#### <u>WEST VIRGINIA</u>

# BULLETIN 2017









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#### BLACK BEAR by Colin P. Carpenter

#### **Season Results and Highlights**

West Virginia hunters harvested 3,158 black bears during the combined 2017 archery and firearms seasons (Tables 1, 2 and 3). This is the third time the harvest has topped 3,000. The harvest of 2017 was 5 percent higher than the 3,012 bears killed in 2016 and is the second highest bear kill recorded (Figure 1, Table 4).

The 2017 Mast Survey and Hunting Outlook documented mast production for all species combined that was 23 percent above the long-term average. In addition, the mast index for all oak species in 2017 increased over 2016 and was above the long-term average. The largest increases in oak mast production in 2017 were in white and chestnut oaks. Historically, an abundance of mast makes bears harder for archers to target, yet leads to a large December firearms harvest. Mast abundance delays denning and keeps bears available to hunters for both the buck-gun and December firearms seasons. The 2017 Mast Survey and Hunting Outlook predicted a decreased archery harvest and a greater December firearms harvest over the levels observed in 2016. The prediction held true for both the archery and December seasons, and the 2017 total fell just 43 bears short of the record harvest of 2015 (3,201). Overall, the 2017 harvest declined during the September/October archery seasons, yet increased during the buck-gun and December seasons over the levels recorded in 2016. The addition of early bear seasons and the buck-gun season over the past 10 years has helped to decrease the influence of mast crops on total harvest.

Hunters took 611 bears during the first segment of the 2017 archery season (September 30 – November 19). The top five counties were Nicholas (53), Randolph (45), Fayette (43), Mercer (38) and Preston (38). Over all seasons combined, hunters killed 379 bears with vertical bows and 297 bears with crossbows.

Hunters harvested 2,547 bears (1,569 male and 978 female) during the 2017 combined firearms seasons (Table 2). This is a 28 percent increase over the 1,993 bruins killed in 2016 (Table 4). Hunters took 623 bears in September and October, 678 during the concurrent buck/bear season and 1,246 during the traditional December season (Table 1). The top five counties were Randolph (224), Webster (210), Pocahontas (204), Pendleton (193) and Nicholas (187).

#### **Non-hunting Mortalities**

One-hundred forty bears were either killed on highways, died because of illegal or marauder activities or succumbed from other non-hunting causes (electrocution, mange, etc.) (Tables 4 and 5). This is down 43 percent from the 244 non-hunting mortalities recorded in 2016 (Table 4). There were 63 deaths from vehicles in 2017 compared to 108 in 2016. There was one illegal death in 2017 (same as 2016). Miscellaneous deaths dropped from eight in 2016 to three in 2017. Bears killed for nuisance or damage activity (marauders), decreased from 127 in 2016 to 73 in 2017. The combined seasonal and non-seasonal deaths (3,298) 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 down 36 percent from 162 in 2016 to 103 in 2017 (Table 6). Total payments of \$73,393 were 64 percent lower than the \$203,922 paid out in 2016. Claims were reported in 29 counties in 2017 and 30 counties in 2016. There were 29 claims for bees (compared to 42 in 2016) totaling \$25,583, 13 for livestock at \$4,795 (12 in 2016), 34 for corn at \$35,705 (74 in 2016), and 27 (34 in 2016) miscellaneous claims at \$7,309.

Preston County had the greatest dollar amount in compensations at \$18,165 followed by Greenbrier (\$12,101), Mineral (\$5,657), Tucker (\$4,757) and Berkeley (\$4,629). Greenbrier and Preston counties had the highest number of claims (14) followed by Pocahontas and Randolph (nine) and Mineral (six).

#### **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

Wildlife biologists collected 27 reproductive tracts in 2016. Twenty-three of the tracts supplied useful information. Reproductive tract data lags one year behind because researchers are waiting on age data. Information from reproductive tracts obtained in 2016 cannot be fully analyzed until ages are determined. Three yearling tracts were examined in 2016 and there was no evidence of breeding. Two 2-year-olds were examined in 2016 and one tract contained two corpora lutea. This bear would have given birth to its first litter at age 3. Seven sows over the age of 3 showed evidence of breeding and averaged 2.43 corpora lutea. Ten females over the age of 3 showed evidence of giving birth in 2016 and averaged 2.60 placental scars. One 9-year-old sow had no evidence of corpora lutea or placental scars.

In 2017, the West Virginia Division of Natural Resources offered hunters who turned in complete reproductive tracts a \$20 gift card for their cooperation. The goal in 2017 was to buy up to 100 reproductive tracts. Hunters submitted 33 reproductive tracts in 2017 (up from 15 in 2016) and wildlife biologists collected an additional three reproductive tracts from bears that died throughout the year. These results will be reported next year.

#### **Tooth Collections**

Age data from the 2016 tooth samples have been received and hunters have been notified of their bear's age. Hunters submitted 1,471 usable teeth (correct tooth, identification matched check tags, etc.) for age consideration. There were 16 cubs, 29 percent (423) were yearlings, 23 percent (332) were 2-year olds, 16 percent (235) were 3-year olds, and the remaining 32 percent (465) 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 1,471 usable teeth submitted in 2016 represent 49 percent of the total black bear harvest. This is the highest tooth submission rate since 2006, but still not very good considering tooth submission is mandatory. This rate should improve in the years to come which will allow for more precise estimates of population size.

#### **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 parts of the state (seven in 2017). In 2017, managers visited two sows with yearlings. Managers visited 3 sows with neonate cubs ( = 2.67). The other two dens were not able to be entered (one rock cliff, one unclimbable tree).

Wildlife managers and biologists began sampling black bears in 2017 for the presence of Trichinella spiralis, the causative agent of trichinosis in humans. Trichinosis can be acquired by consuming undercooked bear meat if the parasite is present. Reported prevalence rates have been very low in the southeast (1-2 percent), yet it has been more than 30 years since West Virginia was sampled. Samples were collected from bears that were road-killed or killed because of nuisance behavior. Thirty-four bears were sampled in 2017 and no T. spiralis larvae were detected. Sampling will continue in 2018.

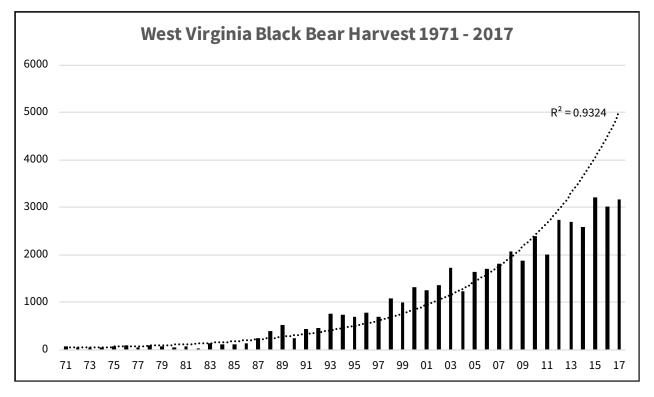


Figure 1. West Virginia black bear harvest, 1971 – 2017.

Table 1.         West Virginia 2017 black bear harvest by season and county							
County	Bow Total	Sept./Oct. Total	Buck Gun Total	December Total	TOTAL		
Barbour	11	9	23	13	56		
Brooke	0	0	0	0	0		
Hancock	0	0	0	0	0		
Harrison	1	0	2	0	3		
Marion	0	0	0	1	1		
Marshall	0	0	1	1	2		
Monongalia	3	0	0	1	4		
Ohio	0	0	0	0	0		
Preston	38	17	32	43	130		
Taylor Tucker	4	0	4	0	8 138		
Wetzel	0	0	1	14	2		
District I Subtotal	70	57	83	134	344		
Berkeley	1	0	1	1	3		
Grant	12	19	25	71	127		
Hampshire	14	0	40	5	59		
Hardy Jefferson	15	20	22	73	130		
Mineral	4	0	1	0	<u> </u>		
	0	0	6	0			
Morgan Pendleton	13	42	39	112	<u> </u>		
				1			
Dist. II Subtotal	64	84	141	273	562		
Braxton	12	8	25	31	76		
Clay	5	9	8	33	55		
Lewis	2	0	11	1	14		
Nicholas	53	36	56	95	240		
Pocahontas	14	54	31	119	218		
Randolph Upshur	45	79 10	18	127	<u>269</u> 47		
Webster	28	59	37	18 114	238		
Dist. III Subtotal	165	255	199	538	1157		
Fayette	43	16	42	8	109		
Greenbrier	36	31	40	84	191		
McDowell	34	25	2	37	98		
Mercer	38	0	13	3	54		
Monroe	22	13	17 28	21 19	73 85		
Raleigh Summers	16	0	19	0	35		
Wyoming	21	36	19	14	72		
Dist. IV Subtotal	230	139	162	186	717		
Boone	25	38	44	48	155		
Cabell	0	0	0	0	0		
Kanawha	21	15	27	45	108		
Lincoln	1	0	1	1	3		
Logan Mason	15	21	5	15	56		
	0	0		0	0		
Mingo Putnam	9	14	1	4	<u>28</u> 0		
Wayne	1	0	1	2	4		
				· · · · · · · · · · · · · · · · · · ·			
Dist. V Subtotal	72	88	79	115	354		
Calhoun	3	0	2	0	5		
Doddridge	1	0	2	0	3		
Gilmer	1	0	6	0	7		
Jackson	0	0	0	0	0		
Pleasants Ritchie	0	0	0	0	0		
	3	0	0	0	3		
	I U		0	0	0		
Roane		∩ ∩					
Roane Tyler	0	0					
Roane Tyler Wirt	0	0	4	0	5		
Roane Tyler Wirt Wood	0 1 1	0	4 0	0	5 1		
Roane Tyler Wirt	0	0	4	0	5		

\*"Bow" refers to bears killed with a bow or crossbow from September 30, 2017 - November 19, 2017. All other bow and crossbow bear kills have been separated based on the dates in which they were killed.

<b>Table 2.</b> Sex ratios of West Virginia black bears for September or Novembergun season, bow season and December gun season, 1964-2017									
Year	September/ or Early N		Bow season and/ or Early November gun season gun season gun season		or December Annual Kill		al 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	1048	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	1,101	836	2,003
2012	380	310	462	261	844	478	1,686	1,049	2,735
2012	375	309	523	330	743	412	1,641	1,013	2,692
2013	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	1,230	3,012
2017	349	274	399	212	1,220	704	1,968	1,190	3,158
34-Year Total	3,262	2,817	9,499	6,024	15,762	8,696	28,523	17,537	46,060
Average Sex Ratios	54%	46%	61%	39%	64%	36%	62%	38%	
2017 Sex Ratios	56%	44%	65%	35%	63%	37%	62%	38%	

 $^{\star}\mbox{Represents}$  bears of known sex and not the total harvest in each year.

Table 3	. West Virginia	total black bear	harvest by cour	nty, 2013-2017	
County	2013	2014	2015	2016	2017
Barbour	46	43	66	66	56
Brooke	0	0	0	0	0
Hancock	0	0	0	0	0
Harrison	4	2	7	18	3
Marion	2	0	4	3	1
Marshall	0	0	0	2	2
Monongalia	11	7	10	9	4
Ohio	0	0	0	0	0
Preston	131	119	155	137	130
Taylor	4	6	10	18	8
Tucker	108	106	116	128	138
Wetzel	1	2	2	2	2
District I Subtotal	307	285	370	383	344
Berkeley	2	5	7	6	3
Grant	95	119	73	101	127
Hampshire	35	42	59	50	
Hampshire	123	169	59 114	159	59 130
Jefferson					
Mineral	3	2	3	5 20	5 26
Morgan	11	12	12	19	6
Pendleton	221	205	190	214	206
Dist. II Subtotal	512	568	475	574	562
Braxton	48	40	48	62	76
Clay	37	34	59	45	55
Lewis	7	11	21	18	14
Nicholas	146	164	266	213	240
Pocahontas	140	199	191	184	218
Randolph	297	219	267	249	269
Upshur	18	34	38	32	47
Webster	178	218	222	149	238
Dist. III Subtotal	871	919	1112	952	1157
Fayette	138	111	162	147	109
Greenbrier	138	199	209	185	105
McDowell	69	49	109	108	98
Mercer	32	13	34	39	54
Monroe	63	55	89	97	73
Raleigh	103	63	124	77	85
Summers	18	15	14	34	35
Wyoming	99	34	108	57	72
Dist. IV Subtotal	702	539	849	744	717
Boone	116	100	130	113	155
Cabell	0	0	1	0	0
Kanawha	79	103	102	125	108
Lincoln	3	1	7	1	3
Logan	63	34	84	51	56
Mason	0	0	0	0	0
Mingo	32	12	39	34	28
Putnam	0	0	1	0	0
Wayne	1	1	5	1	4
Dist. V Subtotal	294	251	369	325	354
Calhoun	2	8	5	4	5
Doddridge	0	0	2	3	3
Gilmer	0	2	11	14	7
Jackson	0	0	0	0	0
Pleasants	0	1	1	0	0
Ritchie	3	2	1	4	3
Roane	1	1	1	1	0
Tyler	0	0	1	2	0
Wirt	0	5	4	6	5
Wood	0	0	4 0	0	5 1
Dist. VI Subtotal	6	19	26	34	24
STATE TOTAL	2,692	2,581	3,201	3,012	3,158
STATE TOTAL	2,092	2,581	3,201	3,012	3,138

Table 4. Number of black bears killed each year in West Virginia and cause of death								
Year	Hunting Bow	Season Gun	Illegal Kill	Illegal Kill Road Kill Marauders Others Tota				
1970s Subtotal	14	523		1970s Avera	ge Annual Bag: Bo	ow 2; Gun 65		
1980s Subtotal	261	1,542		1980s Averag	e Annual Bag: Bo	w 26; Gun 154		
1990s Subtotal	2,363	4,506		1990s Average	Annual Bag: Bov	v 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	
2000s Subtotal	5,935	10,123		2000s 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	
2017	611	2,547	1	63	73	3	3,298	
2010s Subtotal	5,960	15,811		2010s Average	Annual Bag: Bow	745; Gun 1,976		

\*November Gun Seasons held in 1989, and 2002 - 2017 in certain counties.

\*\*September Season held in 2008-2017 in certain counties.

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

\*\*\*\*Bow kill for 2015 - 2017 indicates bears killed between the first day of archery season

and the first day of buck firearms season, not all bears killed with a bow or crossbow.

	West Virginia 2017 ı	nonseasonal bla	ick bear mortaliti	es by county a	nd type
County	Roadkills	Illegal	Marauders	Misc.	Total
Barbour	1	0	0	0	1
Brooke	0	0	0	0	0
Hancock	0	0	0	0	0
Harrison	0	0	0	0	0
Marion	0	0	0	0	0
Marshall	0	0	0	0	0
Monongalia Ohio	0	0	<u> </u>	0	1
Preston	0	0	10	0	10
Taylor	0	0	10	0	10
Tucker	0	0	1	0	1
Wetzel	0	0	0	0	0
Dist. I Subtotal	1	0	13	0	14
Berkeley	0	0	0	0	0
Grant	0	0	0	0	0
Hampshire	2	0	2	1	5
Hardy	2	0	0	0	2
Jefferson	1	0	0	0	1
Mineral	0	0	2	0	2
Morgan	0	0	0	0	0
Pendleton	0	0	1	1	2
Dist. II Subtotal	5	0	5	2	12
Braxton	10	0	4	0	14
Clay	1	0	0	0	1
Lewis	4	0	0	0	4
Nicholas	14	0	8	0	22
Pocahontas	2	0	11	0	13
Randolph	3	0	0	0	3
Upshur	0	0	1	0	1
Webster	1	0	1	0	2
Dist. III Subtotal	35	0	25	0	60
Fayette	4	0	1	1	6
Greenbrier	6	0	18	0	24
McDowell	0	0	4	0	4
Mercer Monroe	3	0	2	0	5
Raleigh	0	0	1	0	1
		0	3	0	3
Summore	0	0	1	0	1
Summers Wyoming	0	0	1	0	1
Wyoming	1	1	0	0	2
Wyoming Dist. IV Subtotal	1 16	1 1	0 <b>30</b>	0 1	2 48
Wyoming Dist. IV Subtotal Boone	1 16 2	1 1 0	0 <b>30</b> 0	0 1 0	2 48 2
Wyoming Dist. IV Subtotal Boone Cabell	1 16 2 0	1 1 0 0	0 30 0 0	0 1 0 0	2 48 2 0
Wyoming Dist. IV Subtotal Boone Cabell Kanawha	1 16 2 0 0	1 1 0 0 0	0 30 0 0 0	0 1 0 0 0	2 48 2 0 0
Wyoming Dist. IV Subtotal Boone Cabell Kanawha Lincoln	1 16 2 0 0 0 0	1 1 0 0	0 30 0 0 0 0	0 1 0 0	2 48 2 0 0 0 0
Wyoming Dist. IV Subtotal Boone Cabell Kanawha	1 16 2 0 0	1 0 0 0 0 0	0 30 0 0 0	0 1 0 0 0 0	2 48 2 0 0
Wyoming Dist. IV Subtotal Boone Cabell Kanawha Lincoln Logan	1 16 2 0 0 0 0 0 3	1 0 0 0 0 0 0 0	0 30 0 0 0 0 0 0	0 1 0 0 0 0 0 0	2 48 2 0 0 0 0 3
Wyoming Dist. IV Subtotal Boone Cabell Kanawha Lincoln Logan Mason Mingo Putnam	1 16 2 0 0 0 0 3 3 0	1 0 0 0 0 0 0 0 0 0 0 0 0 0	0 30 0 0 0 0 0 0 0	0 1 0 0 0 0 0 0 0 0	2 48 2 0 0 0 0 3 3
Wyoming Dist. IV Subtotal Boone Cabell Kanawha Lincoln Logan Mason Mingo	1 16 2 0 0 0 0 3 0 0 0 0 0 0 0 0 0 0 0 0 0	1 0 0 0 0 0 0 0 0 0 0 0	0 30 0 0 0 0 0 0 0 0	0 1 0 0 0 0 0 0 0 0 0 0	2 48 2 0 0 0 0 0 3 0 0 0
Wyoming Dist. IV Subtotal Boone Cabell Kanawha Lincoln Logan Mason Mingo Putnam	1 16 2 0 0 0 0 3 0 0 0 0 0 0 0 0 0 0 0 0 0	1 0 0 0 0 0 0 0 0 0 0 0 0 0	0 30 0 0 0 0 0 0 0 0 0 0 0	0 1 0 0 0 0 0 0 0 0 0 0 0 0 0	2 48 2 0 0 0 0 0 0 3 0 0 0 0 0 0
Wyoming         Dist. IV Subtotal         Boone         Cabell         Kanawha         Lincoln         Logan         Mason         Mingo         Putnam         Wayne         Dist. V Subtotal         Calhoun	1 16 2 0 0 0 0 3 0 0 0 0 0 0 0 0 0 0 0 0 0	1 0 0 0 0 0 0 0 0 0 0 0 0 0	0 30 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	2 48 2 0 0 0 0 0 3 0 0 0 0 0 0 0 0
Wyoming         Dist. IV Subtotal         Boone         Cabell         Kanawha         Lincoln         Logan         Mason         Mingo         Putnam         Wayne         Dist. V Subtotal         Calhoun         Doddridge	1 16 2 0 0 0 0 3 0 0 0 0 0 0 0 5	1 0 0 0 0 0 0 0 0 0 0 0 0 0	0 30 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	2 48 2 0 0 0 0 0 3 0 0 0 0 0 0 5
Wyoming         Dist. IV Subtotal         Boone         Cabell         Kanawha         Lincoln         Logan         Mason         Mingo         Putnam         Wayne         Dist. V Subtotal         Calhoun         Doddridge         Gilmer	1 16 2 0 0 0 0 0 0 0 0 0 0 0 0 0	1 1 0 0 0 0 0 0 0 0 0 0 0 0 0	0 30 0 0 0 0 0 0 0 0 0 0 0 0 0	0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	2 48 2 0 0 0 0 3 3 0 0 0 0 0 0 0 5 0 0
WyomingDist. IV SubtotalBooneCabellKanawhaLincolnLoganMasonMingoPutnamWayneDist. V SubtotalCalhounDoddridgeGilmerJackson	1 16 2 0 0 0 0 3 0 0 0 0 0 0 0 0 0 0 0 0 0	1 1 0 0 0 0 0 0 0 0 0 0 0 0 0	0 30 0 0 0 0 0 0 0 0 0 0 0 0 0	0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	2 48 2 0 0 0 0 3 0 0 0 0 0 0 0 0 0 0 0 0 0 0
WyomingDist. IV SubtotalBooneCabellKanawhaLincolnLoganMasonMingoPutnamWayneDist. V SubtotalCalhounDoddridgeGilmerJacksonPleasants	1 16 2 0 0 0 0 3 0 0 0 0 0 0 0 5 0 0 0 0 0 0 0 0 0 0 0 0 0	1 1 0 0 0 0 0 0 0 0 0 0 0 0 0	0 30 0 0 0 0 0 0 0 0 0 0 0 0 0	0 1 0 0 0 0 0 0 0 0 0 0 0 0 0	2 48 2 0 0 0 0 3 3 0 0 0 0 0 5 0 0 0 0 0 0 0 0
WyomingDist. IV SubtotalBooneCabellKanawhaLincolnLoganMasonMingoPutnamWayneDist. V SubtotalCalhounDoddridgeGilmerJacksonPleasantsRitchie	1 16 2 0 0 0 0 0 0 0 0 0 0 0 0 0	1 1 0 0 0 0 0 0 0 0 0 0 0 0 0	0 30 0 0 0 0 0 0 0 0 0 0 0 0 0	0 1 0 0 0 0 0 0 0 0 0 0 0 0 0	2 48 2 0 0 0 0 3 3 0 0 0 0 0 0 5 0 0 0 0 0 0 0
WyomingDist. IV SubtotalBooneCabellKanawhaLincolnLoganMasonMingoPutnamWayneDist. V SubtotalCalhounDoddridgeGilmerJacksonPleasantsRitchieRoane	1 16 2 0 0 0 0 0 0 0 0 0 0 0 0 0	1 1 0 0 0 0 0 0 0 0 0 0 0 0 0	0 30 0 0 0 0 0 0 0 0 0 0 0 0 0	0 1 0 0 0 0 0 0 0 0 0 0 0 0 0	2 48 2 0 0 0 0 3 3 0 0 0 0 0 0 0 0 0 0 0 0 0
WyomingDist. IV SubtotalBooneCabellKanawhaLincolnLoganMasonMingoPutnamWayneDist. V SubtotalCalhounDoddridgeGilmerJacksonPleasantsRitchieRoaneTyler	1 16 2 0 0 0 0 3 0 0 0 0 0 0 0 0 0 0 0 0 0	1 1 0 0 0 0 0 0 0 0 0 0 0 0 0	0 30 0 0 0 0 0 0 0 0 0 0 0 0 0	0 1 0 0 0 0 0 0 0 0 0 0 0 0 0	2 48 2 0 0 0 0 3 3 0 0 0 0 0 0 0 0 0 0 0 0 0
WyomingDist. IV SubtotalBooneCabellKanawhaLincolnLoganMasonMingoPutnamWayneDist. V SubtotalCalhounDoddridgeGilmerJacksonPleasantsRitchieRoaneTylerWirt	1 16 2 0 0 0 0 0 0 0 0 0 0 0 0 0	1 1 0 0 0 0 0 0 0 0 0 0 0 0 0	0 30 0 0 0 0 0 0 0 0 0 0 0 0 0	0 1 0 0 0 0 0 0 0 0 0 0 0 0 0	2 48 2 0 0 0 0 3 3 0 0 0 0 0 0 0 0 0 0 0 0 0
WyomingDist. IV SubtotalBooneCabellKanawhaLincolnLoganMasonMingoPutnamWayneDist. V SubtotalCalhounDoddridgeGilmerJacksonPleasantsRitchieRoaneTylerWirtWood	1 16 2 0 0 0 0 0 0 0 0 0 0 0 0 0	1 1 0 0 0 0 0 0 0 0 0 0 0 0 0	0 30 0 0 0 0 0 0 0 0 0 0 0 0 0	0 1 0 0 0 0 0 0 0 0 0 0 0 0 0	2 48 2 0 0 0 0 3 3 0 0 0 0 0 0 0 0 0 0 0 0 0
WyomingDist. IV SubtotalBooneCabellKanawhaLincolnLoganMasonMingoPutnamWayneDist. V SubtotalCalhounDoddridgeGilmerJacksonPleasantsRitchieRoaneTylerWirtWoodDist. VI Subtotal	1 16 2 0 0 0 0 0 0 0 0 0 0 0 0 0	1 1 0 0 0 0 0 0 0 0 0 0 0 0 0	0 30 0 0 0 0 0 0 0 0 0 0 0 0 0	0 1 0 0 0 0 0 0 0 0 0 0 0 0 0	2 48 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
WyomingDist. IV SubtotalBooneCabellKanawhaLincolnLoganMasonMingoPutnamWayneDist. V SubtotalCalhounDoddridgeGilmerJacksonPleasantsRitchieRoaneTylerWirtWood	1 16 2 0 0 0 0 0 0 0 0 0 0 0 0 0	1 1 0 0 0 0 0 0 0 0 0 0 0 0 0	0 30 0 0 0 0 0 0 0 0 0 0 0 0 0	0 1 0 0 0 0 0 0 0 0 0 0 0 0 0	2 48 2 0 0 0 0 3 3 0 0 0 0 0 0 0 0 0 0 0 0 0

	Table	<b>e 6.</b> Black b	pear dar	nage claim	s paid a	nd paymer	nts by co	ounty 2013-	2017		
Country	2	2013		2014	2	2015	2	2016	:	2017	
County	Claims	Payments	Claims	Payments	Claims	Payments	Claims	Payments	Claims	Payments	
Barbour	1	\$208	1	\$399	2	\$1,396	1	\$673	0	\$0	
Berkeley	3	\$899	0	\$0	0	\$0	0	\$0	1	\$4,629	
Boone	0	\$0	6	\$2,770	3	\$9,443	2	\$777	0	\$0	
Braxton	9	\$3,332	4	\$750	1	\$263	2	\$486	5	\$1,744	
Brooke	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	
Cabell	0	\$0	0	\$0	1	\$411	0	\$0	0	\$0	
Calhoun	0	\$0	0	\$0	2	\$364	1	\$52	0	\$0	
Clay	1	\$149	8	\$1,954	2	\$291	1	\$205	0	\$0	
Doddridge	0	\$0	1	\$141	0	\$0	0	\$0	0	\$0	
Fayette	8	\$5,352	10	\$6,695	7	\$4,008	3	\$1,891	3	\$1,353	
Gilmer	2	\$185	1	\$398	1	\$100	1	\$349	1	\$105	
Grant	5	\$7,425	2	\$5,578	4	\$4,817	2	\$1,086	2	\$713	
Greenbrier	33	\$46,475	23	\$24,999	28	\$46,693	32	\$41,981	14	\$12,101	
Hampshire	11	\$5,791	3	\$328	5	\$2,927	5	\$8,980	4	\$1,318	
Hancock	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	
Hardy	15	\$40,965	8	\$14,839	8	\$3,382	8	\$10,128	2	\$527	
Harrison	0	\$0	2	\$1,570	1	\$150	0	\$0	1	\$170	
Jackson	1	\$1,817	0	\$0	0	\$0	0	\$0	0	\$0	
Jefferson	0	\$0	0	\$0	1	\$144	0	\$0	0	\$0	
Kanawha	2	\$820	1	\$299	1	\$138	3	\$591	1	\$180	
Lewis	1	\$669	1	\$541	3	\$1,733	1	\$293	1	\$268	
Lincoln	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	
Logan	6	\$1,868	5	\$1,793	2	\$293	0	\$0	1	\$352	
Marion	2	\$952	4	\$1,360	4	\$1,823	0	\$0	4	\$469	
Marshall	0	\$0	0	\$0	1	\$578	1	\$951	0	\$0	
Mason	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	
McDowell	0	\$0	0	\$0	2	\$212	1	\$125	0	\$0	
Mercer	6	\$5,679	2	\$633	6	\$3,575	10	\$6,089	4	\$1,019	
Mineral	1	\$863	3	\$1,200	1	\$80	7	\$6,294	6	\$5,657	
Mingo	3	\$824	0	\$0	5	\$4,900	0	\$0	1	\$490	
Monongalia	1	\$54	2	\$7,999	1	\$606	0	\$0	0	\$0	
Monroe	11	\$26,745	1	\$5,765	0	\$0	5	\$13,366	4	\$3,786	
Morgan	2	\$610	5	\$5,523	1	\$674	1	\$623	0	\$0	
Nicholas	9	\$7,206	5	\$1,107	5	\$3,608	10	\$3,519	4	\$1,205	
Ohio	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	
Pendleton	14	\$9,910	13	\$14,000	11	\$21,839	9	\$26,748	2	\$901	
Pleasants	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	
Pocahontas	8	\$9,190	11	\$9,818	12	\$13,155	17	\$19,425	9	\$4,505	
Preston	12	\$39,988	10	\$23,758	7	\$18,134	15	\$42,877	14	\$18,165	
Putnam	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	
Raleigh	4	\$1,093	7	\$2,726	3	\$557	10	\$8,004	1	\$359	
Randolph	8	\$2,581	13	\$3,123	3	\$363	5	\$1,004	9	\$2,550	
Ritchie	1	\$350	0	\$0	0	\$0	0	\$0	0	\$0	
Roane	1	\$2,403	2	\$854	0	\$0	0	\$0	0	\$0	
Summers	2	\$813	3	\$2,557	1	\$173	3	\$4,512	2	\$1,942	
Taylor	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	
Tucker	9	\$17,672	2	\$1,874	2	\$5,288	2	\$1,552	1	\$4,757	
Tyler	0	\$0	0	\$0	0	\$0	0	\$0	1	\$1,371	
Upshur	1	\$75	1	\$227	4	\$1,099	1	\$45	1	\$55	
Wayne	1	\$451	0	\$0	0	\$1,055	2	\$696	0	\$0	
Webster	4	\$1,659	0	\$0	1	\$250	1	\$600	1	\$85	
Wetzel	3	\$1,039	0	\$0	3	\$960	0	\$000	3	\$2,617	
Wirt	1	\$919	2	\$775	0	\$900	0	\$0 \$0	0	\$2,017	
Wood	0	\$919	0	\$0	0	\$0	0	\$0	0	\$0	
Wyoming	4	\$1,517	1	\$118	5	\$554	0	\$0	0	\$0	
Total	206	\$249,753	163	\$146,471	150	\$154,981	162	\$203,922	103	\$73,393	

#### WILD TURKEY by Michael Peters

#### **Spring Harvest**

Spring gobbler season began in 1966 on our wildlife management areas and went statewide in 1968. According to the Electronic Licensing System (ELS), hunters harvested 11,545 bearded turkeys during the 2017 spring gobbler season (Table 7). This was more than 11 percent over last year's harvest and the highest harvest since 2006. This is the second year of West Virginia's spring gobbler season began on the third Monday in April, a week earlier than historically. The first week's harvest, 6,149 birds, accounted for 53 percent of the total 4-week spring gobbler harvest (Table 8). The second week, which was traditionally the first week up to 2015, accounted for 20 percent of the season harvest. Weeks three and four combined only made up 22 percent of the total harvest. Youth hunters harvested 456 birds during the youth spring gobbler season which was 21 percent over last year's youth harvest.

District 1 had the highest spring gobbler harvest (2,582) followed by District 6 (2,249), District 5 (2,092), District 4 (1,859), District 3 (1,731) and District 2 (1,032). The top five counties were Preston (475, District 1), Mason (448, District 4), Jackson (408, District 5), Wood (380, District 5), and Harrison (327, District 1) counties.

#### Fall Harvest

For the second year, due to regulatory changes, all of West Virginia's 55 counties had at least a one week fall turkey season, which has a one-bird either-sex bag limit. Twenty-six counties had a one-week season. Fifteen counties, which had a spring harvest of at least 0.75 birds per square mile, were open to a split two-week season, and the 14 "traditional" counties had a four-week split season. Hunters harvested 948 turkeys (Table 9), down 54 percent from 2016 and 23 percent below the five-year average. In 2016, West Virginia experienced the eruption of the 17-year cicada, increasing brood survival. In addition, 2016 was the first year all 55 counties had at least a one week fall season. Both factors resulted in an aboveaverage fall harvest in 2016.

The 2017 season was more on par with a typical season. Brood production was down from last year and mast conditions were good, meaning birds were more dispersed. These conditions made it more difficult for hunters to bag a bird.

District 4 harvested 212 birds, followed by District 1 (200), District 3 (173), District 6 (147), and District 5 (82). All the districts had lower harvests in 2017.

Leading the state was Greenbrier County, with hunters harvesting 64 birds, followed by Preston (55), Monroe (51), Randolph (38), and Nicolas County (36). The top five counties had a four-week season except Preston County, which had a two-week season. The 14 "traditional counties," which have a four-week season, accounted for 39 percent of the state's fall turkey harvest. Overall, the combined 2017 spring and fall turkey harvest ranked 16th compared to all previous hunting seasons (Table 11).

#### **Surveys**

#### **Spring Gobbler Survey**

The Wildlife Resources Section and the West Virginia Chapter of the National Wild Turkey Federation (NWTF) 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 of the National Wild Turkey Federation (NWTF) 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. The results from this survey were not available at the time of this 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 at:

West Virginia Division of Natural Resources P.O. Box 67, Elkins, WV 26241 (304) 637-0245

Those wishing to participate will be sent the necessary forms and a questionnaire before 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 broods observed two years prior to a spring turkey season is a good indicator of the spring's gobbler harvest. The number of turkey broods observed in the spring is a good indicator of that year's fall harvest.

Statewide, there were 338 observations of turkeys made in 2017. This included 510 hens, 799 poults, 395 gobblers, 103 unknown birds, and 26 repeated observations. Removing the repeated observations yields; 466 hens, 709 poults, 359 gobblers, 103 unknown, and a 1.52 poult-to-hen ratio for the entire observation period.

A total of 120 turkey broods were observed in 2017. This is 53 percent below last year's observations and 30 percent below the 5-year average. The 2016 turkey broods were probably bolstered by the emergence of the 17-year cicadas. Not only did the poults have plenty of protein themselves, but the cicadas also supplied an alternate food source for everything else that may eat poults. The biggest change occurred in the Western Ecological Region (Region 3), where brood observation decreased by 70 percent from 2016 to 2017. Statewide, the 2017 observations are on par with observations between 2013-2015, although the Southern Ecological Region (Region 4) has experienced two consecutive years of decreasing observations.

#### Surveys continued ...

#### **Mast Survey**

Active duty personnel and retirees from the Wildlife and Lew Enforcement Sections of the Division of Natural Resources and the Division of Forestry devoted their time to perform mast surveys this year. This survey has been conducted since 1970 and is our longest running survey. Two hundred thirty-six locations covering all regions of West Virginia were surveyed in 2017. Mast production for 18 tree and shrub species important to wildlife were observed.

Compared to the 2016 survey, the mast index for all species combined was up. Last year, hickory and walnut were scarce, but this year they were much more abundant. Hickory was up an incredible 285 percent from 2017 and walnut was up 183 percent. This year, white and chestnut oaks also rebounded from the poor performance of 2016, but black/red and scarlet oaks are nearly identical in 2017. Compared to last year, the index for all oak species increased. Statewide, chestnut oak had the largest increase at 106 percent of the oak species.

All soft mast species were above their 2016 production levels. Apple was up 102 percent in 2017 and had an incredible index of 78, meaning most of the apple trees in the state had very good production. Dogwood, crabapple, grape, and hawthorn also exhibited significant increases and will have an impact on hunting seasons and population dynamics this fall.

Comparing all species, the 2017 index was 59 percent above last year and well above the long-term average. It was the highest total mast production in the past decade. Hickory, cherry and oaks were also above the average. Every hard mast species was above the 46-year average. Walnut, hickory, and chestnut oak were above their long-term average.

Tab	le 7. Spring harves	t of wild turkeys	s in West Virgini	a, 2013-2017	
County	2013	2014	2015	2016	2017
Barbour	162	178	127	165	204
Brooke	104	84	67	78	100
Hancock	110	110	89	98	106
Harrison	355	264	247	286	328
Marion	218	149	170	192	257
Marshall Monongalia	<u> </u>	220 174	<u> </u>	207 197	256 267
Ohio	131	91	199	197	113
Preston	403	344	333	371	475
Taylor	103	87	72	101	135
Tucker	57	88	82	90	97
Wetzel	256	203	168	196	244
Dist. I Subtotal	2,461	1,992	1,837	2,092	2,582
Berkeley	98	112	124	115	147
Grant	129	129	131	161	145
Hampshire	124	138	156	170	184
Hardy	129	135	116	132	132
Jefferson Mineral	60 87	<u>57</u> 96	<u>82</u> 118	79 134	115 133
Morgan	54	62	64	54	64
Pendleton	117	95	94	88	112
Dist. II Subtotal	798	824	885	933	1,032
Braxton	238	175	194	197	209
Clay	147	68	83	101	120
Lewis	221	180	194	211	249
Nicholas	221	164	213	330	311
Pocahontas	160	130	145	144	142
Randolph	217	186	225	250	247
Upshur	262	229	231	228	302
Webster	118	113	114	156	151
Dist. III Subtotal	1,584	1,245	1,399	1,617	1,731
Fayette	287	244	239	292	278
Greenbrier	299	245	242	308	269
McDowell	308	215	218	200	177
Mercer Monroe	<u> </u>	170 212	161 181	176 184	<u> </u>
Raleigh	200	212	231	283	280
Summers	258	209	199	219	209
Wyoming	291	255	257	320	262
Dist. IV Subtotal	2,103	1,764	1,728	1,982	1,859
Boone	230	159	138	157	157
Cabell	138	80	110	114	176
Kanawha	332	231	227	285	320
Lincoln	213	178	169	215	229
Logan	246	181	172	181	165
Mason	370	293 93	314	378	448
Mingo Putnam	<u> </u>	150	<u>91</u> 181	<u>131</u> 210	143 268
Wayne	144	103	108	139	186
Dist. V Subtotal	2,039	1,468	1,510	1,810	2,092
Calhoun	179	135	128	145	164
Doddridge	179	135	128	145	164
Gilmer	191	120	110	137	143
Jackson	326	293	264	302	408
Pleasants	83	73	71	80	88
Ritchie	326	245	218	216	264
Roane	236	232	210	231	256
Tyler	211	136	144	182	181
Wirt	193	177	153	174	205
Wood	294	271	248	328	380
Dist. VI Subtotal	2,177	1,835	1,678	1,927	2,249
State Total	11,162	9,128	9,037	10,361	11,545

#### **Table 8.** Spring wild turkey harvest in West Virginia by week of season, 2016-2017

Week of Season	20	16	20	17
week of Season	<b>Birds Harvested</b>	%	Birds Harvested	%
Youth	378	4%	456	4%
Week 1	5,446	53%	6,149	53%
Week 2	2,196	21%	2,355	20%
Week 3	1,214	12%	1,315	11%
Week 4	1,126	11%	1,270	11%
Unknown	1	0%	0	0%
State Total	10,361	100%	11,545	100%

Tabl	l <b>e 9.</b> Fall harvest o	f wild turkeys ir	n West Virginia,	2013-2017	
County	2013	2014	2015	2016	2017
Barbour	0	18	0	29	21
Brooke	9	2	6	15	9
Hancock	8	5	8	6	2
Harrison	20	20	28	41	15
Marion	4	6	19	38	12
Marshall	10	22	9	50	17
Monongalia	24	15	25	30	20
Ohio	9	3	6	21	5
Preston	77	53	71	105	55
Taylor	8	5	2	23	21
Tucker	14	25	13	14	6
Wetzel	2	18	0	40	17
Dist. I Subtotal	185	192	187	412	200
Berkeley	36	19	30	21	20
Grant	41	17	38	57	29
Hampshire	41	15	35	30	18
Hardy	34	18	31	27	19
Mineral	28	16	25	22	14
Morgan	14	15	15	9	6
Pendleton	26	31	25	35	24
Jefferson	0	0	0	8	4
Dist. II Subtotal	220	131	199	209	134
Lewis	8	0	25	21	10
Nicholas	39	88	63	140	36
Pocahontas	57	54	62	49	34
Randolph	59	83	114	116	38
Upshur	28	0	59	92	32
Webster	35	50	48	91	14
Clay	0	0	1	12	4
Braxton	0	0	0	43	5
Dist. III Subtotal	226	275	372	564	173
Greenbrier	64	81	81	74	64
McDowell	33	0	0	30	14
Mercer	0	2	0	27	17
Monroe	71	52	61	61	51
Summers	42	41	26	29	22
Wyoming	37	35	41	62	12
Raleigh	0	0	0	47	18
Fayette	0	0	0	38	14
Dist. IV Subtotal	247	211	209	368	212
Cabell	4	0	0	12	5
Lincoln	14	0	0	26	7
Mason	26	33	43	64	28
Putnam	2	0	19	27	14
Logan	17	0	0	25	5
Boone	0	0	2	21	5
Wayne	0	0	0	17	0
Kanawha	0	0	0	38	17
Mingo	0	0	0	8	1
Dist. V Subtotal	63	33	64	238	82
Calhoun	8	0	0	19	7
Doddridge	0	0	0	13	5
Gilmer	6	0	0	10	9
Jackson	18	37	24	48	34
Pleasants	4	3	6	7	8
Ritchie	2	12	0	21	8
Tyler	1	8	15	18	2
Wirt	19	23	17	30	23
Wood	20	31	47	84	34
Roane	0	0	0	26	17
Dist. VI Subtotal	78	114	109	275	147
State Total	1,019	956	1,140	2,066	948

#### **Table 10.** Fall wild turkey harvest in West Virginia by week of season, 2016-2017

Week of Season	20	16	20	7 % 17% 45%		
Week of Season	Birds Harvested	%	Birds Harvested	%		
Opening Day	370	18%	163	17%		
Week 1	1,112	54%	427	45%		
Week 2	302	15%	205	22%		
Week 3	112	5%	69	7%		
Week 4	170	8%	84	9%		
Totals	2,066	100%	948	100%		

Table	<b>11.</b> Total spring and fall w	vild turkey harvest, V	Vest Virginia, 1966-2017	
Year	Spring	Fall	Total	Rank
1966	12	1,334	1,346	51
1967	42	989	1,031	52
1968	134	1,697	1,831	50
1969	243	3,430	3,673	40
1970	370	3,020	3,390	43
1971	421	2,374	2,795	47
1972	589	2,353	2,942	46
1973	554	3,038	3,592	41
1974	596	2,158	2,754	48
1975	585	2,827	3,412	42
1976	721	1,860	2,581	49
1977	719	2,998	3,717	39
1978	566	2,803	3,369	44
1979	873	2,421	3,294	45
1980	1,459	3,696	5,155	36
1981	1,970	3,135	5,105	37
1982	2,458	5,684	8,142	32
1983	2,627	2,224	4,851	38
1984	3,387	2,414	5,801	35
1985	4,215	2,343	6,558	34
1986	4,774	3,130	7,904	33
1987	5,665	4,114	9,779	28
1988	6,526	2,939	9,465	30
1989	7,245	2,204	9,449	31
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	20
2005	10,957	1,130	12,087	19
2006	11,735	1,186	12,921	14
2007	9,965	1,511	11,476	21
2008	9,929	1,206	11,135	23
2009	9,787	1,208	10,995	24
2010	10,209	1,126	11,335	22
2011	9,190	1,186	10,376	25
2012	8,303	1,272	9,575	29
2013	11,162	1,019	12,181	18
2014	9,128	956	10,084	27
2015	9,037	1,140	10,177	26
2016	10,361	2,066	12,427	17
2017	11,545	948	12,493	16
Total	375,815	123,835	499,650	

#### WILD BOAR by Christopher W. Ryan

Hunters killed 91 boars during the 2017 season. The harvest was down from the 46 killed in 2016. The good mast conditions last year led to much better reproduction this year. Hunters were able to find and locate animals easier than in the past. The harvest was close to 2015's, which was the highest since 1997.

Firearms hunters took 25 boars (19 in Logan County and 6 in Boone County) and archers killed 66 (48 in Logan County and 18 in Boone County). Crossbow hunters accounted for 14 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 three that year to 158 in 1995. The decline in the population since the late 1990s 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 four counties and will make management recommendations accordingly.

Year	Total Kill
1979	3
1979	10
1980	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
2017	91

Table 12 West Virginia wild bear baryost

Table 13.         Wild boar harvest by weapon, 2017						
County	Crossbow	Archery	Gun	Total		
Boone	6	12	6	24		
Logan	8	40	19	67		
Total	14	52	25	91		

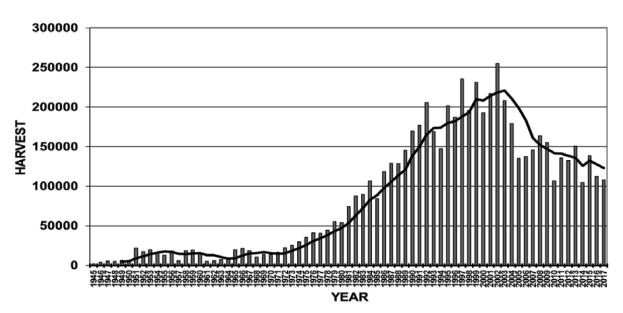
### WHITE-TAILED DEER by James M. Crum

#### Deer Season 2017

The following Tables (14-19) contain the 2017 white-tailed deer hunter harvest information for each of West Virginia's 55 counties. In 2017, deer hunters harvested 108,160 deer in the combined deer seasons. This is a 4 percent decrease from the 2016 harvest of 112,384 and 15 percent less than the previous five-year harvest average of 127,803. The combined deer season harvest for 2017 is the 30th largest total deer harvest on record for West Virginia. The 2017 total deer harvest represents one deer killed for every 136 acres of deer habitat in the state (Table 19), and a 58 percent harvest decrease from the record harvest of 255,356 deer in 2002. From 1945 through 2017, 6,355,069 deer have been recorded as harvested in West Virginia (Fig.2). Fifty percent (3,207,204) of the total recorded deer harvest of the past 72 years has occurred in the past 20 years.

In 2017, the traditional bucks-only firearm season harvest of antlered bucks was 44,127, a decrease of 4 percent from the 2016 harvest (Table 14). This is 14 percent less than the five-year average bucks-only firearm season harvest of 51,448 and ranks 35th among all past years. The 2017 antlerless deer harvest taken with a firearm decreased by 3.5 percent from that of 2016 and was 68 percent less than the record harvest of 104,199 recorded in 2002. A total of 33,584 antlerless deer (Table 16) 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 sixth 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 14-16). The antlerless deer maximum season bag limit was decreased from four to three in 2012 and continued to remain at three for 2017. In comparison to 2016, the antlerless bag limit in 2017 was increased in five counties and portions of one county from one antlerless deer to three antlerless deer. Two counties that had limited permits in 2016 were opened to unlimited permits in 2017. However, a portion of one county (Clay) that was open to limited permits in 2016 was closed in 2017.



#### WV DEER HARVEST 1945-2017

Figure 2. White-tailed deer harvest in West Virginia from 1945-2017.

The firearm antlerless deer season was open in 2017 for 23 days on private land in 51 counties or portions thereof. In four counties and portions of five more, the season was closed. Of the counties open for antlerless deer hunting to resident and nonresident hunters, 33 counties and portions of four counties had a bag limit of three antlerless deer, and 10 more counties and portions of seven counties had a bag limit of one antlerless deer. Three counties and portions of seven counties in 2017 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. Like 2016, 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 antlerlessonly season on private and public land in counties having a firearms deer hunting season. The 2017 special split deer season for youth, Class Q/QQ and Senior Lifetime Class XS hunters was the 10th year for the season to be open on private land in all 51 counties open to a deer firearms season, the sixth year that all public lands in the 51 counties were open, and also the sixth year that Senior Lifetime Class XS license holders could participate.

The 2017 antlerless season harvest was 32nd highest on record and 22 percent less than the five-year average antlerless harvest of 43,145.

The 2017 deer statewide archery (bow/crossbow) season opened September 30, 2017, six days later than the 2016 season and one week earlier than any season prior to 2011. In the 2017 archery season (including urban archery), a harvest of 26,206 was recorded, which includes 13,471 deer harvested during the archery season with a crossbow. Deer reported as harvested with a crossbow represented 51 percent of the total archery season harvest and ranged from 18 percent to 71 percent of archery harvest of antlered deer by county. This year's archery harvest was a decrease of 1 percent from the 2016 archery season, 21st highest on record and 4 percent below the five-year average of 27,420 (Table 15). The 2017 muzzleloader season harvest was 4,243, a decrease of 15 percent from 2016. This is 26 percent below the five-year average harvest of 5,768, and the 32nd out of 34 years the muzzleloader season has existed in West Virginia (Table 17). Major changes to the muzzleloader season that occurred in 2012 remained in place for 2017. In 2012 the early six-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 2017, Sunday hunting was permissible in West Virginia for the 17th year since 1956. In 2001, all counties were open to Sunday hunting. In 2002, 20 counties were open to Sunday hunting. From 2003 through 2013, there were 14 counties open to Sunday hunting. In 2014, 19 counties; in 2015, 20 counties; in 2016, 22 counties; and in 2017, all counties were open to Sunday hunting on private land with written permission. Private land had 14 additional days available for deer hunting in 2017 deer seasons. All 14 days were open for bow and crossbow hunters who recorded taking 2,727 deer on Sundays, or 10 percent of the total 2017 archery (bow/crossbow) harvest. One Sunday was open for firearms deer hunting (the Sunday after Thanksgiving, November 26), and 1,002 deer were recorded as harvested: 573 antlered bucks and 429 antlerless deer.

In the 2017 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 11 counties with a buck harvest one buck per square mile lower than the desired harvest. For the remaining 40 counties, the buck harvest was within one buck per square mile of the desired harvest for the county. In contrast to 2016, no counties exceeded the desired buck harvest per square mile by at least one buck per square mile and three counties were lower than the desired harvest, while 48 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

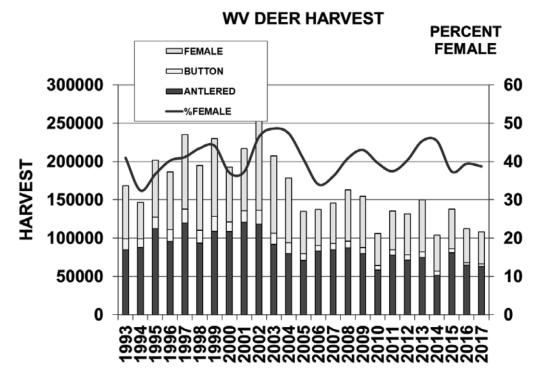


Figure 3. Deer harvested by sex in West Virginia from 1993-2017.

#### Deer Season 2017 continued ...

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 percent.

Figure 3 depicts the total deer harvest in West Virginia from 1993 through 2017 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 percent female harvest has on the number of deer harvested. The 2017 deer harvest records indicate the percentage of female deer in the harvest was 38.7 percent, down slightly from the 39 percent recorded in 2016 which is expected to stabilize the statewide deer herd. However, the percentage of female deer in the harvest of individual counties in 2017 varied from 21 percent to 48 percent, which reflects antlerless deer season frameworks design for individual counties to grow, reduce, or stabilize the deer population on a county basis.

Over the past 10 years, the yearly average number of reported antlered bucks harvested during all deer seasons is three antlered bucks per square mile of deer habitat in West Virginia or one buck per 207 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 Harvest**

Deer taken by hunters in the Special Urban Deer Season, Special Split Youth, Class Q/QQ and Senior Lifetime Class XS deer season, and special controlled deer hunts do not count toward the hunter's regular deer season bag limits nor require the hunter to purchase a Class N/NN or additional deer stamps. These deer are included in Tables 14-19 as part of the 2017 deer season harvest.

Hunters took 698 deer in the 2017 special urban deer season. This special archery deer hunting season is available to incorporated cities and homeowner associations, which may open three weeks before the opening of statewide deer archery season and close December 31. During this special season, seven deer may be taken. This is the 14th 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 homeowner's association.

In the special split Youth, Class Q/QQ and Senior Lifetime Class XS deer season, 1,505 antlerless deer were harvested. This season was open on private land and public land in any county open to a firearms deer season October 21, 2017, and again December 26 and 27, 2017. This was the 20th 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 than18 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 2017 season was the eighth year for participation by the 15-17 age youths and the sixth year for participation by Class XS license holders. The daily bag limit was one antlerless deer. Hunters harvested 979 deer on the first day, October 21, and an additional 310 and 216 deer on December 26 and 27, respectively. Overall the harvest for the 2017 special Youth, Class Q and Senior Lifetime Class XS deer season decreased 15 percent from 2016. The harvest for the 2017 first day was down 15 percent from the first day of the

2016 season, and the second and third days of the 2017 season were down 7 percent and 24 percent respectively, from the reported harvest in 2016.

Special controlled deer hunts were held in 2017 at Blennerhassett Island State Park, Cacapon State Park, North Bend State Park, Pipestem State Park and the Green Bank Observatory. Ten deer were harvested on Blennerhassett Island State Park during a two-day hunt shortened by smoke from a warehouse fire. Twenty-four deer were harvested at Cacapon State Park with a two-day hunt, 62 deer were harvested on North Bend State Park during a six-day hunt, and 15 deer were taken on Pipestem State Park during a two-day hunt. This was the third year for such a hunt on Pipestem State Park, the second year for a hunt at Cacapon State Park, and the first year for a controlled deer hunt at North Bend State Park. Fifteen deer were taken on the Green Bank Observatory property, which held its experimental first controlled deer hunt in 1993 to pave the way for the current controlled deer hunts on state parks. It is anticipated that controlled deer hunts will be expanded on state parks in 2018. 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.

#### **Non-hunting Mortalities**

Non-hunting mortalities are those deer deaths that are not associated with the harvest of deer by hunters. Figure 4 depicts non-hunting 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 non-hunting mortalities. The West Virginia 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 non-hunting mortalities from vehicle collisions and crop damage decreased 1 percent from 15,175 in 2016 to 14,962 in 2017. Deer killed on crop damage permits increased in DNR Districts 1, 2, 4, and 5 and decreased in Districts 3 and 6. Overall, deer killed through the crop damage permit system in 2017 increased by 3 percent, with 1,951 deer killed on crop damage permits in 2016 and 2,017 recorded in 2017. Reported vehicle kills decreased statewide by 2 percent in 2017, from 13,224 in 2016 to 12,945 in 2017, and represents an 8 percent decline from the 5-year average of 14,147. Percent change by DNR Districts 1, 2, 3, 4, 5 and 6 were -0 percent, +6 percent, -6 percent, -21.5 percent, +6 percent and -6 percent, 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. 4).

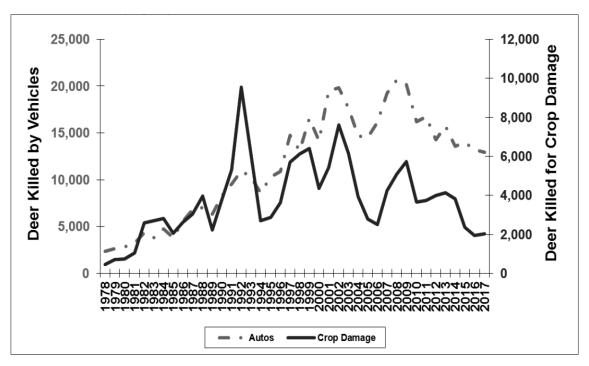


Figure 4. Vehicle and crop damage kills in West Virginia from 1978-2017.

#### **Deer Hunting Outlook**

Overall deer hunting opportunities for hunters across the state in 2018 are proposed to be like those in 2017, except for decreased antlerless deer season bag limits and some reduction in hunting opportunities in counties where recorded deer harvest data indicates female deer harvest should be decreased to stabilize or increase current deer populations. The White-tailed Deer Operational Plan is undergoing a scheduled revision that will extend the plan through 2020.

In general, earlier changes to increase the diversity of deer hunting opportunity, 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 hunterharvested animals for collection of biological information and tissue samples for disease testing.

The 2017 deer seasons was the third year for the electronic game checking system and the second-year hunters were directed to take deer harvested on the first two days of the traditional buck firearm season to special designated locations where wildlife agency personnel could examine their deer. In Mason and Upshur counties, this required examination was for the collection of biological information such as age and antler development. In Hampshire County, as in 2016, the required carcass examination was to collect samples for chronic wasting disease (CWD) testing. A similar requirement may be asked of hunters in the 2018 deer seasons. Hunter cooperation in delivering their deer to the biological examination stations and recording their harvest throughout the deer season 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 2018 deer archery (bow/crossbow) season opening date is proposed to open the last Saturday in September (September 29), which is five 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 2018, with urban archery season opening September 8. 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 overabundant deer populations.

Antlerless deer hunting opportunities for the 2018 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 RMM 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 2018 muzzleloader season can take one deer of either sex but the second muzzleloader season deer taken on the RM or RMM 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.

Overall, the Class N/NN antlerless deer season is proposed to remain the same in 2018 as it was in 2017 in many counties. An October Class N/NN antlerless deer season is again proposed for the fall of 2018. The number of antlerless deer that can be taken with a firearm is proposed to remain one to a maximum of three deer, depending on the need to stabilize, increase or decrease the county deer population. Some counties with a one antlerless deer bag limit may be restricted to resident and non-resident hunters chosen by lottery. Again, as in the past three years, a split three-day Special Youth, Class Q/

#### Deer Hunting Outlook continued ...

QQ and Senior Lifetime Class XS deer season is proposed to be held October 20 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.

Please refer to the 2018-2019 Hunting and Trapping Regulations Summary for further details on all deer hunting seasons because any proposed seasons and bag limits have not been approved by the Natural Resources Commission at this time. White-tailed deer hunting season regulations for 2018 will be published and available to hunters in July 2018. This newsprint-like pamphlet contains complete information on gun, archery, muzzleloader 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 2017 deer seasons, samples taken from 552 hunter-harvested deer brought to DNR staffed stations were tested for CWD. Seventy-one samples were found to have the abnormal protein associated with CWD. CWD has now been detected in 332 deer in Hampshire County and six 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 (February 2018) 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, Virginia, and Allegany County, Maryland. In addition, the Pennsylvania Game Commission has detected CWD-positive deer in Bedford, Blair and Fulton counties adjacent and north of Allegany County, Maryland. 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. 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 status of the disease in West Virginia contact any DNR office or visit the Wildlife Resources Section on the web at www.wvdnr.gov.

Tabl	<b>e 14.</b> West Virginia antler	ed buck harv	est, 2013-2017	7	
County	2013	2014	2015	2016	2017
Barbour	1,109	886	1,281	1,098	984
Brooke	389	251	286	268	175
Hancock	273	200	208	209	157
Harrison	1,301	930	1,418	1,138	1,017
Marion	1,130	702	1,190	765	735
Marshall	1,051	707	818	727	624
Monongalia	1,107	689	1,023	827	825
Ohio	399	232	290	270	180
Preston	1,741	1,526	2,046	1,774	1,947
Taylor Tucker	<u>635</u> 527	453	732	581 730	485 817
Wetzel	1,537	891	1,144	899	823
Dist. I Subtotal	11,199	7,961	11,219	9,286	8,769
Berkeley	871	522	908	737	753
Grant	1,135	783	1,304	954	1,194
Hampshire Hardy	<u>1,846</u> 1,447	<u>1,094</u> 920	<u>1,947</u> 1,709	<u>1,197</u> 1,076	1,386 1,198
Jefferson	445	385	499	422	419
Mineral	1,345	835	1,335	922	1,011
Morgan	743	412	678	437	503
Pendleton	1,163	861	1,297	1,088	1,018
Dist. II Subtotal	8,995	5,812	9,677	6,833	7,482
	1,626	921	1,660	1,102	1,233
Braxton Clay	475	329	618	390	481
Lewis	1,692	1,166	1,875	1,246	1,216
Nicholas	824	871	1,875	1,246	987
Pocahontas	961	831	1,008	921	1,040
Randolph	1,329	1,291	1,659	1,617	1,633
Upshur	1,396	1,009	1,704	1,399	1,025
Webster	717	632	1,080	941	777
Dist. III Subtotal	9,020	7,050	10,878	8,660	8,392
Fayette	835	725	1,214	889	927
Greenbrier	1,509	1,372	1,816	1,447	1,628
Mercer	536	402	843	636	593
Monroe	1,466	1,004	1,462	1,099	1,295
Raleigh	579	506	895	648	592
Summers	973	657	999	657	809
Dist. IV Subtotal	5,898	4,666	7,229	5,376	5,844
Boone	725	519	868	573	658
Cabell	763	421	641	677	404
Kanawha	1,380	730	1,547	1,058	1,046
Lincoln	1,124	720	1,312	846	569
Mason	1,495	1,002	1,488	1,267	867
Putnam	1,210	565	1,114	992	624
Wayne	870	528	963	815	448
Dist. V Subtotal	7,567	4,485	7,933	6,228	4,616
Calhoun	1,164	504	1,063	705	740
Doddridge	1,243	615	1,376	946	947
Gilmer	1,427	669	1,435	791	875
Jackson	1,917	1,107	1,870	1,487	1,096
Pleasants	438	273	492	334	317
Ritchie	2,091	1,123	2,024	1,422	1,338
Roane	1,893	927	1,846	1,178	1,186
Tyler	1,000	566	1,064	855	817
Wirt	1,091	681	1,152	777	734
Wood	1,580	1,011	1,556	1,193	974
Dist. VI Subtotal	13,844	7,476	13,878	9,688	9,024
State Total	56,523	37,450	60,814	46,071	44,127

<b>Table 15.</b> West Virginia white-tailed deer archery harvest
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County	2013	2014	2015	2016	2017
Barbour	544	416	623	535	53
Brooke	271	303	278	262	15
Hancock	432	373	344	353	28
Harrison	658	502	702	559	63
Marion	541	413	640	482	50
Marshall	382	307	353	336	30
Monongalia	785	584	781	678	69
Ohio	304	250	272	286	20
Preston	1,069	999	1,415	1,265	1,46
Taylor	266	265	346	279	36
Tucker	332	312	420	400	48
Wetzel	418	248	357	288	31
Dist. I Subtotal	6,002	4,972	6,531	5,723	5,93
Berkeley	639	397	554	534	55
Grant	402	300	423	323	36
Hampshire	393	275	457	349	38
Hardy	396	231	404	268	32
Jefferson	425	363	374	402	40
Mineral	398	275	394	327	38
Morgan	274	163	253	214	30
Pendleton	326	279	391	214 296	24
		1			
Dist. II Subtotal	3,253	2,283	3,250	2,713	2,97
Braxton	589	380	593	516	53
Clay	299	194	339	223	24
Lewis	517	372	712	544	53
Nicholas	753	630	799	726	63
Pocahontas	345	288	318	264	32
Randolph	786	779	921	928	88
Upshur	627	472	906	747	69
Webster	436	420	626	537	51
Dist. III Subtotal	4,352	3,535	5,214	4,485	4,36
Fayette	806	666	801	701	76
Greenbrier	661	556	739	525	70
McDowell	699	447	673	456	57
Mercer	667	419	817	653	62
Monroe	661	460	632	483	54
Raleigh	876	640	1,032	729	78
Summers	543	341	563	362	45
Wyoming	1,062	686	1,039	867	82
Dist. IV Subtotal	5,975	4,215	6,296	4,776	5,29
Boone	485	433	486	354	37
Cabell	436	288	365	416	20
Kanawha	1,041	771	1,069	894	89
Lincoln	535	418	643	421	25
Logan	841	608	924	574	50
Mason	789	628	786	690	53
Mingo	490	284	579	386	27
Putnam	663	437	599	579	39
Wayne	406	304	451	402	17
Dist. V Subtotal	5,686	4,171	5,902	4,716	3,63
	353				
Calhoun		213	433	295	28
Doddridge	284	210	390	264	32
Gilmer	403	174	448	257	33
Jackson	783	495	759	692	51
Pleasants	114	92	163	137	16
Ritchie	489	404	713	536	50
Roane	643	356	707	455	48
Tyler	326	256	366	281	32
Wirt	405	267	459	341	33
Wood	911	638	909	853	73
Dist. VI Subtotal	4,711	3,105	5,347	4,111	4,01
State Total	29,979	22,281	32,540	26,524	26,20

	Table 16. West Virgi	nia antlerless ha	arvest, 2013-201	.7	
County	2013	2014	2015	2016	2017
Barbour	1,222	1,074	911	806	873
Brooke	604	411	346	392	236
Hancock	465	354	210	168	163
Harrison	1,580	1,255	1,228	1,045	1,014
Marion	1,391	943	984	826	809
Marshall	1,104	940	554	514	437
Monongalia	1,255	866	968	673	673
Ohio	470	366	361	230	152
Preston	2,317	1,818	1,437	1,635	1,703
Taylor	680	620	486	514	533
Tucker	428	397	47	200	332
Wetzel	1,646	934	957	866	723
Dist. I Subtotal	13,162	9,978	8,489	7,869	7,648
Berkeley	941	752	813	675	730
Grant	915	559	592	467	599
Hampshire	1,571	1,054	1,240	908	959
Hardy	1,370	825	967	659	717
Jefferson	566	488	442	428	450
Mineral	1,194	880	899	761	706
Morgan	754	531	551	433	490
Pendleton	717	597	547	497	424
Dist. Il Subtotal					
	8,028	5,686	6,051	4,828	5,075
Braxton	1,524	1,266	1,193	909	1,083
Clay	249	127	184	182	109
Lewis	2,073	1,414	1,753	1,377	1,258
Nicholas	539	454	606	509	436
Pocahontas	405	355	238	216	249
Randolph	1,138	1,094	533	850	849
Upshur	1,769	1,359	1,271	1,605	1,300
Webster	405	138	174	314	562
Dist. III Subtotal	8,102	6,207	5,952	5,962	5,846
Fayette	436	294	392	283	286
Greenbrier	1,108	856	821	739	773
Mercer	415	253	337	414	547
Monroe	1,710	1,194	1,220	819	998
Raleigh	356	219	291	215	226
Summers	1,119	917	689	603	682
Dist. IV Subtotal	5,144	3,733	3,750	3,073	3,512
Boone	251	203	93	157	172
Cabell	734	491	419	422	290
Kanawha	829	484	558	412	478
Lincoln	949	739	872	567	338
Mason	2,487	1,425	1,593	1,370	1,052
Putnam	1,430	800	1,048	885	612
Wayne	496	288	38	269	134
Dist. V Subtotal	7,176	4,430	4,621	4,082	3,076
Calhoun	1,044	594	802	630	557
Doddridge	946	731	914	750	731
Gilmer	1,230	779	1,017	688	727
Jackson	2,467	1,304	1,521	1,317	1,122
Pleasants	452	254	260	268	298
Ritchie Roane	1,902 2,119	<u>1,303</u> 1,244	1,622 1,514	1,309	1,290 1,101
		742		1,123 815	
Tyler Wirt	<u>1,237</u> 1,404	919	901 1,002	815	733
Wood	2,223	1,529	1,436	1,218	1,087
Dist. VI Subtotal	15,024	9,399	10,989	8,978	8,427
State Total	56,636	39,433	39,852	34,792	33,584

т	a <b>ble 17.</b> Muzzleloa	der harvests in	West Virginia, 2	013-2017	
County	2013	2014	2015	2016	2017
Barbour	152	159	116	133	119
Brooke	64	30	18	38	13
Hancock	72	42	23	34	18
Harrison	168	183	128	113	126
Marion	119	106	124	113	82
Marshall	134	108	76	73	64
Monongalia	142	92	117	91	82
Ohio	40	37	44	46	34
Preston	255	267	182	217	203
Taylor	100	84	75	70	59
Tucker	101	88	16	73	73
Wetzel	165	91	88	90	71
Dist. I Subtotal	1,512	1,287	1,007	1,091	944
Berkeley	111	83	74	67	64
Grant	98	115	112	81	75
Hampshire	165	122	127	88	89
Hardy	131	109	80	63	74
Jefferson	61	56	48	54	46
Mineral	116	91	75	80	43
Morgan	88	52	70	44	38
Pendleton	93	98	67	70	48
Dist. II Subtotal	863	726	653	547	477
Braxton	327	197	189	157	127
Clay	52	26	25	43	34
Lewis	233	198	165	168	146
Nicholas	256	259	265	232	162
Pocahontas	130	120	77	56	57
Randolph	332	304	202	243	194
Upshur	216	145	155	185	163
Webster	199	33	28	139	74
Dist. III Subtotal	1,745	1,282	1,106	1,223	957
Fayette	241	166	183	124	124
Greenbrier	212	128	108	135	130
Mercer	142	36	114	86	62
Monroe	139	131	105	70	107
Raleigh	134	85	83	70	70
Summers	136	112	88	62	78
Dist. IV Subtotal	1,004	658	681	547	571
Boone	172	132	39	72	74
Cabell	100	60	45	60	32
Kanawha	119	57	88	78	64
Lincoln	167	86	159	106	46
Mason	215	157	150	153	108
Putnam	158	89	90	119	63
Wayne	69	55	31	62	30
Dist. V Subtotal	1,000	636	602	650	417
Calhoun	155	79	71	69	66
Doddridge	127	77	104	70	95
Gilmer	160	111	126	93	87
Jackson	222	155	183	158	138
Pleasants	46	30	34	27	20
Ritchie	213	96	167	102	109
Roane	213	100	129	105	90
Tyler	110	94	75	82	63
Wirt	161	87	86	92	91
Wood	208	125	154	141	118
Dist. VI Subtotal	1,615	1	1,129	939	877
State Total	7,739	5,543	5,178	4,997	4,243

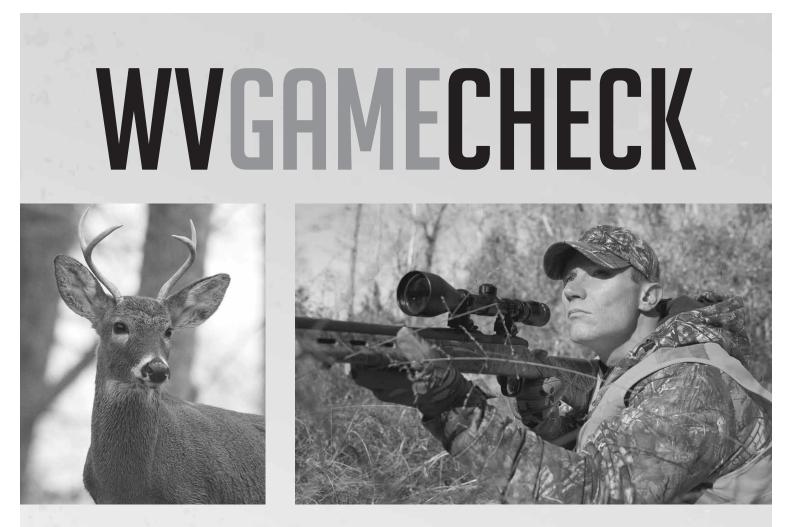
Ta	able 18. Deer mort	ality by type of	season in West	Virginia, 2017.	
County	Buck Gun	Antlerless	Archery	Muzzleloader	Total
Barbour	984	873	534	119	2,510
Brooke	175	236	155	13	579
Hancock	157	163	282	18	620
Harrison	1,017	1,014	634	126	2,791
Marion	735	809	509	82	2,135
Marshall	624	437	300	64	1,425
Monongalia	825	673	694	82	2,274
Ohio	180	152	202	34	568
Preston	1,947	1,703	1,469	203	5,322
Taylor	485	533	361	59	1,438
Tucker	817	332	482	73	1,704
Wetzel	823	723	311	71	1,928
Dist. I Subtotal	8,769	7,648	5,933	944	23,294
Berkeley	753	730	559	64	2,106
Grant	1,194	599	363	75	2,231
Hampshire	1,386	959	381	89	2,815
Hardy	1,198	717	321	74	2,310
Jefferson	419	450	408	46	1,323
Mineral	1,011	706	381	43	2,141
Morgan	503	490	242	38	1,273
Pendleton	1,018	424	316	48	1,806
Dist. II Subtotal	7,482	5,075	2,971	477	16,005
Braxton	1,233	1,083	539	127	2,982
					,
Clay	481	109	243	34	867
Lewis	1,216	1,258	538	146	3,158
Nicholas	987	436	635	162	2,220
Pocahontas	1,040	249	324	57	1,670
Randolph	1,633	849	883	194	3,559
Upshur	1,025	1,300	694	163	3,182
Webster	777	562	511	74	1,924
Dist. III Subtotal	8,392	5,846	4,367	957	19,562
Fayette	927	286	765	124	2,102
Greenbrier	1,628	773	722	130	3,253
McDowell	0	0	574	0	574
Mercer	593	547	625	62	1,827
Monroe	1,295	998	542	107	2,942
Raleigh	592	226	789	70	1,677
Summers	809	682	450	78	2,019
Wyoming	0	0	824	0	824
Dist. IV Subtotal		3,512		571	15,218
	5,844		5,291		
Boone	658	172	377	74	1,281
Cabell	404	290	208	32	934
Kanawha	1,046	478	894	64	2,482
Lincoln	569	338	258	46	1,211
Logan	0	0	507	0	507
Mason	867	1,052	535	108	2,562
Mingo	0	0	277	0	277
Putnam	624	612	397	63	1,696
Wayne	448	134	179	30	791
Dist. V Subtotal	4,616	3,076	3,632	417	11,741
Calhoun	740	557	283	66	1,646
Doddridge	947	731	328	95	2,101
Gilmer	875	727	334	87	2,023
Jackson	1,096	1,122	515	138	2,023
Pleasants	317	298	162	20	797
			501		
Ritchie	1,338	1,290		109	3,238
Roane	1,186	1,101	489	90	2,866
Tyler	817	781	328	63	1,989
Wirt	734	733	334	91	1,892
Wood	974	1,087	738	118	2,917
Dist. VI Subtotal	9,024	8,427	4,012	877	22,340
State Total	44,127	33,584	26,206	4,243	108,160

#### Table 19.

West Virginia 2017 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)

seasons c	.omom		aseu on	totat ueer		county)
					Archery	All Seasons
County	Area	Bucks	Antlerless	Muzzleloader	(Bow/Crossbow)	Combined
Barbour	328	3.00	2.66	0.36	1.63	7.65
Brooke	72	2.43	3.27	0.18	2.15	8.02
Hancock	64	2.47	2.57	0.28	4.44	9.76
Harrison	379	2.68	2.67	0.33	1.67	7.36
Marion	286	2.57	2.83	0.29	1.78	7.47
Marshall	294	2.13	1.49	0.22	1.02	4.86
Monongalia	310	2.66	2.17	0.26	2.24	7.34
Ohio	82	2.19	1.85	0.41	2.45	6.90
Preston	632	3.08	2.69	0.32	2.32	8.42
Taylor	160	3.03	3.33	0.37	2.26	8.99
Tucker	402	2.03	0.83	0.18	1.20	4.24
Wetzel	350	2.35	2.07	0.20	0.89	5.51
Dist. I Subtotal	3,359	2.61	2.28	0.28	1.77	6.94
Berkeley	297	2.54	2.46	0.22	1.88	7.10
Grant	471	2.54	1.27	0.16	0.77	4.74
Hampshire	631	2.20	1.52	0.10	0.60	4.46
Hardy	569	2.11	1.26	0.13	0.56	4.06
Jefferson	198	2.11	2.27	0.23	2.06	6.68
Mineral	319	3.17	2.21	0.13	1.19	6.71
Morgan	213	2.36	2.30	0.18	1.14	5.98
Pendleton	690	1.48	0.61	0.07	0.46	2.62
Dist. II Subtotal	3,388	2.21	1.50	0.14	0.88	4.72
Braxton	501	2.46	2.16	0.25	1.08	5.95
Clay	338	1.42	1.00	0.10	0.72	2.57
Lewis	373	3.26	3.37	0.39	1.44	8.46
Nicholas	632	1.56	0.69	0.26	1.00	3.51
Pocahontas	911	1.14	0.58	0.06	0.36	1.83
Randolph	1,019	1.60	1.20	0.19	0.87	3.49
Upshur	343	2.99	3.79	0.48	2.02	9.28
Webster	535	1.45	1.05	0.14	0.96	3.60
Dist. III Subtotal	4,652	1.80	1.61	0.21	0.94	4.21
Fayette	629	1.47	0.72	0.20	1.22	3.34
Greenbrier	991	1.64	0.78	0.13	0.73	3.28
McDowell	515	0.00	0.00	0.00	1.12	1.12
Mercer	380	1.56	1.44	0.16	1.64	4.80
Monroe	463	2.80	2.16	0.23	1.17	6.36
Raleigh	562	1.05	0.63	0.12	1.40	2.98
Summers	341	2.37	2.00	0.23	1.32	5.92
Wyoming	481	0.00	0.00	0.20	1.71	1.71
Dist. IV Subtotal	4,361	1.74	1.20	0.00	1.71	3.49
Boone	485	1.36	0.35	0.15	0.78	2.64
Cabell	240	1.69	1.21	0.13	0.87	3.90
Kanawha	798	1.31	1.67	0.08	1.12	3.11
Lincoln	426	1.33	0.79	0.11	0.61	2.84
Logan	422	0.00	0.00	0.00	1.20	1.20
Mason	413	2.10	2.54	0.26	1.29	6.20
Mingo	404	0.00	0.00	0.00	0.69	0.69
Putnam	320	1.95	1.91	0.20	1.24	5.29
Wayne	485	0.92	0.51	0.06	0.37	1.63
Dist. V Subtotal	3,993	1.46	1.26	0.13	0.91	2.94
Calhoun	276	2.68	2.02	0.24	1.03	5.97
Doddridge	316	3.00	2.32	0.30	1.04	6.66
Gilmer	330	2.65	2.20	0.26	1.01	6.12
Jackson	447	2.45	2.51	0.31	1.15	6.42
Pleasants	125	2.53	2.38	0.16	1.29	6.36
Ritchie	443	3.02	2.91	0.25	1.13	7.30
Roane	476	2.49	2.31	0.19	1.03	6.02
Tyler	252	3.24	3.10	0.25	1.30	7.90
Wirt	232	3.19	3.10	0.23	1.45	8.24
·····			3.35	0.40	2.27	8.98
Wood	275					
Wood Dist. VI Subtotal	325 3,220	3.00 2.80	2.62	0.27	1.25	6.94

\*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.



#### Checking game is as easy as 1, 2, 3 with West Virginia's electronic system:



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<sup>⊙</sup>dnrwv

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