunters and landowners must continually assess their expectations of the proper number of deer sightings versus the visible impacts deer have on vegetation, and manage the state's deer herd by participating and encouraging antlerless deer harvest where needed. This benefits not only the deer herd, but all wildlife dependent on our state's woodland habitat.

Special Deer Management Areas

Hunters took 729 deer in the 2016 special urban deer season. These deer are included in tables 2, 5 and 6 as part of the archery (bow/crossbow) season

harvest. This special archery deer hunting season is available to incorporated cities and homeowner associations, which may open three weeks prior to the opening of statewide deer archery season and close December 31. During this special season, seven deer may be taken which do not count toward the regular archery deer season bag limit. This is the 13th year that homeowner associations have taken advantage of the special urban archery deer season to address deer population management. For information regarding implementing a special season contact your local city government or homeowners' association.

In the special split Youth, Class Q/QQ and Senior Lifetime Class XS deer season, a total of 1,767 antlerless deer were harvested and are included in antlerless deer harvest tables 3, 5, and 6. This season was open on private land and public land in any county open to a firearms deer season on October 15, 2016, and again December 26 and 27, 2016. This was the 19th year a Youth special season was held. To participate, hunters had to hold a Class Q license, or be a youth at least eight and less than 18 years of age on the day of the season, or possess a Senior Lifetime Class XS license. Youth hunters, age 8-14, must be accompanied by a licensed adult at least 21 years of age and youths age 15-17 must comply with all regular season license requirements for junior sportsman hunting or hunt with resident landowner privileges. The 2016 season was the seventh year for participation by the 15 -17 age youths and the fifth year for participation by Class XS license holders. The daily bag limit was one antlerless deer, which did not count against the hunter's annual antlerless deer season bag limit. Hunters harvested 1,150 deer on the first day, October 15 and an additional 334 and 283 deer on December 26 and 27, respectively. Overall the harvest for the 2016 special Youth, Class Q and Senior Lifetime Class XS deer season decreased 38% from 2015. The harvest for the 2016 first day was down 42% from the first day of the 2015 season and the second and third days of the 2016 season were down 25% and 36% respectively, from the reported harvest in 2015.

A special controlled deer hunt was held in 2016 at Pipestem State Park. Twenty-three deer were harvested at Pipestem State Park during a three-day hunt November 3, 4, and 5, 2016. This was the second year for such a hunt on Pipestem State Park. It is anticipated that controlled deer hunts on four state parks will be held in 2017. All state park controlled deer hunts are by application only. Visit www.wvhunt.com to apply on-line. Deer are a keystone species in West Virginia's natural world and proper stewardship of our State's flora and fauna require that deer management be addressed on all lands.

Nonseasonal Mortalities

Nonseasonal mortalities are those deer deaths that are not associated with the harvest of deer by hunters. Figure 3 depicts nonseasonal deer mortalities that are associated with human/deer conflicts (i.e., vehicle collisions and crop damage). The public, DNR Natural Resource Police Officers, and DNR Wildlife Resources personnel routinely report nonseasonal mortalities. The WV Department of

Transportation, Division of Highways (DOH) -Traffic Engineering Division, provides monthly summaries of vehicle killed deer that are encountered by DOH personnel. DNR Natural Resource Police Officers provide wildlife damage investigation reports from which the number of deer killed for crop damage is obtained.

The reported nonseasonal mortalities from vehicle collisions and crop damage decreased 8% from 16,353 in 2015 to 15,106 in 2016. Deer killed on crop damage permits decreased in all DNR Districts. Overall, deer killed through the crop damage permit system in 2016 decreased by 20%, with 2,361 deer killed on crop damage permits in 2015 and 1,882 recorded in 2016. Reported vehicle kills decreased statewide by 5% in 2016, from 13,992 in 2015 to 13,224 in 2016 and represents an 11% decline from the 5-year average of 14,893. Percent change by DNR Districts 1, 2, 3, 4, 5, and 6 were -29%, -16%, +10%, +13%, +27%, and -19%, respectively.

The occurrence of deer reportedly killed by collisions with vehicles and deer reported as killed for crop damage follow similar trends. Although other factors such as deer food supply (such as acorns), number and average speed of vehicles, and crop growing conditions like drought influence these trends, a major factor is deer population (Fig. 3).

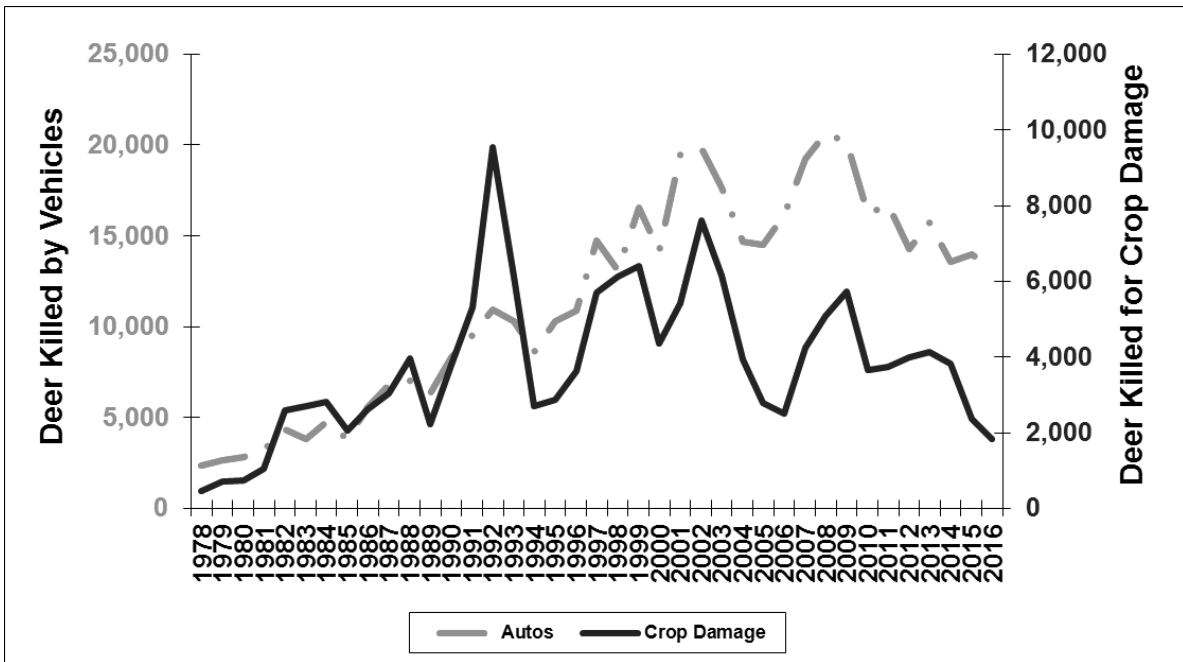


Figure 3. Vehicle and crop damage kills in West Virginia from 1978-2016.

Deer Hunting Outlook

Overall deer hunting opportunities for hunters across the state in 2017 are proposed to be similar to those in 2016 with the exception of increased antlerless deer season bag limits and more hunting opportunities in counties where recorded

deer harvest data indicates female deer harvest should be increased to stabilize or decrease current deer populations. The substantial changes made in 2012 and continued in 2013 through 2016, to the deer season framework as recommended in the revised White-tailed Deer Operational Plan completed in late December 2011 are proposed to remain in place for the 2017 deer season. However, the White-tailed Deer Operational Plan is undergoing a scheduled 5-year revision that will extend the plan through 2020. In general, earlier changes to increase the diversity of deer hunting opportunities, simplify hunting regulations, better distribute antlerless deer harvest to meet deer population goals and limit conflict among wildlife resource user groups will be evaluated and modified to better meet these initiatives. The revised White-tailed Deer Operational Plan may also include alternative efforts to monitor the deer herd through examination of hunter harvested animals for collection of biological information and tissue samples for disease testing. The 2016 deer seasons were the second year for the electronic game checking system. Other states, Virginia, Ohio, Missouri and Illinois have similar electronic game checking systems and have directed hunters to take deer harvested on specific days to special designated locations where wildlife agency personnel can examine the hunter harvested deer. Similarly, in the 2016 firearms deer season West Virginia hunters were required in Hampshire and Hardy counties to take deer harvested on the first 2 days of the traditional buck firearm season to special designated locations so the physical condition of their deer could be evaluated and samples for CWD testing collected. Hunters are reminded that recording their harvest is an integral part to the DNR's ability to manage deer in West Virginia. Hunters have helped manage deer in the state since mandatory game checking began in 1929 and the information provided by hunters is the foundation for tracking deer herd trends and monitoring doe harvest impacts. To register your harvest visit www.wvhunt.com, call 1-844-982-4325 (1-844- WVCheck) or visit a license agent.

The 2017 deer archery (bow/crossbow) season opening date is proposed to open the last Saturday in September (September 30) which is 6 days later than the September 24 opening in 2016. Uniform and more liberal deer bag limits and season lengths for the urban archery deer seasons available to incorporated cities and homeowner associations put in place for the fall of 2012 are proposed to remain available in 2017 with urban archery season opening September 9th. The more liberal bag limit and earlier opening available for the season has provided incorporated cities and homeowner associations a reliable and efficient method to address locally over abundant deer populations.

The 2017 muzzleloader deer season is proposed to open the Monday following the end of the two-week buck firearm season (December 4, 2017). Antlerless deer hunting opportunities for the 2017 muzzleloader season are proposed to follow guidelines adopted in 2012 muzzleloader deer season regulations. In counties with unlimited Class N/NN antlerless deer permits and an antlerless Class N/NN season bag limit of one or more, hunters would be able to take two deer of either sex during the muzzleloader season, provided the second

muzzleloader deer is taken on an additional muzzleloader deer stamp (RM for residents and RRM for nonresident hunters). In counties with limited lottery Class N/NN antlerless season and a one antlerless deer Class N/NN season bag limit, hunters in the 2017 muzzleloader season can take one deer of either sex but the second muzzleloader season deer taken on the RM or RRM additional muzzleloader deer stamp can only be an antlered deer, provided the hunter has not filled the maximum annual bag limit (excluding special urban archery hunts) of three antlered bucks.

In 2017 51 counties or portions thereof, are proposed to have a Class N/NN antlerless deer season for 21 days on private land and selected public lands or 23 days on private land and 21 days on public land in counties that allow Sunday hunting. Overall the Class N/NN antlerless deer season will remain the same in 2017 as it was in 2016 in 31 counties and portions of two counties. A three-day October Class N/NN antlerless deer season is again proposed for the fall of 2017. Thirty-three counties and portions of four counties are proposed to have a three antlerless deer bag limit. Ten counties and portions of seven counties are proposed to have a one antlerless deer bag limit with three counties and portions of seven counties of the one antlerless deer bag limit counties or portions restricted to resident and non-resident hunters chosen by lottery. Again, as in the past two years, a split three-day Special Youth, Class Q/QQ and Senior Lifetime Class XS deer season is proposed to be held on October 21 and December 26 and 27 on private and public lands in the 51 counties open to firearms deer season. This season **would be closed** in Logan, Mingo, McDowell, or Wyoming counties.

In 12 counties and portions of two more counties during the 2016 deer seasons, hunters had to harvest an antlerless deer before taking a second antlered buck during archery and gun seasons, respectively. This regulation is proposed again for the 2017 season with the number of counties increased to 21 counties and portions of two counties. This increase reflects the White-tailed Deer Operational Plan guidelines to encourage deer hunters to harvest antlerless deer only where needed and not penalize those that wish to only harvest one antlered buck. Please refer to the 2017-2018 Hunting and Trapping Regulations Summary for further details on all deer hunting seasons because the above proposed seasons and bag limits have not been approved by the Natural Resources Commission at this time. White-tailed deer hunting season regulations for 2017 will be published and available to hunters in July of 2017. This newsprint-like pamphlet contains complete information on gun, archery, muzzleloading, and antlerless deer hunting, plus other hunting regulations on turkey, bear, boar, and small game. Hunters will be able to obtain a copy from any DNR office or any business that sells West Virginia hunting licenses or visit the Wildlife Resources Section on the web at www.wvdnr.gov.

Efforts to control the spread and monitor chronic wasting disease (CWD) in free-ranging deer in Hampshire and Hardy Counties by DNR, landowners, and hunters are ongoing. In the 2016 deer seasons, samples taken from 874 hunter-

harvested deer brought to five DNR staffed stations in Hampshire County and four stations in Hardy County were tested for CWD. Thirty-nine samples were found to have the abnormal protein associated with CWD. CWD has now been detected in a total of 231 deer in Hampshire County and four deer in Hardy County. Lowering encounter rates between infected and non-infected animals by prohibiting artificial supplemental feeding and baiting are generally accepted management practices for slowing the spread of an infectious disease among wildlife and initiating these prohibitions on a statewide or regional basis for deer is a major tool used by other states combating CWD. Currently (March 2017) in West Virginia in all of Berkeley, Grant, Hampshire, Hardy, Jefferson, Mineral and Morgan counties **it is illegal to bait or feed deer any time**. In addition, hunters are **prohibited from transporting dead deer or their parts beyond the boundary of Hampshire, Hardy, and Morgan counties** except for the following: meat that has been boned out, quarters or other portions of meat with no part of the spinal column or head attached, cleaned hide with no head attached, clean skull plate (no meat or tissue attached) with antlers attached, antlers with no meat or tissue attached, and finished taxidermy mounts. The Virginia Department of Game and Inland Fisheries and the Maryland Department of Natural Resources have detected CWD positive deer adjacent to Hampshire County in Frederick and Shenandoah County, VA and Allegany County, MD. In addition, PA Game Commission has detected CWD positive deer in Bedford and Blair counties adjacent and north of Allegany County MD. To reduce the risk of spreading CWD to new areas, other states have made it illegal to possess or use deer scents/lures that contain natural deer urine or other bodily fluids while taking, attempting to take, attracting, or scouting wildlife. All West Virginia deer hunters are urged to use caution in spreading natural deer urine based lures in the environment and asked not to place deer urine lures on the ground or on vegetation where deer can reach them. Additionally, a well-documented method of spreading CWD across long distances is the movement of live species of deer for commercial purposes. Many organizations such as the Quality Deer Management Association, Rocky Mountain Elk Foundation, and The Wildlife Society have recognized the threat the pen propagation and translocation of deer species represent to the wild deer and elk resources that are enjoyed by all citizens. This threat is not only from CWD but also from the introduction of other pathogens and genetic consequences, which have the potential to devastate our revered deer resource. For more information on CWD and the current status of the disease in West Virginia contact any DNR office or visit the Wildlife Resources Section on the web at www.wvdnr.gov.

Table 1. West Virginia antlered buck harvest, 2012-2016.

County	2012	2013	2014	2015	2016
Barbour	1,177	1,109	886	1,281	1,098
Brooke	407	389	251	286	268
Hancock	320	273	200	208	209
Harrison	1,385	1,301	930	1,418	1,138
Marion	1,089	1,130	702	1,190	765
Marshall	1,309	1,051	707	818	727
Monongalia	1,297	1,107	689	1,023	827
Ohio	466	399	232	290	270
Preston	2,158	1,741	1,526	2,046	1,774
Taylor	684	635	453	732	581
Tucker	649	527	494	783	730
Wetzel	1,471	1,537	891	1,144	899
Dist. I Subtotal	12,412	11,199	7,961	11,219	9,286
Berkeley	767	871	522	908	737
Grant	1,250	1,135	783	1,304	954
Hampshire	1,588	1,846	1,094	1,947	1,197
Hardy	1,429	1,447	920	1,709	1,076
Jefferson	526	445	385	499	422
Mineral	1,181	1,345	835	1,335	922
Morgan	602	743	412	678	437
Pendleton	1,373	1,163	861	1,297	1,088
Dist. II Subtotal	8,716	8,995	5,812	9,677	6,833
Braxton	1,401	1,626	921	1,660	1,102
Clay	528	475	329	618	390
Lewis	1,365	1,692	1,166	1,875	1,246
Nicholas	1,212	824	871	1,274	1,044
Pocahontas	1,152	961	831	1,008	921
Randolph	1,804	1,329	1,291	1,659	1,617
Upshur	1,283	1,396	1,009	1,704	1,399
Webster	817	717	632	1,080	941
Dist. III Subtotal	9,562	9,020	7,050	10,878	8,660
Fayette	996	835	725	1,214	889
Greenbrier	1,875	1,509	1,372	1,816	1,447
Mercer	682	536	402	843	636
Monroe	1,569	1,466	1,004	1,462	1,099
Raleigh	749	579	506	895	648
Summers	1,077	973	657	999	657
Dist. IV Subtotal	6,948	5,898	4,666	7,229	5,376
Boone	898	725	519	868	573
Cabell	750	763	421	641	677
Kanawha	1,164	1,380	730	1,547	1,058
Lincoln	1,319	1,124	720	1,312	846
Mason	1,676	1,495	1,002	1,488	1,267
Putnam	1,191	1,210	565	1,114	992
Wayne	1,041	870	528	963	815
Dist. V Subtotal	8,039	7,567	4,485	7,933	6,228
Calhoun	770	1,164	504	1,063	705
Doddridge	950	1,243	615	1,376	946
Gilmer	911	1,427	669	1,435	791
Jackson	1,630	1,917	1,107	1,870	1,487
Pleasants	371	438	273	492	334
Ritchie	1,512	2,091	1,123	2,024	1,422
Roane	1,391	1,893	927	1,846	1,178
Tyler	922	1,000	566	1,064	855
Wirt	846	1,091	681	1,152	777
Wood	1,403	1,580	1,011	1,556	1,193
Dist. VI Subtotal	10,706	13,844	7,476	13,878	9,688
State Total	56,383	56,523	37,450	60,814	46,071

Table 2. West Virginia white-tailed deer archery harvest, 2012-2016.

County	2012	2013	2014	2015	2016
Barbour	383	544	416	623	535
Brooke	312	271	303	278	262
Hancock	439	432	373	344	353
Harrison	653	658	502	702	559
Marion	484	541	413	640	482
Marshall	406	382	307	353	336
Monongalia	779	785	584	781	678
Ohio	318	304	250	272	286
Preston	1,140	1,069	999	1,415	1,265
Taylor	285	266	265	346	279
Tucker	295	332	312	420	400
Wetzel	292	418	248	357	288
Dist. I Subtotal	5,786	6,002	4,972	6,531	5,723
Berkeley	419	639	397	554	534
Grant	355	402	300	423	323
Hampshire	256	393	275	457	349
Hardy	287	396	231	404	268
Jefferson	392	425	363	374	402
Mineral	303	398	275	394	327
Morgan	146	274	163	253	214
Pendleton	293	326	279	391	296
Dist. II Subtotal	2,451	3,253	2,283	3,250	2,713
Braxton	412	589	380	593	516
Clay	253	299	194	339	223
Lewis	376	517	372	712	544
Nicholas	701	753	630	799	726
Pocahontas	325	345	288	318	264
Randolph	781	786	779	921	928
Upshur	488	627	472	906	747
Webster	520	436	420	626	537
Dist. III Subtotal	3,856	4,352	3,535	5,214	4,485
Fayette	722	806	666	801	701
Greenbrier	758	661	556	739	525
McDowell	571	699	447	673	456
Mercer	574	667	419	817	653
Monroe	534	661	460	632	483
Raleigh	899	876	640	1,032	729
Summers	538	543	341	563	362
Wyoming	765	1,062	686	1,039	867
Dist. IV Subtotal	5,361	5,975	4,215	6,296	4,776
Boone	442	485	433	486	354
Cabell	389	436	288	365	416
Kanawha	872	1,041	771	1,069	894
Lincoln	558	535	418	643	421
Logan	753	841	608	924	574
Mason	666	789	628	786	690
Mingo	368	490	284	579	386
Putnam	539	663	437	599	579
Wayne	388	406	304	451	402
Dist. V Subtotal	4,975	5,686	4,171	5,902	4,716
Calhoun	212	353	213	433	295
Doddridge	204	284	210	390	264
Gilmer	212	403	174	448	257
Jackson	600	783	495	759	692
Pleasants	95	114	92	163	137
Ritchie	377	489	404	713	536
Roane	418	643	356	707	455
Tyler	256	326	256	366	281
Wirt	299	405	267	459	341
Wood	676	911	638	909	853
Dist. VI Subtotal	3,349	4,711	3,105	5,347	4,111
State Total	25,778	29,979	22,281	32,540	26,524

Table 3. West Virginia antlerless harvest, 2012-2016.

County	2012	2013	2014	2015	2016
Barbour	897	1,222	1,074	911	806
Brooke	596	604	411	346	392
Hancock	484	465	354	210	168
Harrison	1,491	1,580	1,255	1,228	1,045
Marion	1,132	1,391	943	984	826
Marshall	1,307	1,104	940	554	514
Monongalia	1,326	1,255	866	968	673
Ohio	495	470	366	361	230
Preston	2,341	2,317	1,818	1,437	1,635
Taylor	747	680	620	486	514
Tucker	459	428	397	47	200
Wetzel	1,172	1,646	934	957	866
Dist. I Subtotal	12,447	13,162	9,978	8,489	7,869
Berkeley	647	941	752	813	675
Grant	661	915	559	592	467
Hampshire	1,103	1,571	1,054	1,240	908
Hardy	987	1,370	825	967	659
Jefferson	517	566	488	442	428
Mineral	993	1,194	880	899	761
Morgan	470	754	531	551	433
Pendleton	705	717	597	547	497
Dist. II Subtotal	6,083	8,028	5,686	6,051	4,828
Braxton	1,239	1,524	1,266	1,193	909
Clay	151	249	127	184	182
Lewis	1,575	2,073	1,414	1,753	1,377
Nicholas	589	539	454	606	509
Pocahontas	384	405	355	238	216
Randolph	1,331	1,138	1,094	533	850
Upshur	1,587	1,769	1,359	1,271	1,605
Webster	501	405	138	174	314
Dist. III Subtotal	7,357	8,102	6,207	5,952	5,962
Fayette	401	436	294	392	283
Greenbrier	818	1,108	856	821	739
Mercer	76	415	253	337	414
Monroe	916	1,710	1,194	1,220	819
Raleigh	131	356	219	291	215
Summers	1,165	1,119	917	689	603
Dist. IV Subtotal	3,507	5,144	3,733	3,750	3,073
Boone	89	251	203	93	157
Cabell	420	734	491	419	422
Kanawha	631	829	484	558	412
Lincoln	659	949	739	872	567
Mason	2,007	2,487	1,425	1,593	1,370
Putnam	1,113	1,430	800	1,048	885
Wayne	369	496	288	38	269
Dist. V Subtotal	5,288	7,176	4,430	4,621	4,082
Calhoun	765	1,044	594	802	630
Doddridge	730	946	731	914	750
Gilmer	639	1,230	779	1,017	688
Jackson	1,807	2,467	1,304	1,521	1,317
Pleasants	363	452	254	260	268
Ritchie	1,339	1,902	1,303	1,622	1,309
Roane	1,154	2,119	1,244	1,514	1,123
Tyler	920	1,237	742	901	815
Wirt	952	1,404	919	1,002	860
Wood	1,659	2,223	1,529	1,436	1,218
Dist. VI Subtotal	10,328	15,024	9,399	10,989	8,978
State Total	45,010	56,636	39,433	39,852	34,792

Table 4. Muzzleloader harvests in West Virginia, 2012-2016.

County	2012	2013	2014	2015	2016
Barbour	131	152	159	116	133
Brooke	49	64	30	18	38
Hancock	75	72	42	23	34
Harrison	135	168	183	128	113
Marion	85	119	106	124	113
Marshall	119	134	108	76	73
Monongalia	111	142	92	117	91
Ohio	45	40	37	44	46
Preston	243	255	267	182	217
Taylor	66	100	84	75	70
Tucker	85	101	88	16	73
Wetzel	136	165	91	88	90
Dist. I Subtotal	1,280	1,512	1,287	1,007	1,091
Berkeley	64	111	83	74	67
Grant	120	98	115	112	81
Hampshire	81	165	122	127	88
Hardy	83	131	109	80	63
Jefferson	46	61	56	48	54
Mineral	99	116	91	75	80
Morgan	46	88	52	70	44
Pendleton	81	93	98	67	70
Dist. II Subtotal	620	863	726	653	547
Braxton	238	327	197	189	157
Clay	36	52	26	25	43
Lewis	157	233	198	165	168
Nicholas	244	256	259	265	232
Pocahontas	64	130	120	77	56
Randolph	253	332	304	202	243
Upshur	154	216	145	155	185
Webster	200	199	33	28	139
Dist. III Subtotal	1,346	1,745	1,282	1,106	1,223
Fayette	200	241	166	183	124
Greenbrier	114	212	128	108	135
Mercer	27	142	36	114	86
Monroe	134	139	131	105	70
Raleigh	12	134	85	83	70
Summers	122	136	112	88	62
Dist. IV Subtotal	609	1,004	658	681	547
Boone	24	172	132	39	72
Cabell	66	100	60	45	60
Kanawha	72	119	57	88	78
Lincoln	81	167	86	159	106
Mason	173	215	157	150	153
Putnam	100	158	89	90	119
Wayne	74	69	55	31	62
Dist. V Subtotal	590	1,000	636	602	650
Calhoun	62	155	79	71	69
Doddridge	55	127	77	104	70
Gilmer	91	160	111	126	93
Jackson	178	222	155	183	158
Pleasants	30	46	30	34	27
Ritchie	101	213	96	167	102
Roane	101	213	100	129	105
Tyler	93	110	94	75	82
Wirt	94	161	87	86	92
Wood	135	208	125	154	141
Dist. VI Subtotal	940	1,615	954	1,129	939
State Total	5,385	7,739	5,543	5,178	4,997

Table 5. Deer mortality by type of season in West Virginia, 2016.

County	Buck Gun	Antlerless	Archery	Muzzleloader	Total
Barbour	1,098	806	535	133	2,572
Brooke	268	392	262	38	960
Hancock	209	168	353	34	764
Harrison	1,138	1,045	559	113	2,855
Marion	765	826	482	113	2,186
Marshall	727	514	336	73	1,650
Monongalia	827	673	678	91	2,269
Ohio	270	230	286	46	832
Preston	1,774	1,635	1,265	217	4,891
Taylor	581	514	279	70	1,444
Tucker	730	200	400	73	1,403
Wetzel	899	866	288	90	2,143
Dist. I Subtotal	9,286	7,869	5,723	1,091	23,969
Berkeley	737	675	534	67	2,013
Grant	954	467	323	81	1,825
Hampshire	1,197	908	349	88	2,542
Hardy	1,076	659	268	63	2,066
Jefferson	422	428	402	54	1,306
Mineral	922	761	327	80	2,090
Morgan	437	433	214	44	1,128
Pendleton	1,088	497	296	70	1,951
Dist. II Subtotal	6,833	4,828	2,713	547	14,921
Braxton	1,102	909	516	157	2,684
Clay	390	182	223	43	838
Lewis	1,246	1,377	544	168	3,335
Nicholas	1,044	509	726	232	2,511
Pocahontas	921	216	264	56	1,457
Randolph	1,617	850	928	243	3,638
Upshur	1,399	1,605	747	185	3,936
Webster	941	314	537	139	1,931
Dist. III Subtotal	8,660	5,962	4,485	1,223	20,330
Fayette	889	283	701	124	1,997
Greenbrier	1,447	739	525	135	2,846
McDowell	0	0	456	0	456
Mercer	636	414	653	86	1,789
Monroe	1,099	819	483	70	2,471
Raleigh	648	215	729	70	1,662
Summers	657	603	362	62	1,684
Wyoming	0	0	867	0	867
Dist. IV Subtotal	5,376	3,073	4,776	547	13,772
Boone	573	157	354	72	1,156
Cabell	677	422	416	60	1,575
Kanawha	1,058	412	894	78	2,442
Lincoln	846	567	421	106	1,940
Logan	0	0	574	0	574
Mason	1,267	1,370	690	153	3,480
Mingo	0	0	386	0	386
Putnam	992	885	579	119	2,575
Wayne	815	269	402	62	1,548
Dist. V Subtotal	6,228	4,082	4,716	650	15,676
Calhoun	705	630	295	69	1,699
Doddridge	946	750	264	70	2,030
Gilmer	791	688	257	93	1,829
Jackson	1,487	1,317	692	158	3,654
Pleasants	334	268	137	27	766
Ritchie	1,422	1,309	536	102	3,369
Roane	1,178	1,123	455	105	2,861
Tyler	855	815	281	82	2,033
Wirt	777	860	341	92	2,070
Wood	1,193	1,218	853	141	3,405
Dist. VI Subtotal	9,688	8,978	4,111	939	23,716
State Total	46,071	34,792	26,524	4,997	112,384

Table 6. West Virginia 2016 deer kill per square mile of habitat by season (calculated using deer habitat open by county for season, all seasons combined kill based on total deer habitat for county).

County	Area	Bucks	Antlerless	Muzzleloader	Archery (Bow/Crossbow)	All Seasons Combined
Barbour	328	3.35	2.46	0.41	1.63	7.84
Brooke	72	3.71	5.43	0.53	3.63	13.30
Hancock	64	3.29	2.64	0.54	5.55	12.02
Harrison	379	3.00	2.76	0.30	1.47	7.53
Marion	286	2.68	2.89	0.40	1.69	7.65
Marshall	294	2.48	1.75	0.25	1.14	5.62
Monongalia	310	2.67	2.17	0.29	2.19	7.32
Ohio	82	3.28	2.79	0.56	3.48	10.11
Preston	632	2.81	2.59	0.34	2.00	7.74
Taylor	160	3.63	3.21	0.44	1.74	9.03
Tucker	402	1.82	0.50	0.18	0.99	3.49
Wetzel	350	2.57	2.47	0.26	0.82	6.12
Dist. I Subtotal	3,359	2.76	2.66	0.32	1.70	7.14
Berkeley	297	2.48	2.27	0.23	1.80	6.78
Grant	471	2.03	0.99	0.17	0.69	3.88
Hampshire	631	1.90	1.44	0.14	0.55	4.03
Hardy	569	1.89	1.16	0.11	0.47	3.63
Jefferson	198	2.13	2.16	0.27	2.03	6.59
Mineral	319	2.89	2.39	0.25	1.03	6.55
Morgan	213	2.05	2.03	0.21	1.01	5.30
Pendleton	690	1.58	0.72	0.10	0.43	2.83
Dist. II Subtotal	3,388	2.02	1.54	0.16	0.80	4.40
Braxton	501	2.20	1.81	0.31	1.03	5.36
Clay	338	1.16	0.54	0.13	0.66	2.48
Lewis	373	3.34	3.69	0.45	1.46	8.93
Nicholas	632	1.65	0.81	0.37	1.15	3.97
Pocahontas	911	1.01	0.50	0.06	0.29	1.60
Randolph	1,019	1.59	1.20	0.24	0.91	3.57
Upshur	343	4.08	4.68	0.54	2.18	11.48
Webster	535	1.76	0.59	0.26	1.00	3.61
Dist. III Subtotal	4,652	1.86	1.54	0.26	0.96	4.37
Fayette	629	1.41	0.71	0.20	1.12	3.18
Greenbrier	991	1.46	0.75	0.14	0.53	2.87
McDowell	515	0.00	0.00	0.00	0.89	0.89
Mercer	380	1.67	1.09	0.23	1.72	4.70
Monroe	463	2.37	1.77	0.15	1.04	5.34
Raleigh	562	1.15	0.60	0.12	1.30	2.96
Summers	341	1.93	1.77	0.18	1.06	4.94
Wyoming	481	0.00	0.00	0.00	1.80	1.80
Dist. IV Subtotal	4,361	1.60	1.05	0.16	1.10	3.16
Boone	485	1.18	0.32	0.15	0.73	2.39
Cabell	240	2.82	1.76	0.25	1.74	6.57
Kanawha	798	1.33	1.44	0.10	1.12	3.06
Lincoln	426	1.98	1.33	0.25	0.99	4.55
Logan	422	0.00	0.00	0.00	1.36	1.36
Mason	413	3.06	3.31	0.37	1.67	8.42
Mingo	404	0.00	0.00	0.00	0.96	0.96
Putnam	320	3.10	2.76	0.37	1.81	8.04
Wayne	485	1.68	1.02	0.13	0.83	3.19
Dist. V Subtotal	3,993	1.97	1.68	0.21	1.18	3.93
Calhoun	276	2.56	2.28	0.25	1.07	6.16
Doddridge	316	3.00	2.38	0.22	0.84	6.43
Gilmer	330	2.39	2.08	0.28	0.78	5.53
Jackson	447	3.33	2.95	0.35	1.55	8.17
Pleasants	125	2.66	2.14	0.22	1.09	6.11
Ritchie	443	3.21	2.95	0.23	1.21	7.60
Roane	476	2.48	2.36	0.22	0.96	6.01
Tyler	252	3.39	3.24	0.33	1.12	8.07
Wirt	230	3.38	3.74	0.40	1.48	9.01
Wood	325	3.67	3.75	0.43	2.63	10.48
Dist. VI Subtotal	3,220	3.01	2.79	0.29	1.28	7.37
State Total	22,972	2.18	1.64	0.24	1.15	4.89

*Note counties or portions thereof not open to Class N antlerless deer season include special youth, Class Q/QQ and Class XS season harvest however antlerless kill per square mile is calculated only on area open to Class N season if a portion of the county is closed to Class N season.



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