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Big Game

BULLETIN 2019



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Season Results and Highlights

West Virginia hunters harvested 3,099 black bears during the combined 2019 archery and firearms seasons (Tables 1, 2 and 3). The 2019 harvest was 19% above the 2,606 bears killed in 2018. The black bear harvest of 2019 is the third highest kill recorded (Figure 1, Table 4).

The 2019 Mast Survey and Hunting Outlook documented mast production for all species combined that was 12% above mast production in 2018 and 6% above the long-term average. In addition, the mast index for all oak species in 2019 was 20% above 2018, but still 8% below the long-term average. Red oak/black oak (+341%), scarlet oak (+228%) and black cherry (+51%) production increased significantly over levels recorded in 2018. White oak (-63%), chestnut oak (-54%) and hickory (-16%) production decreased significantly over 2018 levels. The 2019 Mast Survey and Hunting Outlook predicted an increased bow/crossbow harvest compared to 2018 and a decreased December firearms harvest over the levels observed in 2018 because total mast production was considered average. The prediction held true for both the bow/crossbow and December seasons and the overall harvest was much higher than 2018.

Hunters killed 966 bears during the first segment of the 2019 bow/crossbow season (September 28 – November 24). Five hundred eleven were taken with vertical bows, 455 with crossbows. The top five counties were Fayette (106), Nicholas (58), McDowell (55), Webster (48) and Greenbrier (47) (Table 1). In all bear seasons combined, hunters using vertical bows killed 545 bears and hunters using crossbows killed 464 bears.

Firearms hunters harvested 2,133 bears during 2019 (Table 2). This is an 8% increase over the 1,969 bears killed in 2018 (Table 4). Hunters took 881 bears in September and October (50 bears during the concurrent antlerless deer/bear season), 498 during the concurrent buck-gun bear season, and 754 during the traditional December season. No bears were harvested during the second Mountaineer Heritage Season. The top five counties were Randolph (201), Pendleton (162), Nicholas (156), Webster (145) and Boone (132).

Non-hunting Mortalities

Two hundred sixty-five bears were killed on highways, were killed illegally, were destroyed, or succumbed from other non-hunting causes (electrocution, mange, etc.) (Tables 4 and 5). This is up 35% from the 197 non-hunting mortalities recorded in 2018 (Table 4). There were 100 deaths from vehicles in 2019 compared to 119 in 2018. The number of illegal deaths was up from 0 to 7 from 2018 to 2019, respectively. Miscellaneous deaths rose from 6 to 30 from 2018 to 2019. Twenty-three of 30 miscellaneous deaths were caused by mange. Bears killed for nuisance or damage activity increased to 128 in 2019 from the 72 reported in 2018.

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 18% from 109 in 2018 to 129 in 2019 (Table 6). Total payments of \$187,346 were 83% higher than the \$102,344 paid out in 2018. Claims were reported in 26 counties in 2019 and 27 counties in 2018. There were 15 claims for bees (compared to 13 in 2018) totaling \$19,627, 22 for livestock at \$7,209 (29 in 2018), 62 for corn at \$148,172 (40 in 2018), and 30 (27 in 2018) miscellaneous claims at \$12,336.

Greenbrier County had the greatest dollar amount in compensations at \$88,332 followed by Monroe (\$19,011), Preston (\$14,220), Pendleton (\$13,197) and Nicholas (\$10,940). Greenbrier County had the highest number of claims (26) followed by Pendleton (17), Preston (13), Monroe (8) and Pocahontas (7).

West Virginia Division of Natural Resources (DNR) employees received 1,187 nuisance bear calls in 2019 compared to 798 in 2018. The 5 counties with the most complaints were Raleigh (157), Fayette (153), Greenbrier (141), Nicholas (68) and Kanawha (65).

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. Radio collars have only been left on a small number of females in the northern and southern part of the state (9 in 2019). These sows are used as surrogates for orphaned cubs whenever possible. In 2019, managers visited 3 sows with yearlings and tagged 5 yearlings. Managers visited 3 sows with neonate cubs (= 2.67) and fostered 1 orphaned cub. One sow did not have cubs or yearlings (due to advanced age). The dens of 2 sows with cubs were not entered.

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.

Tooth Collections

Age data from the 2018 tooth samples have been received and hunters have been notified of their bear's age. Hunters submitted 1,654 usable teeth (correct tooth, tooth not broken, etc.) for age consideration. There were 22 cubs (1%), 31% (511) were yearlings, 24% (392) were 2-year olds, 17% (289) were 3-year olds, and the remaining 27% (440) 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 1,654 usable teeth submitted in 2018 represent 63% of the total black bear harvest. This rate has gradually improved each year since 2016 (the first year tooth submission was mandatory). Hunters submitted 49% of the harvest in 2016 and 53% of the harvest in 2017. 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 45 reproductive tracts in 2018. Thirty-seven 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 2018 cannot be fully analyzed until ages are determined. Eight yearling tracts were examined in 2018 and there was no evidence of breeding. Four 2-year olds were examined in 2018 with 3 tracts containing 7 corpora lutea (= 2.33) These bears would have given birth at age 3 to their first litters. Sixteen sows over the age of 3 showed evidence of breeding and averaged 2.81 corpora lutea. Eight females over the age of 3 showed evidence of giving birth in 2018 and averaged 2.38 placental scars. One 10-year-old sow had no evidence of corpora lutea or placental scars.

The West Virginia Division of Natural Resources offered hunters who turned in complete reproductive tracts a \$20.00 gift card for their cooperation for the fourth time in 2019. The goal each year is to buy up to 100 reproductive tracts.

BLACK BEAR

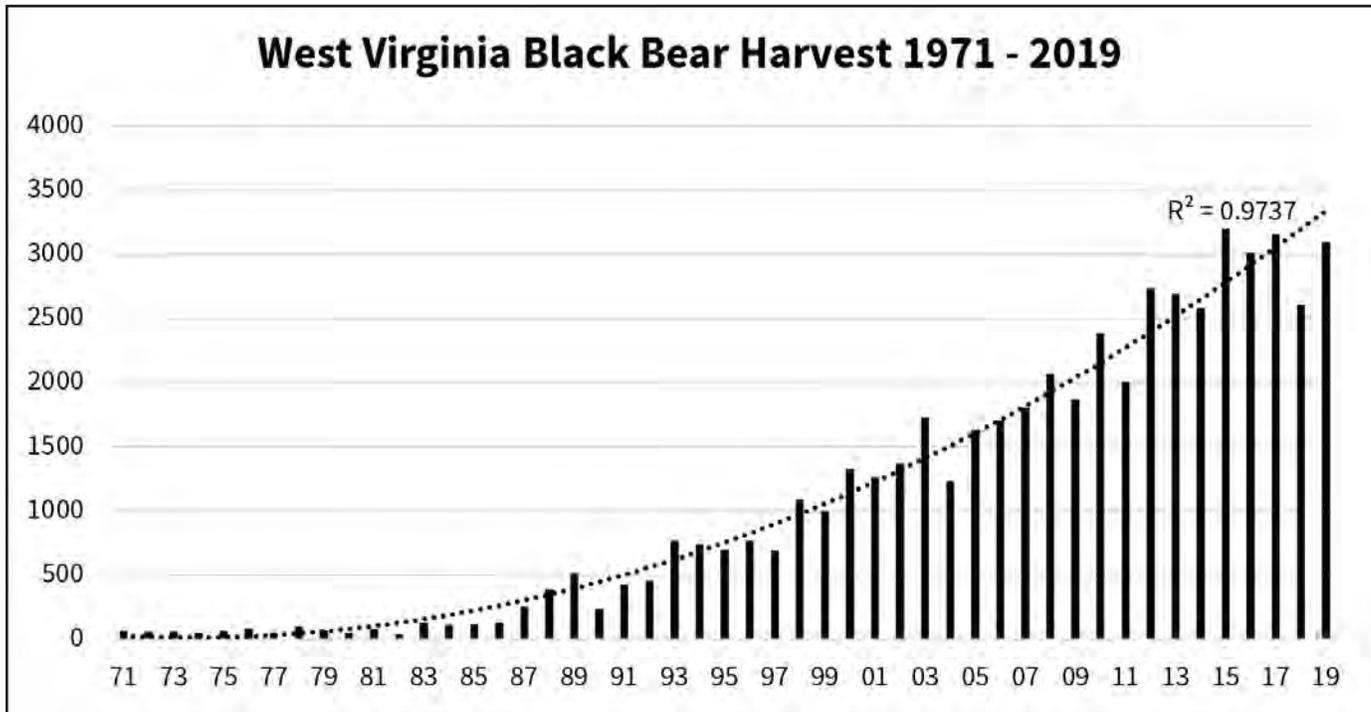


Figure 1. West Virginia black bear harvest, 1971 – 2019.



Table 1. 2019 West Virginia Black Bear Harvest

County	Bow/ Crossbow	Sept./Oct. Gun	Buck Gun	December Firearms	Mountaineer Heritage	TOTAL
Barbour	31	12	16	8	0	67
Brooke	0	0	0	0	0	0
Hancock	0	0	0	0	0	0
Harrison	4	0	0	0	0	4
Marion	3	0	3	0	0	6
Marshall	0	0	1	0	0	1
Monongalia	5	0	0	0	0	5
Ohio	0	0	0	0	0	0
Preston	30	25	20	31	0	106
Taylor	7	0	5	0	0	12
Tucker	20	29	13	46	0	108
Wetzel	3	0	6	0	0	9
District 1 Subtotal	103	66	64	85	0	318
Berkeley	4	0	3	1	0	8
Grant	13	20	13	38	0	84
Hampshire	21	2	19	6	0	48
Hardy	24	34	17	33	0	108
Jefferson	9	0	1	0	0	10
Mineral	9	5	2	7	0	23
Morgan	4	1	4	0	0	9
Pendleton	20	60	27	75	0	182
District 2 Subtotal	104	122	86	160	0	472
Braxton	28	12	25	13	0	78
Clay	24	10	13	10	0	57
Lewis	10	3	10	2	0	25
Nicholas	58	73	36	47	0	214
Pocahontas	15	50	17	53	0	135
Randolph	41	106	20	75	0	242
Upshur	17	15	6	4	0	42
Webster	48	66	30	49	0	193
District 3 Subtotal	241	335	157	253	0	986
Fayette	106	26	34	15	0	181
Greenbrier	47	45	16	45	0	153
McDowell	55	57	6	38	0	156
Mercer	28	2	7	2	0	39
Monroe	29	25	13	22	0	89
Raleigh	43	19	17	18	0	97
Summers	22	2	10	1	0	35
Wyoming	43	28	2	28	0	101
District 4 Subtotal	373	204	105	169	0	851
Boone	38	54	40	38	0	170
Cabell	1	0	0	0	0	1
Kanawha	34	36	25	25	0	120
Lincoln	2	0	1	0	0	3
Logan	40	40	0	18	0	98
Mason	0	0	0	0	0	0
Mingo	10	22	1	5	0	38
Putnam	0	0	0	0	0	0
Wayne	0	0	4	0	0	4
District 5 Subtotal	125	152	71	86	0	434
Calhoun	5	2	5	0	0	12
Doddridge	0	0	0	0	0	0
Gilmer	4	0	3	0	0	7
Jackson	0	0	2	0	0	2
Pleasants	0	0	0	0	0	0
Ritchie	5	0	2	0	0	7
Roane	2	0	2	0	0	4
Tyler	0	0	0	0	0	0
Wirt	4	0	1	0	0	5
Wood	0	0	1	0	0	1
District 6 Subtotal	20	2	16	0	0	38
STATE TOTAL	966	881	499	753	0	3099

Bears listed for Logan, McDowell, Mingo and Wyoming counties as “Buck Gun” are bow or crossbow kills from 11/25 - 12/7.

Bow/Crossbow refers to bears killed with a bow or crossbow from September 28, 2019 - November 24, 2019. All other bow and crossbow kills have been separated based on the seasons in which they were killed.

Sept/Oct gun includes bears killed during concurrent antlerless deer/bear season 10/24 - 10/27 (50 bears).

BLACK BEAR

Table 2. Sex ratios of West Virginia black bears for September or November gun season, bow season, December and Mountaineer Heritage season 1964-2019

Year	Bow or gun season September/ October		Bow season and/ or Early November gun season		Late November or December or January gun season		Annual Kill		Total*
	Male	Female	Male	Female	Male	Female	Male	Female	
1964 – 1983 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	1,008	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
2017	349	274	399	212	1,220	704	1,968	1,190	3,158
2018	319	246	421	216	965	439	1,705	901	2,606
2019	507	374	636	330	779	473	1,922	1,177	3,099
36-Year Total	4,088	3,437	10,556	6,570	17,506	9,608	32,150	19,615	51,765
Average Sex Ratios	54%	46%	62%	38%	65%	35%	62%	38%	
2019 Sex Ratios	58%	42%	66%	34%	62%	38%	62%	38%	

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

Table 3. West Virginia total black bear harvest by county, 2015-2019

County	2015	2016	2017	2018	2019
Barbour	66	66	56	39	67
Brooke	0	0	0	0	0
Hancock	0	0	0	1	0
Harrison	7	18	3	7	4
Marion	4	3	1	1	6
Marshall	0	2	2	0	1
Monongalia	10	9	4	8	5
Ohio	0	0	0	0	0
Preston	155	137	131	89	106
Taylor	10	18	8	11	12
Tucker	116	128	138	99	108
Wetzel	2	2	2	7	9
District 1 Subtotal	370	383	345	262	318
Berkeley	7	6	3	3	8
Grant	73	101	127	85	84
Hampshire	59	50	59	44	48
Hardy	114	159	130	113	108
Jefferson	3	5	5	7	10
Mineral	17	20	26	35	23
Morgan	12	19	6	6	9
Pendleton	190	214	206	139	182
District 2 Subtotal	475	574	562	432	472
Braxton	48	62	76	57	78
Clay	59	45	55	64	57
Lewis	21	18	14	19	25
Nicholas	266	213	240	175	214
Pocahontas	191	184	218	175	135
Randolph	267	249	269	169	242
Upshur	38	32	47	29	42
Webster	222	149	238	156	193
District 3 Subtotal	1112	952	1157	844	986
Fayette	162	147	109	106	181
Greenbrier	209	185	192	139	153
McDowell	109	108	98	105	156
Mercer	34	39	54	32	39
Monroe	89	97	73	75	89
Raleigh	124	77	85	75	97
Summers	14	34	35	33	35
Wyoming	108	57	72	98	101
District 4 Subtotal	849	744	718	663	851
Boone	130	113	155	122	170
Cabell	1	0	0	0	1
Kanawha	102	125	108	119	120
Lincoln	7	1	3	5	3
Logan	84	51	56	87	98
Mason	0	0	0	1	0
Mingo	39	34	28	38	38
Putnam	1	0	0	0	0
Wayne	5	1	4	1	4
District 5 Subtotal	369	325	354	373	434
Calhoun	5	4	5	3	12
Doddridge	2	3	3	0	0
Gilmer	11	14	7	13	7
Jackson	0	0	0	0	2
Pleasants	1	0	0	0	0
Ritchie	1	4	3	4	7
Roane	1	1	0	5	4
Tyler	1	2	0	2	0
Wirt	4	6	5	4	5
Wood	0	0	1	1	1
District 6 Subtotal	26	34	24	32	38
STATE TOTAL	3,201	3,012	3,160	2,606	3,099

BLACK BEAR

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					
1970s Subtotal	14	523	1970s Average Annual Bag: Bow 2; Gun 65				
1980s Subtotal	261	1,542	1980s Average Annual Bag: Bow 26; Gun 154				
1990s Subtotal	2,363	4,506	1990s 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
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
2018	637	1,969	0	119	72	6	2,803
2019	966	2,133	7	100	128	30	3,364
2010s Subtotal	7,563	19,913	2010s Average Annual Bag: Bow 756; Gun 1,991				

*November Gun Seasons held in 1989, and 2002 - 2019 in certain counties.

**September Season held in 2008-2019 in certain counties.

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

****Bow kill for 2015 - 2019 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.

BLACK BEAR

Table 5. West Virginia 2019 nonseasonal black bear mortalities by county and type

County	Roadkills	Illegal	Destroyed	Misc.	Total
Barbour	1	4	0	0	5
Brooke	0	0	0	0	0
Hancock	0	0	0	0	0
Harrison	1	0	0	0	1
Marion	0	0	0	0	0
Marshall	0	0	0	0	0
Monongalia	1	0	0	0	1
Ohio	0	0	0	0	0
Preston	0	0	3	0	3
Taylor	1	0	0	2	3
Tucker	0	0	1	0	1
Wetzel	0	0	0	1	1
District 1 Subtotal	4	4	4	3	15
Berkeley	0	0	0	0	0
Grant	0	0	0	0	0
Hampshire	0	0	2	15	17
Hardy	4	0	3	0	7
Jefferson	0	0	0	0	0
Mineral	0	0	5	5	10
Morgan	1	0	2	1	4
Pendleton	2	0	10	2	14
District 2 Subtotal	7	0	22	23	52
Braxton	10	0	3	0	13
Clay	0	0	0	0	0
Lewis	8	0	1	0	9
Nicholas	9	0	7	0	16
Pocahontas	2	0	31	1	34
Randolph	1	1	2	0	4
Upshur	1	0	2	0	3
Webster	1	0	4	0	5
District 3 Subtotal	32	1	50	1	84
Fayette	19	0	6	1	26
Greenbrier	9	1	33	0	43
McDowell	0	0	3	1	4
Mercer	3	0	0	0	3
Monroe	0	0	2	0	2
Raleigh	9	0	4	0	13
Summers	1	0	0	0	1
Wyoming	2	0	1	0	3
District 4 Subtotal	43	1	49	2	95
Boone	2	0	2	0	4
Cabell	1	0	0	0	1
Kanawha	6	0	0	1	7
Lincoln	1	0	0	0	1
Logan	1	0	1	0	2
Mason	0	0	0	0	0
Mingo	2	1	0	0	3
Putnam	0	0	0	0	0
Wayne	0	0	0	0	0
District 5 Subtotal	13	1	3	1	18
Calhoun	0	0	0	0	0
Doddridge	0	0	0	0	0
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	0	0	0	0	0
Tyler	0	0	0	0	0
Wirt	0	0	0	0	0
Wood	0	0	0	0	0
District 6 Subtotal	1	0	0	0	1
Unknown	0	0	0	0	0
State Total	100	7	128	30	265

BLACK BEAR

Table 6. Black bear damage claims paid and payments by county 2015-2019

County	2015		2016		2017		2018		2019	
	Claims	Payments	Claims	Payments	Claims	Payments	Claims	Payments	Claims	Payments
Barbour	2	\$1,396	1	\$673	0	\$0	0	\$0	0	\$0
Berkeley	0	\$0	0	\$0	1	\$4,629	1	\$1,583	0	\$0
Boone	3	\$9,443	2	\$777	0	\$0	0	\$0	2	\$866
Braxton	1	\$263	2	\$486	6	\$2,144	7	\$3,719	3	\$1,720
Brooke	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0
Cabell	1	\$411	0	\$0	0	\$0	0	\$0	0	\$0
Calhoun	2	\$364	1	\$52	0	\$0	1	\$587	0	\$0
Clay	2	\$291	1	\$205	0	\$0	0	\$0	0	\$0
Doddridge	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0
Fayette	7	\$4,008	3	\$1,891	3	\$1,353	1	\$40	5	\$3,413
Gilmer	1	\$100	1	\$349	1	\$105	0	\$0	2	\$599
Grant	4	\$4,817	2	\$1,086	2	\$713	0	\$0	0	\$0
Greenbrier	28	\$46,693	32	\$41,981	30	\$29,013	13	\$17,677	26	\$88,333
Hampshire	5	\$2,927	5	\$8,980	5	\$1,606	0	\$0	4	\$4,698
Hancock	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0
Hardy	8	\$3,382	8	\$10,128	2	\$527	5	\$4,952	3	\$4,700
Harrison	1	\$150	0	\$0	1	\$170	0	\$0	0	\$0
Jackson	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0
Jefferson	1	\$144	0	\$0	0	\$0	2	\$5,430	0	\$0
Kanawha	1	\$138	3	\$591	1	\$180	1	\$2,020	2	\$1,640
Lewis	3	\$1,733	1	\$293	1	\$268	2	\$940	1	\$250
Lincoln	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0
Logan	2	\$293	0	\$0	1	\$352	3	\$1,335	0	\$0
Marion	4	\$1,823	0	\$0	4	\$469	0	\$0	0	\$0
Marshall	1	\$578	1	\$951	0	\$0	0	\$0	0	\$0
Mason	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0
McDowell	2	\$212	1	\$125	0	\$0	0	\$0	0	\$0
Mercer	6	\$3,575	10	\$6,089	4	\$1,019	5	\$797	4	\$2,279
Mineral	1	\$80	7	\$6,294	6	\$5,657	5	\$2,885	3	\$3,291
Mingo	5	\$4,900	0	\$0	1	\$490	0	\$0	0	\$0
Monongalia	1	\$606	0	\$0	0	\$0	1	\$546	0	\$0
Monroe	0	\$0	5	\$13,366	4	\$3,786	6	\$15,786	8	\$19,011
Morgan	1	\$674	1	\$623	0	\$0	3	\$908	3	\$1,019
Nicholas	5	\$3,608	10	\$3,519	5	\$1,366	2	\$984	6	\$10,940
Ohio	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0
Pendleton	11	\$21,839	9	\$26,748	2	\$901	7	\$9,938	17	\$13,197
Pleasants	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0
Pocahontas	12	\$13,155	17	\$19,425	9	\$4,505	4	\$3,747	7	\$7,343
Preston	7	\$18,134	15	\$42,877	15	\$19,766	18	\$19,222	13	\$14,220
Putnam	0	\$0	0	\$0	0	\$0	0	\$0	1	\$150
Raleigh	3	\$557	10	\$8,004	1	\$359	1	\$261	4	\$4,349
Randolph	3	\$363	5	\$1,004	9	\$2,550	7	\$1,971	2	\$287
Ritchie	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0
Roane	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0
Summers	1	\$173	3	\$4,512	2	\$1,942	6	\$4,352	2	\$223
Taylor	0	\$0	0	\$0	0	\$0	1	\$500	0	\$0
Tucker	2	\$5,288	2	\$1,552	1	\$4,766	1	\$153	3	\$2,660
Tyler	0	\$0	0	\$0	1	\$1,371	0	\$0	0	\$0
Upshur	4	\$1,099	1	\$45	2	\$825	0	\$0	2	\$100
Wayne	0	\$0	2	\$696	0	\$0	0	\$0	0	\$0
Webster	1	\$250	1	\$600	1	\$85	3	\$1,344	4	\$1,228
Wetzel	3	\$960	0	\$0	3	\$2,617	1	\$286	1	\$630
Wirt	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0
Wood	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0
Wyoming	5	\$554	0	\$0	0	\$0	2	\$381	1	\$200
Total	150	\$154,981	162	\$203,922	124	\$93,534	109	\$102,344	129	\$187,346

Spring Harvest

Spring gobbler season began in 1966 on our wildlife management areas and went statewide in 1968. Hunters harvested 11,215 bearded turkeys during the 2019 spring gobbler season (Table 7), an 8.7% decrease from 2018. This year's harvest is still 3.0% above the five-year average and 9.5% above the 10-year average. This is the fourth year of West Virginia's spring gobbler season coming in a week earlier (i.e. the third Monday in April) than historically and the first year the entire state was open to Sunday hunting on private and public land (the previous spring, Sunday hunting was only permitted on private land statewide).

The first week's harvest, 6,068 birds, accounted for 54% of the total four-week spring gobbler harvest (Table 8). The second week, which was traditionally the first week up to 2015, accounted for 20% of the season harvest. Weeks 3 and 4 combined made up 23% of the total harvest. Youth hunters harvested 357 birds during the youth spring gobbler season, which was 17% below last year's youth harvest (431).

Districts 4 and 5 reported slight increases over last year's harvests with the remaining districts harvesting fewer birds than last year. District 1 harvested 656 fewer birds than last year, a 20% decrease. However, the counties in District 1 harvested the most birds again this year (2,762), followed by District 6 (2,363), District 5 (1,840), District 3 (1,662), District 4 (1,521) and District 2 (1,067). The top five counties with the highest harvest were Mason (465), Preston (455), Jackson (447), Wood (362), and Harrison (440).

Fall Harvest

This marked the third year Sunday hunting was permitted on private land in all 55 counties and the second year on public lands. For the fourth consecutive year, due to regulatory changes, all West Virginia's 55 counties had at least a one week fall turkey season, which had a one bird either sex bag limit. Twenty-four counties had a one-week season, 17 counties, which had a spring harvest of at least 0.75 birds per square mile, were open to a split two-week season, and 14 "traditional" counties had a four-week split season. Hunters harvested 1,113 turkeys (Table 9), down 8.4% from 2018 and 14.1% below the five-year average.

The 2019 fall season was on par with a typical season. The 2019 brood production decreased slightly from last year, an indication of a potential decrease in fall harvest from the previous year. District 4 and 6 harvest was slightly above 2018 with the remaining Districts below. District 3 harvested 284 birds, followed by District 4 (248), District 1 (186), District 6 (151), District 2 (130), and District 5 (114). Leading the state was Greenbrier County, with hunters harvesting 65 birds, followed by Randolph (61), Upshur (59), Monroe (56), and Nicholas (51) Counties. All these counties had a four-week season, except Upshur County, which had a two-week season.

Overall the combined 2019 spring and fall turkey harvest was 12,328 birds (Table 10). This is down 8.7% from 2018's total harvest (13,502), but since 1966, 2019 is 19th in the highest total harvest.

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 Virginian Chapter of 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: Spring Gobbler Survey, West Virginia Division of Natural Resources, P.O. Box 67, Elkins, WV 26241, phone (304) 637-0245. Those wishing to participate will be sent the 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.

WILD TURKEY

Surveys continued ...

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, 32 observers noted 348 encounters with turkeys in 2019, which included 448 hens, 831 poults, 269 gobblers, 114 unknown birds, and 19 repeated observations (i.e. "seen before"). There were 38% fewer observations in 2019 than 2018 (565 observations). Removing the repeated observations yielded: 425 hens, 751 poults, 244 gobblers, 111 unknown, and a 1.77 poult-to-hen ratio for the entire observation period. The 2019 poult-to-hen ratio was 20.3% below 2018 observations (2.22 poults/hen).

A total of 125 turkey broods were observed in 2019, 95 less than last year. This is 43% below last year's observations and 32% below the 5-year average. This is the second lowest observed broods in the past five years. The biggest change occurred in the Eastern and Western Region (ecological region 1 and 3 respectively) where brood observation decreased by 58% from 2018 to 2019 in both areas.

Mast Survey

Professionals and volunteers; including wildlife managers, foresters, wildlife biologists, Natural Resources Police Officers, Natural Resources Commissioners, and retired personnel from a multitude of natural resources-related disciplines devoted their time and effort to collect data for this survey. This survey has been conducted since 1970 and is our longest running survey. In 2019, mast surveys were completed at 263 locations covering all regions of West Virginia observing 18 tree and shrub species important to wildlife.

Compared to the 2018 survey the mast index for all species combined was up approximately 11.6% for survey year 2019. While mast crops of some species abundant during survey year 2018; namely Hickory (-16%), White Oak (-63%), and Chestnut Oak (-54%) were down by considerable margins, excellent production by Red Oaks/Black Oaks (+341%), Scarlet Oaks (+228%), and Black Cherries (+51%) was enough to offset decreased production by other species in overall mast crop total. Beech (+15%), Walnut (+11%), Hawthorn (+47%), Crabapple (+36%), and Apple (+26%) also performed appreciably better statewide in 2019 as compared to 2018. Relative to the 48-year long-term survey average, only Blackberry (-3%), Sassafras (-19%), White Oak (-47%), and Chestnut Oak (-49%) were common species that underperformed in mast production. Among hard mast producers, Walnuts (+45%), Red Oaks/Black Oaks (+30%), Scarlet Oaks (+16%), and Beeches (+11%) easily eclipsed their long-term average levels, and even Hickories, in which production was 16% below 2018 levels, produced at levels well above (+14%) average. Production among all oaks was more than 20% above 2018 levels but was slightly more than 8% below the long-term average. Large gains in Red Oak/Black Oak and Scarlet Oak production were not entirely sufficient to offset noteworthy decreases in relative production by

White Oaks and Chestnut Oaks. Scrub Oaks, a usually consistent and reliable acorn producer when compared to the remainder of genus *Quercus*, produced at levels 49% greater than those of 2018 and 3% greater than the 48-year survey average.

Most soft mast producers, except Grape (-3%) and Yellow Poplar (-15%), surpassed, in some cases considerably, levels seen in survey year 2018. Black Cherry, Hawthorn, Crabapple, and Apple all exceeded 2018 production by more than 20%, and Sassafras, Blackberry, and Dogwood performed slightly better than in the previous year. Relative to the long-term average, all soft mast producing species except Sassafras (-19%) and Blackberry (-3%) exceeded 48-year average production. The best performers of this group were Crabapple (+21%), Hawthorn (+18%), Cherry (+16%), Dogwood (+16%), and Apple (+16%). While Grape and Yellow Poplar crops were less abundant than in 2018, production still exceeded the average by 6% and 4%, respectively.

When considering all mast-producing species, the 2019 mast index was 11.6% above last year and approximately 5.5% above the long-term average. The overall hard mast crop, which includes production of beechnuts, hickory nuts, walnuts, and acorns, was up nearly 10% relative to survey year 2018 and just over 4% above the long-term average. This difference was driven primarily by notably greater production of walnuts and Black Oak group acorns (Black Oak, Red Oak, Scarlet Oak, Scrub Oak), which was enough to counter sharp declines in White Oak group acorn production. The hickory-cherry-oak association produced at levels nearly 15% greater than in survey year 2018 and on par with the long-term average.

Table 7. Spring harvest of wild turkeys in West Virginia, 2015-2019

County	2015	2016	2017	2018	2019
Barbour	127	165	204	250	202
Brooke	67	78	100	174	118
Hancock	89	98	106	87	109
Harrison	247	286	328	440	347
Marion	170	192	257	330	298
Marshall	174	207	256	417	311
Monongalia	199	197	267	346	263
Ohio	109	111	113	145	145
Preston	333	371	475	555	455
Taylor	72	101	135	189	142
Tucker	82	90	97	89	102
Wetzel	168	196	244	396	270
District 1 Subtotal	1,837	2,092	2,582	3,418	2,762
Berkeley	124	115	147	162	141
Grant	131	161	145	160	140
Hampshire	156	170	184	166	203
Hardy	116	132	132	151	142
Jefferson	82	79	115	115	125
Mineral	118	134	133	148	121
Morgan	64	54	64	65	83
Pendleton	94	88	112	112	112
District 2 Subtotal	885	933	1,032	1,079	1,067
Braxton	194	197	209	307	257
Clay	83	101	120	142	102
Lewis	194	211	249	289	233
Nicholas	213	330	311	287	260
Pocahontas	145	144	142	113	155
Randolph	225	250	247	207	258
Upshur	231	228	302	335	297
Webster	114	156	151	129	100
District 3 Subtotal	1,399	1,617	1,731	1,809	1,662
Fayette	239	292	278	247	257
Greenbrier	242	308	269	225	254
McDowell	218	200	177	132	105
Mercer	161	176	192	150	129
Monroe	181	184	192	183	231
Raleigh	231	283	280	213	205
Summers	199	219	209	170	158
Wyoming	257	320	262	197	182
District 4 Subtotal	1,728	1,982	1,859	1,517	1,521
Boone	138	157	157	125	132
Cabell	110	114	176	125	147
Kanawha	227	285	320	308	296
Lincoln	169	215	229	158	173
Logan	172	181	165	157	141
Mason	314	378	448	469	465
Mingo	91	131	143	106	118
Putnam	181	210	268	235	236
Wayne	108	139	186	129	132
District 5 Subtotal	1,510	1,810	2,092	1,812	1,840
Calhoun	128	145	164	190	164
Doddridge	118	137	160	216	178
Gilmer	124	132	143	170	142
Jackson	264	302	408	460	447
Pleasants	71	80	88	122	124
Ritchie	218	216	264	327	285
Roane	210	231	256	280	258
Tyler	144	182	181	250	217
Wirt	153	174	205	230	186
Wood	248	328	380	407	362
District 6 Subtotal	1,678	1,927	2,249	2,652	2,363
State Total	9,037	10,361	11,545	12,287	11,215

WILD TURKEY

Table 8. Spring wild turkey harvest in West Virginia by week of season, 2018-2019

Week of Season	2018		2019	
	Birds Harvested	%	Birds Harvested	%
Youth	431	3.51	357	3.18
Week 1	5,734	46.67	6,068	54.11
Week 2	2,703	22.00	2,193	19.55
Week 3	1,743	14.19	1,378	12.29
Week 4	1,676	13.64	1,219	10.87
Unknown	0	0.00	0	0.00
State Total	12,287.00	100.00	11,215.00	100.00



WILD TURKEY

Table 9. Fall harvest of wild turkeys in West Virginia, 2015-2019

County	2015	2016	2017	2018	2019
Barbour	0	29	21	22	18
Brooke	6	15	9	7	4
Hancock	8	6	2	6	15
Harrison	28	41	15	18	17
Marion	19	38	12	20	14
Marshall	9	50	17	24	14
Monongalia	25	30	20	23	16
Ohio	6	21	5	8	5
Preston	71	105	55	54	43
Taylor	2	23	21	10	15
Tucker	13	14	6	26	13
Wetzel	0	40	17	14	12
District 1 Subtotal	187	412	200	232	186
Berkeley	30	21	20	12	13
Grant	38	57	29	47	22
Hampshire	35	30	18	22	20
Hardy	31	27	19	21	21
Jefferson	0	8	4	4	2
Mineral	25	22	14	30	19
Morgan	15	9	6	13	10
Pendleton	25	35	24	19	23
District 2 Subtotal	199	209	134	168	130
Braxton	0	43	5	8	17
Clay	1	12	4	3	5
Lewis	25	21	10	14	20
Nicholas	63	140	36	68	51
Pocahontas	62	49	34	41	44
Randolph	114	116	38	76	61
Upshur	59	92	32	58	59
Webster	48	91	14	51	27
District 3 Subtotal	372	564	173	319	284
Fayette	0	38	14	18	36
Greenbrier	81	74	64	65	65
McDowell	0	30	14	16	9
Mercer	0	27	17	17	21
Monroe	61	61	51	53	56
Raleigh	0	47	18	24	25
Summers	26	29	22	10	17
Wyoming	41	62	12	27	19
District 4 Subtotal	209	368	212	230	248
Boone	2	21	5	9	8
Cabell	0	12	5	8	7
Kanawha	0	38	17	10	20
Lincoln	0	26	7	12	8
Logan	0	25	5	9	6
Mason	43	64	28	45	33
Mingo	0	8	1	8	8
Putnam	19	27	14	14	20
Wayne	0	17	0	2	4
District 5 Subtotal	64	238	82	117	114
Calhoun	0	19	7	12	10
Doddridge	0	12	5	7	6
Gilmer	0	10	9	1	9
Jackson	24	48	34	29	27
Pleasants	6	7	8	13	6
Ritchie	0	21	8	12	15
Roane	0	26	17	15	19
Tyler	15	18	2	6	15
Wirt	17	30	23	17	15
Wood	47	84	34	37	29
District 6 Subtotal	109	275	147	149	151
State Total	1140	2066	948	1215	1113

WILD TURKEY

Table 10. Total spring and fall wild turkey harvest, West Virginia, 1966-2018

Year	Spring	Fall	Total	Rank
1966	12	1,334	1,346	53
1967	42	989	1,031	54
1968	134	1,697	1,831	52
1969	243	3,430	3,673	42
1970	370	3,020	3,390	45
1971	421	2,374	2,795	49
1972	589	2,353	2,942	48
1973	554	3,038	3,592	43
1974	596	2,158	2,754	50
1975	585	2,827	3,412	44
1976	721	1,860	2,581	51
1977	719	2,998	3,717	41
1978	566	2,803	3,369	46
1979	873	2,421	3,294	47
1980	1,459	3,696	5,155	38
1981	1,970	3,135	5,105	39
1982	2,458	5,684	8,142	34
1983	2,627	2,224	4,851	40
1984	3,387	2,414	5,801	37
1985	4,215	2,343	6,558	36
1986	4,774	3,130	7,904	35
1987	5,665	4,114	9,779	30
1988	6,526	2,939	9,465	32
1989	7,245	2,204	9,449	33
1990	9,152	3,504	12,656	16
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	22
2005	10,957	1,130	12,087	21
2006	11,735	1,186	12,921	15
2007	9,965	1,511	11,476	23
2008	9,929	1,206	11,135	25
2009	9,787	1,208	10,995	26
2010	10,209	1,126	11,335	24
2011	9,190	1,186	10,376	27
2012	8,303	1,294	9,597	31
2013	11,162	1,019	12,181	20
2014	9,128	956	10,084	29
2015	9,037	1,140	10,177	28
2016	10,361	2,066	12,427	18
2017	11,545	948	12,493	17
2018	12,287	1,215	13,502	14
2019	11,215	1,113	12,328	19
Total	399,317	126,185	525,502	

Hunters killed 88 boars during the 2019 season. This was the fourth highest harvest in the last two decades. Hunters once again had the opportunity to hunt in early February 2020 in addition to archery season and the firearms season the last week of October. The February season produced great results again with a harvest of 48 boars. Last year hunters harvested 49 boars during the same time. Thirty-one boars were harvested in Logan County during the February season and seventeen in Boone County.

Firearms hunters took 55 boars (35 in Logan County and 20 in Boone County) and archers killed 33 (25 in Logan County and 8 in Boone County). Crossbow hunters accounted for 7 kills. Raleigh and Wyoming counties had no reported kills. The mast conditions, especially oak, were much higher in ecological region 3 during 2019 where the boar population is located. This led to the decreased number of archery 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 was 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. Hunters had suggested bringing back a late season for several years. Biologists analyzed the data and proposed the stand-alone season in February to allow hunters a unique opportunity. The Natural Resources Commission approved the season and hunters responded accordingly by setting out and enjoying an event that never existed for the second straight year. Biologists will continue to track the impact of this new season and make proposals accordingly. The February season is proposed to continue next year. Annual Big Game Seasons are set by the Natural Resources Commission at their spring meeting.

Table 11. Wild boar harvest by weapon, 2019

County	Crossbow	Archery	Gun	Total
Boone	2	6	20	28
Logan	5	20	35	60
Total	7	26	55	88

Table 12. West Virginia wild boar harvest, 1979-2019

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
2017	91
2018	137
2019	88
Total	2,517

WHITE-TAILED DEER by James M. Crum

Deer Season 2019 and January 2020

The following Tables 13 through 19 contain the 2019 white-tailed deer hunter harvest information for each of West Virginia's 55 counties. In 2019 and January 2020, deer hunters harvested a total of 99,437 deer in the combined deer seasons. This was down 9% from the 2018 harvest of 108,856 and 13% below the previous five-year harvest average of 114,520. The combined deer season harvest for 2019 is the 35th largest total deer harvest on record for West Virginia. The 2019 total deer harvest represents one deer killed for every 148 acres of deer habitat in the state (Table 19), and a 61% harvest decrease from the record harvest of 255,356 deer in 2002. From 1945 through 2019, a total of 6,563,362 deer have been recorded as harvested in West Virginia (Fig.2). Forty-six percent (2,988,437) of the total recorded deer harvest of the past 74 years has occurred in the last 20 years.

In 2019, the traditional bucks-only firearm season harvest of antlered bucks was 36,472, an 18% decrease from the 2018 harvest (Table 13). This is 22% less than the five-year average bucks-only firearm season harvest of 46,612 and ranks 42nd among all past years.

The 2019 antlerless deer harvest taken with a firearm decreased by 13% from that of 2018 and was 73% less than the record harvest of 104,199 in 2002. A total of 28,336 antlerless deer (Table 15) 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 eighth year for an October firearm antlerless deer season and was the second year for a four-day season rather than a three-day season (October 24- 27). For the second year, the traditional December antlerless season was increased from three to four days (December 5-8) and followed buck firearm season rather than muzzleloader season. The antlerless deer maximum season bag limit was decreased from 4 to 3 in 2012 and continued to remain at 3 for 2019. In comparison to 2018, the antlerless bag limit in 2019 was increased in two counties from 1 antlerless deer to 3 antlerless deer. A portion of one county that had limited permits in 2018 was opened to unlimited permits in 2019. One county with unlimited permits in 2018 was reduced to limited permits in 2019. A portion of one county open to unlimited permits was reduced to closed and a portion of a county closed in 2018 was opened to limited permits in 2019. The firearm antlerless deer season was open in 2019 for 25 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, 28 counties and portions of three counties had a bag limit of three antlerless deer, and 14 more counties and portions of five counties had a bag limit of one antlerless deer. Four counties and portions of five counties in 2019 were limited to resident and nonresident hunters who had

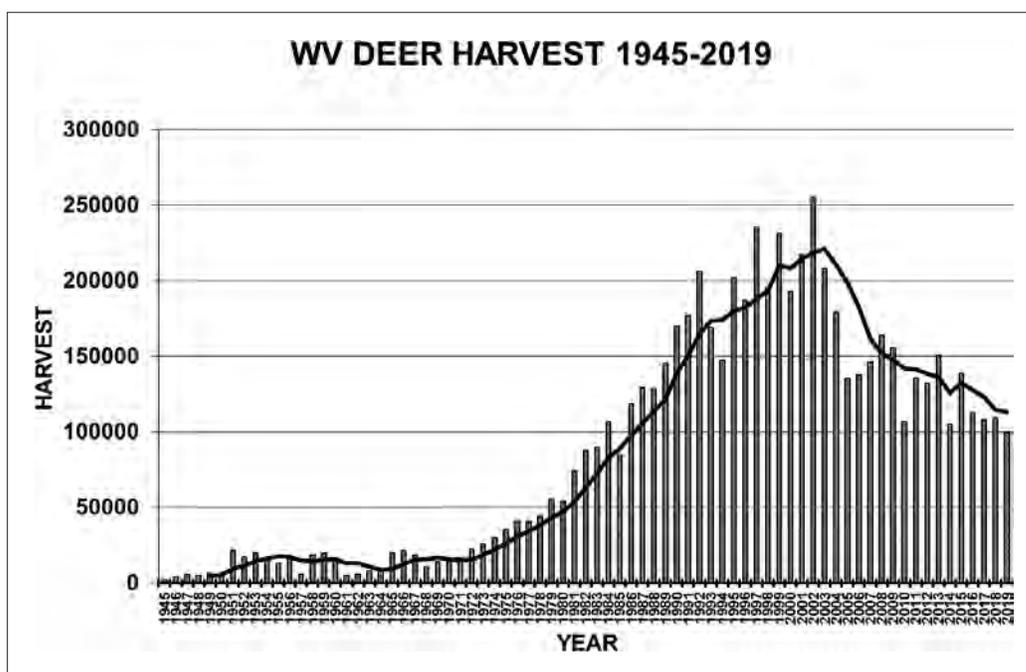


Figure 2. White-tailed deer harvest in West Virginia from 1945-2019.

WHITE-TAILED DEER

to apply for limited permits. The antlerless Class N/NN season was closed on a large portion of National Forest land. Similar to 2018, all Monongahela National Forest land in Pocahontas and Randolph counties was closed to firearm antlerless Class N/NN hunting. Qualifying youth, Class Q/QQ and Senior Lifetime Class XS license holders had an additional day in 2019 which totaled to a four-day antlerless-only season on private and public land in counties having a firearms deer hunting season. The 2019 special split deer season for youth, Class Q/QQ and Senior Lifetime Class XS hunters was the twelfth year for the season to be open on private land in all 51 counties open to a deer firearms season, the eighth year that all public lands in the 51 counties were open and also the eighth year that Senior Lifetime Class XS license holders could participate. The 2019 antlerless season harvest was 35th highest on record and 21% less than the five-year average antlerless harvest of 36,082.

The 2019 deer statewide archery (bow/crossbow) season opened September 28, 2019, one day earlier than the 2018 season. In the 2019 archery season (including urban archery and 29 deer taken with long or recurve bows in the Mountaineer Heritage season), a harvest of 29,537 was recorded, which includes 15,697 deer harvested during the archery season with a crossbow. Deer reported as harvested with a crossbow represented 53% of the total archery season harvest and ranged from 19% to 73% of archery antlered deer harvest by county. This year's archery harvest was 11% more than the 2018 archery season, 11th highest on record and 10% above the five-year average of 26,837 (Table 14).

The 2019 muzzleloader harvest was 5,092, a 5% increase from the 2018 harvest of 4,870 but includes 570 deer taken with side lock and flintlock muzzleloaders in the Mountaineer Heritage season. This is 3% above the five-year average harvest of 4,966, and ranks 30th out of 36 years the muzzleloader season has existed in West Virginia (Table 16). Some changes to the muzzleloader season that occurred in 2012 were reversed in 2018 and remained for the 2019 season. 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 2018 and 2019 the September portion remained dropped but the December portion was moved to mid-December (December 16-22) after the antlerless Class N/NN deer season.

In 2019, hunting on Sunday was permissible in West Virginia for the 19th 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, in 2016 22 counties and in 2017 all counties were open to hunting on Sunday on private land with written permission. In 2018 and 2019 all counties were open to hunting on Sunday on both private and public land, making 14 additional days available for deer hunting in 2019 deer seasons. All 14 days were open for bow and crossbow hunters who recorded taking 4,216 deer on Sundays, or 14% of the total 2019 archery (bow/crossbow) harvest. Five Sundays were open for antlerless firearms deer hunting and 2,133 deer were reported as harvested. One Sunday was open for taking an antlered deer with a firearm (the Sunday after Thanksgiving December 1), and 506 antlered bucks were reported as harvested.

In the 2019 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 19 counties with a buck harvest of one buck per square mile lower than the desired harvest. For the remaining 32 counties, the buck harvest was within one buck per square mile of the desired harvest for the county. In contrast to 2018, no counties exceeded the desired buck harvest per square mile by at least one buck per square mile and six counties were lower than the desired harvest while 45 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 2019 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 2019 deer harvest records indicate the percentage of female deer in the harvest was 38.2%, the same as recorded in 2018, which is expected to slightly increase the statewide deer herd. However, the percentage of female deer in the harvest of individual counties in 2019 varied from 22% to 47%, which reflects antlerless deer season frameworks design for individual counties to grow, reduce, or stabilize the deer population on a county basis.

WHITE-TAILED DEER

Deer Season 2019 and January 2020 continued ...

Over the last 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 220 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.

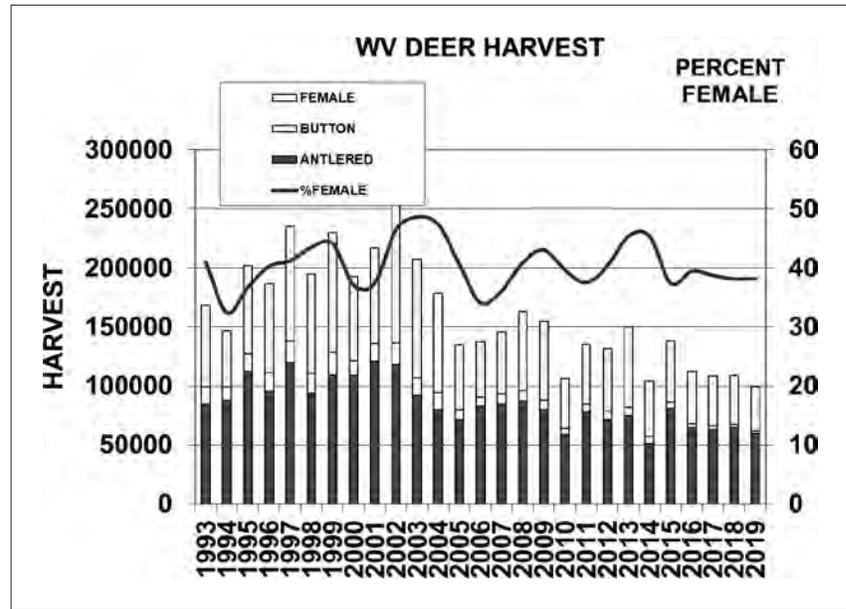


Figure 3. Deer harvested by sex in West Virginia from 1993-2019.

Special Deer Management Harvest

Deer taken by hunters in the Special Urban Deer Season and Special Split Youth, Class Q/QQ and Senior Lifetime Class XS deer season 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. However, these deer are included in tables 13 through 19 as part of the 2019 deer season harvest.

The Special Urban Deer Season is available to incorporated cities and homeowner associations, and may open three weeks prior to the opening of statewide deer archery season and close January 31, 2019. The extension through January 2019 was the second year for this expanded opportunity. During this special season, up to seven deer may be taken by each hunter. This is the 16th 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, a total of 1,957 antlerless deer were harvested. This season was open on private land and public land in any county open to a firearms deer season on October 19-20, 2019, and again December 26 and 27, 2019. This was the 22nd 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 2019 season was the 10th year for participation by the 15 -17 age youths and the eighth year for participation by Class XS license holders. The daily bag limit was one antlerless deer. Hunters harvested 1,064 deer on the first day, October 19, 380 deer on October 20th and an additional 256 and 257 deer on December 26 and 27, respectively. Overall the harvest for the 2019 special Youth, Class Q and Senior Lifetime Class XS deer season increased 3.5% from 2018. The harvest for the 2019 first day was down 6% from the first day of the 2018 season. However, the 380 deer harvested on the added Sunday more than made up the difference. The second and third days of the 2019 season were down 35% and 30%, respectively, from the reported harvest in 2018.

Special controlled deer hunts were held in 2019 on six West Virginia State Parks. A total of 154 deer were harvested. These deer are not included in tables 13 through 19 as part of the 2019 deer harvest. Seventeen deer were taken at Beech Fork State Park, 45 deer at Cacapon State Park, 13 deer at Canaan Valley State, 33 deer at North Bend State Park, 34 deer at Pipestem State Park, and 12 deer at Twin Falls State Park. This was the fifth year for such a hunt on Pipestem State Park, the fourth year for a hunt at Cacapon State Park, and the third year for a controlled deer hunt at North Bend State Park. All state park controlled deer hunts are by application only. Visit www.wvhunt.com to apply on-line.

Special Deer Management Harvest continued ...

Twenty-four deer were harvested on the Green Bank Observatory property during a controlled deer hunt conducted October 11-12, 2019. These deer are also not included in tables 13 through 19. The Observatory held its first controlled hunt in 1993, which paved the way for the controlled deer hunts conducted today on state parks. 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.

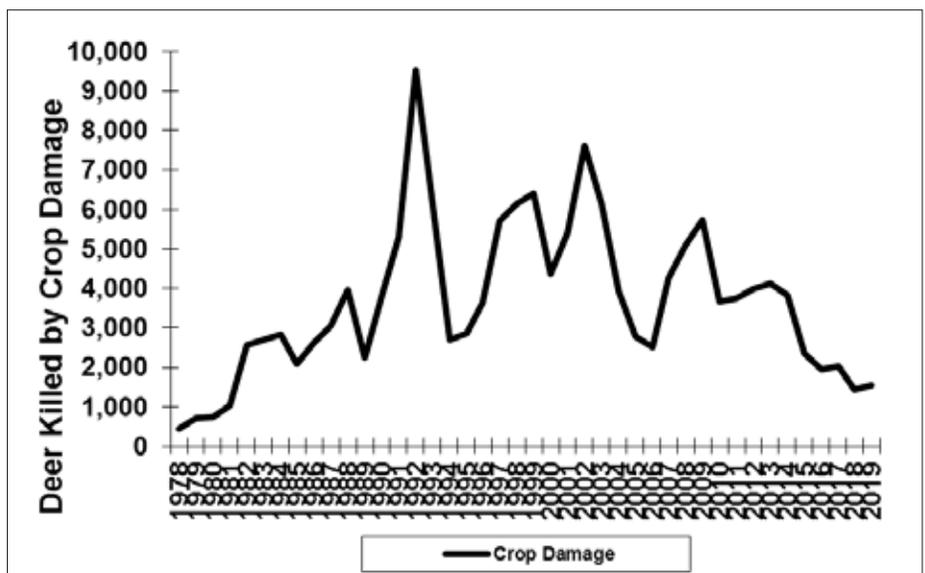
Nonseasonal Mortalities

Nonseasonal mortalities are those deer deaths that are not associated with the harvest of deer by hunters. Figure 4 depicts nonseasonal deer mortalities that are associated with human/deer conflicts. 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 in 2019 were not available at the time of preparation of this document, so deer killed on crop damage permits are the only nonseasonal deer mortalities depicted in Figure 4. Deer killed on crop damage permits increased in DNR Districts 2, and 3, and decreased in Districts 1, 4, 5 and 6. Overall, deer killed through the crop damage permit system in 2019 increased by 8%, with 1,439 deer killed on crop damage permits in 2018 and 1,549 recorded in 2019.

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. Crop damage kills in West Virginia from 1978-2019.



Deer Hunting Outlook

Overall deer hunting opportunities for hunters across the state in 2020 are proposed to be similar to those in 2019, with the exception of 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 2019 deer seasons was the fifth year for the electronic game checking system and the fourth year hunters were directed to take deer harvested on the first 2 days of the traditional buck firearm season to special designated locations where wildlife agency personnel could examine their deer. In Berkeley, Mineral and Morgan counties this required examination was for the collection of biological information such as age and antler development and to collect samples for CWD testing. A similar requirement may be asked of hunters in the 2020 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 2020 deer archery (bow/crossbow) season opening date is proposed to open the last Saturday in September (September 26) which is two days earlier than the September 28 opening in 2019. The expanded January portion of the urban archery deer seasons available to incorporated cities and homeowner associations put in place in 2018 is proposed to remain available

WHITE-TAILED DEER

Deer Hunting Outlook continued ...

in January 2021. The liberal bag limit and extended season length available for the season has provided incorporated cities and homeowner associations a reliable and efficient method to address locally over abundant deer populations.

Antlerless deer hunting opportunities for the 2020 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 2020 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 2020 as it was in 2019 in many counties. An October Class N/NN antlerless deer season is again proposed for the fall of 2020 and is proposed to occur October 22 through 25. 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 maybe restricted to resident and non-resident hunters chosen by lottery. Again, as in the past three years, a split Special Youth, Class Q/QQ and Senior Lifetime Class XS deer season is proposed to be held on October 17 and 18 and open again on 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 2020-2021 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 2020 will be published and available to hunters in July of 2020. 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 West Virginia by DNR, landowners, and hunters are ongoing. In the 2019 deer seasons, samples taken from 716 hunter-harvested deer brought to DNR staffed stations were tested for CWD. Twenty-two samples were found to have the abnormal protein associated with CWD. CWD has now been detected in a total of 363 deer in Hampshire County, six deer in Hardy County, 21 deer in Berkeley County, seven deer Mineral County and six deer in Morgan 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 2020) 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 Berkeley, Hampshire, Hardy, Mineral 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 counties, Virginia, and Allegany and Washington counties, Maryland. In addition, Pennsylvania Game Commission has detected CWD positive deer in Bedford, Blair, Fulton and Franklin counties adjacent and north of Allegany and Washington counties, 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. All West Virginia deer hunters are urged to use caution in spreading natural deer urine-based lures in the environment and are 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.

WHITE-TAILED DEER

Table 13. West Virginia Antlered Buck Harvest, 2015-2019

County	2015	2016	2017	2018	2019
Barbour	1,281	1,098	984	958	855
Brooke	286	268	175	188	188
Hancock	208	209	157	139	153
Harrison	1,418	1,138	1,017	888	551
Marion	1,190	765	735	678	538
Marshall	818	727	624	637	600
Monongalia	1,023	827	825	750	550
Ohio	290	270	180	197	200
Preston	2,046	1,774	1,947	1,607	1,396
Taylor	732	581	485	491	347
Tucker	783	730	817	754	602
Wetzel	1,144	899	823	676	738
District 1 Subtotal	11,219	9,286	8,769	7,963	6,718
Berkeley	908	737	753	757	533
Grant	1,304	954	1,194	1,219	954
Hampshire	1,947	1,197	1,386	1,471	1,231
Hardy	1,709	1,076	1,198	1,212	1,010
Jefferson	499	422	419	463	346
Mineral	1,335	922	1,011	1,048	760
Morgan	678	437	503	622	437
Pendleton	1,297	1,088	1,018	1,275	985
District 2 Subtotal	9,677	6,833	7,482	8,067	6,256
Braxton	1,660	1,102	1,233	1,017	1,142
Clay	618	390	481	438	406
Lewis	1,875	1,246	1,216	1,001	973
Nicholas	1,274	1,044	987	1,060	924
Pocahontas	1,008	921	1,040	994	952
Randolph	1,659	1,617	1,633	1,685	1,368
Upshur	1,704	1,399	1,025	1,155	1,138
Webster	1,080	941	777	937	705
District 3 Subtotal	10,878	8,660	8,392	8,287	7,608
Fayette	1,214	889	927	998	874
Greenbrier	1,816	1,447	1,628	1,481	1,500
McDowell	0	0	0	0	0
Mercer	843	636	593	617	515
Monroe	1,462	1,099	1,295	1,193	993
Raleigh	895	648	592	624	598
Summers	999	657	809	701	500
Wyoming	0	0	0	0	0
District 4 Subtotal	7,229	5,376	5,844	5,614	4,980
Boone	868	573	658	672	433
Cabell	641	677	404	644	316
Kanawha	1,547	1,058	1,046	1,214	748
Lincoln	1,312	846	569	958	439
Logan	0	0	0	0	0
Mason	1,488	1,267	867	1,206	742
Mingo	0	0	0	0	0
Putnam	1,114	992	624	943	436
Wayne	963	815	448	737	428
District 5 Subtotal	7,933	6,228	4,616	6,374	3,542
Calhoun	1,063	705	740	698	644
Doddridge	1,376	946	947	659	762
Gilmer	1,435	791	875	800	768
Jackson	1,870	1,487	1,096	1,380	893
Pleasants	492	334	317	280	287
Ritchie	2,024	1,422	1,338	1,065	1,238
Roane	1,846	1,178	1,186	1,176	954
Tyler	1,064	855	817	566	659
Wirt	1,152	777	734	669	451
Wood	1,556	1,193	974	1,001	712
District 6 Subtotal	13,878	9,688	9,024	8,294	7,368
State Total	60,814	46,071	44,127	44,599	36,472

WHITE-TAILED DEER

Table 14. West Virginia Archery/Crossbow Harvest, 2015-2019

County	2015	2016	2017	2018	2019
Barbour	623	535	534	537	693
Brooke	278	262	155	171	193
Hancock	344	353	282	267	320
Harrison	702	559	634	528	404
Marion	640	482	509	433	470
Marshall	353	336	300	290	386
Monongalia	781	678	694	592	675
Ohio	272	286	202	217	288
Preston	1,415	1,265	1,469	1,333	1,682
Taylor	346	279	361	286	334
Tucker	420	400	482	465	515
Wetzel	357	288	311	251	413
District 1 Subtotal	6,531	5,723	5,933	5,370	6,373
Berkeley	554	534	559	645	649
Grant	423	323	363	366	432
Hampshire	457	349	381	355	506
Hardy	404	268	321	296	379
Jefferson	374	402	408	446	460
Mineral	394	327	381	353	392
Morgan	253	214	242	251	268
Pendleton	391	296	316	371	423
District 2 Subtotal	3,250	2,713	2,971	3,083	3,509
Braxton	593	516	539	452	659
Clay	339	223	243	250	289
Lewis	712	544	538	485	552
Nicholas	799	726	635	636	745
Pocahontas	318	264	324	244	313
Randolph	921	928	883	914	1,139
Upshur	906	747	694	683	947
Webster	626	537	511	540	467
District 3 Subtotal	5,214	4,485	4,367	4,204	5,111
Fayette	801	701	765	694	897
Greenbrier	739	525	722	615	704
McDowell	673	456	574	628	577
Mercer	817	653	625	567	763
Monroe	632	483	542	505	582
Raleigh	1,032	729	789	807	981
Summers	563	362	450	377	370
Wyoming	1,039	867	824	976	972
District 4 Subtotal	6,296	4,776	5,291	5,169	5,846
Boone	486	354	377	399	373
Cabell	365	416	208	376	277
Kanawha	1,069	894	894	1,045	998
Lincoln	643	421	258	415	325
Logan	924	574	507	772	545
Mason	786	690	535	610	579
Mingo	579	386	277	410	371
Putnam	599	579	397	551	393
Wayne	451	402	179	292	303
District 5 Subtotal	5,902	4,716	3,632	4,870	4,164
Calhoun	433	295	283	295	372
Doddridge	390	264	328	241	318
Gilmer	448	257	334	311	381
Jackson	759	692	515	676	642
Pleasants	163	137	162	117	171
Ritchie	713	536	501	514	679
Roane	707	455	489	478	538
Tyler	366	281	328	258	375
Wirt	459	341	334	341	343
Wood	909	853	738	709	715
District 6 Subtotal	5,347	4,111	4,012	3,940	4,534
State Total	32,540	26,524	26,206	26,636	29,537

WHITE-TAILED DEER

Table 15. West Virginia Antlerless Harvest, 2015-2019

County	2015	2016	2017	2018	2019
Barbour	911	806	873	875	873
Brooke	346	392	236	159	149
Hancock	210	168	163	100	104
Harrison	1,228	1,045	1,014	842	517
Marion	984	826	809	543	554
Marshall	554	514	437	371	372
Monongalia	968	673	673	677	565
Ohio	361	230	152	141	151
Preston	1,437	1,635	1,703	1,799	1,663
Taylor	486	514	533	473	351
Tucker	47	200	332	413	346
Wetzel	957	866	723	516	461
District 1 Subtotal	8,489	7,869	7,648	6,909	6,106
Berkeley	813	675	730	706	543
Grant	592	467	599	647	528
Hampshire	1,240	908	959	1,068	966
Hardy	967	659	717	774	631
Jefferson	442	428	450	411	381
Mineral	899	761	706	729	547
Morgan	551	433	490	562	462
Pendleton	547	497	424	574	502
District 2 Subtotal	6,051	4,828	5,075	5,471	4,560
Braxton	1,193	909	1,083	848	816
Clay	184	182	109	305	166
Lewis	1,753	1,377	1,258	1,160	1,075
Nicholas	606	509	436	862	437
Pocahontas	238	216	249	213	233
Randolph	533	850	849	850	772
Upshur	1,271	1,605	1,300	1,289	1,196
Webster	174	314	562	331	284
District 3 Subtotal	5,952	5,962	5,846	5,858	4,979
Fayette	392	283	286	441	482
Greenbrier	821	739	773	801	724
McDowell	0	0	0	0	0
Mercer	337	414	547	423	412
Monroe	1,220	819	998	1,099	938
Raleigh	291	215	226	229	284
Summers	689	603	682	524	380
Wyoming	0	0	0	0	0
District 4 Subtotal	3,750	3,073	3,512	3,517	3,220
Boone	93	157	172	182	138
Cabell	419	422	290	380	256
Kanawha	558	412	478	525	401
Lincoln	872	567	338	290	252
Logan	0	0	0	0	0
Mason	1,593	1,370	1,052	922	858
Mingo	0	0	0	0	0
Putnam	1,048	885	612	807	521
Wayne	38	269	134	53	111
District 5 Subtotal	4,621	4,082	3,076	3,159	2,537
Calhoun	802	630	557	653	608
Doddridge	914	750	731	627	531
Gilmer	1,017	688	727	694	609
Jackson	1,521	1,317	1,122	1,183	907
Pleasants	260	268	298	164	182
Ritchie	1,622	1,309	1,290	1,123	1,108
Roane	1,514	1,123	1,101	1,073	940
Tyler	901	815	781	542	607
Wirt	1,002	860	733	721	576
Wood	1,436	1,218	1,087	1,057	866
District 6 Subtotal	10,989	8,978	8,427	7,837	6,934
State Total	39,852	34,792	33,584	32,751	28,336

WHITE-TAILED DEER

Table 16. West Virginia Muzzleloader Harvest, 2015-2019

County	2015	2016	2017	2018	2019
Barbour	116	133	119	108	122
Brooke	18	38	13	24	31
Hancock	23	34	18	19	30
Harrison	128	113	126	132	69
Marion	124	113	82	72	77
Marshall	76	73	64	66	71
Monongalia	117	91	82	87	109
Ohio	44	46	34	39	36
Preston	182	217	203	213	268
Taylor	75	70	59	77	64
Tucker	16	73	73	84	89
Wetzel	88	90	71	44	70
District 1 Subtotal	1,007	1,091	944	965	1,036
Berkeley	74	67	64	64	75
Grant	112	81	75	100	97
Hampshire	127	88	89	121	125
Hardy	80	63	74	87	85
Jefferson	48	54	46	65	45
Mineral	75	80	43	50	69
Morgan	70	44	38	48	50
Pendleton	67	70	48	62	70
District 2 Subtotal	653	547	477	597	616
Braxton	189	157	127	142	176
Clay	25	43	34	64	35
Lewis	165	168	146	125	140
Nicholas	265	232	162	198	203
Pocahontas	77	56	57	70	75
Randolph	202	243	194	205	253
Upshur	155	185	163	169	193
Webster	28	139	74	158	161
District 3 Subtotal	1,106	1,223	957	1,131	1,236
Fayette	183	124	124	165	165
Greenbrier	108	135	130	178	160
McDowell	0	0	0		0
Mercer	114	86	62	118	101
Monroe	105	70	107	93	96
Raleigh	83	70	70	114	92
Summers	88	62	78	83	78
Wyoming	0	0	0		0
District 4 Subtotal	681	547	571	751	692
Boone	39	72	74	127	88
Cabell	45	60	32	50	37
Kanawha	88	78	64	103	94
Lincoln	159	106	46	76	70
Logan	0	0	0		0
Mason	150	153	108	142	108
Mingo	0	0	0		0
Putnam	90	119	63	90	75
Wayne	31	62	30	29	55
District 5 Subtotal	602	650	417	617	527
Calhoun	71	69	66	70	70
Doddridge	104	70	95	41	90
Gilmer	126	93	87	83	96
Jackson	183	158	138	154	158
Pleasants	34	27	20	27	29
Ritchie	167	102	109	88	125
Roane	129	105	90	95	125
Tyler	75	82	63	43	84
Wirt	86	92	91	90	75
Wood	154	141	118	118	133
District 6 Subtotal	1,129	939	877	809	985
State Total	5,178	4,997	4,243	4,870	5,092

WHITE-TAILED DEER

Table 17. Deer Mortality by Type of Season in West Virginia, 2019.

County	Buck Gun	Antlerless	Archery/ Crossbow	Muzzleloader	Mountaineer Heritage	Total
Barbour	855	873	692	115	8	2,543
Brooke	188	149	193	30	1	561
Hancock	153	104	320	29	1	607
Harrison	551	517	404	64	5	1,541
Marion	538	554	470	67	10	1,639
Marshall	600	372	386	67	4	1,429
Monongalia	550	565	675	92	17	1,899
Ohio	200	151	288	33	3	675
Preston	1,396	1,663	1,680	235	35	5,009
Taylor	347	351	334	58	6	1,096
Tucker	602	346	515	78	11	1,552
Wetzel	738	461	413	65	5	1,682
District 1 Subtotal	6,718	6,106	6,370	933	106	20,233
Berkeley	533	543	648	66	10	1,800
Grant	954	528	432	88	9	2,011
Hampshire	1,231	966	506	116	9	2,828
Hardy	1,010	631	379	79	6	2,105
Jefferson	346	381	458	39	8	1,232
Mineral	760	547	392	61	8	1,768
Morgan	437	462	268	47	3	1,217
Pendleton	985	502	422	62	9	1,980
District 2 Subtotal	6,256	4,560	3,505	558	62	14,941
Braxton	1,142	816	658	165	12	2,793
Clay	406	166	289	27	8	896
Lewis	973	1,075	552	120	20	2,740
Nicholas	924	437	743	173	32	2,309
Pocahontas	952	233	313	66	9	1,573
Randolph	1,368	772	1,139	234	19	3,532
Upshur	1,138	1,196	947	150	43	3,474
Webster	705	284	467	137	24	1,617
District 3 Subtotal	7,608	4,979	5,108	1,072	167	18,934
Fayette	874	482	897	145	20	2,418
Greenbrier	1,500	724	702	139	23	3,088
McDowell	0	0	576	0	1	577
Mercer	515	412	763	87	14	1,791
Monroe	993	938	582	81	15	2,609
Raleigh	598	284	979	68	26	1,955
Summers	500	380	370	71	7	1,328
Wyoming	0	0	969	0	3	972
District 4 Subtotal	4,980	3,220	5,838	591	109	14,738
Boone	433	138	373	81	7	1,032
Cabell	316	256	277	34	3	886
Kanawha	748	401	998	73	21	2,241
Lincoln	439	252	325	61	9	1,086
Logan	0	0	541	0	4	545
Mason	742	858	579	102	6	2,287
Mingo	0	0	370	0	1	371
Putnam	436	521	393	69	6	1,425
Wayne	428	111	303	54	1	897
District 5 Subtotal	3,542	2,537	4,159	474	58	10,770
Calhoun	644	608	372	62	8	1,694
Doddridge	762	531	318	81	9	1,701
Gilmer	768	609	381	90	6	1,854
Jackson	893	907	640	146	14	2,600
Pleasants	287	182	171	25	4	669
Ritchie	1,238	1,108	679	111	14	3,150
Roane	954	940	536	113	14	2,557
Tyler	659	607	375	79	5	1,725
Wirt	451	576	342	68	8	1,445
Wood	712	866	714	119	15	2,426
District 6 Subtotal	7,368	6,934	4,528	894	97	19,821
State Total	36,472	28,336	29,508	4,522	599	99,437

WHITE-TAILED DEER

Table 18. West Virginia 2019 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/ Crossbow	All Seasons Combined
Barbour	328	2.61	2.66	0.37	2.11	7.75
Brooke	72	2.61	2.06	0.43	2.67	7.77
Hancock	64	2.41	1.64	0.47	5.04	9.55
Harrison	379	1.45	1.36	0.18	1.07	4.07
Marion	286	1.88	1.94	0.27	1.64	5.74
Marshall	294	2.04	1.27	0.24	1.32	4.87
Monongalia	310	1.77	1.82	0.35	2.18	6.13
Ohio	82	2.43	1.83	0.44	3.50	8.20
Preston	632	2.21	2.63	0.42	2.66	7.93
Taylor	160	2.17	2.20	0.40	2.09	6.85
Tucker	402	1.50	0.86	0.22	1.28	3.86
Wetzel	350	2.11	1.32	0.20	1.18	4.81
District 1 Subtotal	3,359	2.00	1.82	0.31	1.90	6.02
Berkeley	297	1.80	1.83	0.25	2.19	6.06
Grant	471	2.03	1.12	0.21	0.92	4.27
Hampshire	631	1.95	1.53	0.20	0.80	4.48
Hardy	569	1.78	1.11	0.15	0.67	3.70
Jefferson	198	1.75	1.92	0.23	2.32	6.22
Mineral	319	2.38	1.72	0.22	1.23	5.55
Morgan	213	2.05	2.17	0.23	1.26	5.72
Pendleton	690	1.43	0.73	0.10	0.61	2.87
District 2 Subtotal	3,388	1.85	1.35	0.18	1.04	4.41
Braxton	501	2.28	1.63	0.35	1.32	5.58
Clay	338	1.20	1.52	0.10	0.86	2.65
Lewis	373	2.61	2.88	0.38	1.48	7.34
Nicholas	632	1.46	0.69	0.32	1.18	3.65
Pocahontas	911	1.05	0.54	0.08	0.34	1.73
Randolph	1,019	1.34	1.09	0.25	1.12	3.46
Upshur	343	3.32	3.49	0.56	2.76	10.13
Webster	535	1.32	0.53	0.30	0.87	3.02
District 3 Subtotal	4,652	1.64	1.37	0.27	1.10	4.07
Fayette	629	1.39	1.21	0.26	1.43	3.85
Greenbrier	991	1.51	0.73	0.16	0.71	3.12
McDowell	515	0.00	0.00	0.00	1.12	1.12
Mercer	380	1.35	1.08	0.27	2.01	4.71
Monroe	463	2.15	2.03	0.21	1.26	5.64
Raleigh	562	1.06	0.80	0.16	1.75	3.48
Summers	341	1.47	1.11	0.23	1.08	3.89
Wyoming	481	0.00	0.00	0.00	2.02	2.02
District 4 Subtotal	4,361	1.48	1.10	0.21	1.34	3.38
Boone	485	0.89	0.28	0.18	0.77	2.13
Cabell	240	1.32	1.07	0.15	1.16	3.70
Kanawha	798	0.94	1.40	0.12	1.25	2.81
Lincoln	426	1.03	0.59	0.16	0.76	2.55
Logan	422	0.00	0.00	0.00	1.29	1.29
Mason	413	1.79	2.08	0.26	1.40	5.53
Mingo	404	0.00	0.00	0.00	0.92	0.92
Putnam	320	1.36	1.63	0.23	1.23	4.45
Wayne	485	0.88	0.42	0.11	0.62	1.85
District 5 Subtotal	3,993	1.12	1.04	0.17	1.04	2.70
Calhoun	276	2.34	2.20	0.25	1.35	6.14
Doddridge	316	2.41	1.68	0.29	1.01	5.39
Gilmer	330	2.32	1.84	0.29	1.15	5.61
Jackson	447	2.00	2.03	0.35	1.44	5.82
Pleasants	125	2.29	1.45	0.23	1.36	5.33
Ritchie	443	2.79	2.50	0.28	1.53	7.10
Roane	476	2.01	1.98	0.26	1.13	5.38
Tyler	252	2.62	2.41	0.33	1.49	6.85
Wirt	230	1.96	2.51	0.33	1.49	6.29
Wood	325	2.19	2.67	0.41	2.20	7.47
District 6 Subtotal	3,220	2.29	2.15	0.31	1.41	6.16
State Total	22,972	1.72	1.49	0.24	1.29	4.33

*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.

WHITE-TAILED DEER

Table 19. West Virginia 2019 Deer Harvest by Deer Type

County	Antlered	Antlers Less than 3 Inches	Button Buck	Female	Shed Antlers	Unknown	Grand Total
Barbour	1,351	62	59	1,060	10	1	2,543
Brooke	317	18	11	213	2	0	561
Hancock	363	10	7	226	1	0	607
Harrison	824	44	51	619	3	0	1,541
Marion	875	36	42	680	5	1	1,639
Marshall	903	32	24	466	4	0	1,429
Monongalia	992	49	57	795	5	1	1,899
Ohio	396	9	9	261	0	0	675
Preston	2,494	114	114	2,265	20	2	5,009
Taylor	593	40	33	424	6	0	1,096
Tucker	991	29	20	508	4	0	1,552
Wetzel	1,094	35	27	523	3	0	1,682
District 1 Subtotal	11,193	478	454	8,040	63	5	20,233
Berkeley	885	59	41	811	4	0	1,800
Grant	1,309	45	33	622	2	0	2,011
Hampshire	1,554	91	44	1,131	7	1	2,828
Hardy	1,264	70	43	727	0	1	2,105
Jefferson	636	36	31	526	1	2	1,232
Mineral	1,025	54	31	657	1	0	1,768
Morgan	599	46	27	545	0	0	1,217
Pendleton	1,271	66	28	613	1	1	1,980
District 2 Subtotal	8,543	467	278	5,632	16	5	14,941
Braxton	1,591	77	50	1,064	11	0	2,793
Clay	616	20	15	240	2	3	896
Lewis	1,330	108	80	1,213	9	0	2,740
Nicholas	1,409	58	61	774	7	0	2,309
Pocahontas	1,146	46	19	360	2	0	1,573
Randolph	2,194	103	55	1,168	12	0	3,532
Upshur	1,770	115	81	1,488	19	1	3,474
Webster	1,004	29	32	544	8	0	1,617
District 3 Subtotal	11,060	556	393	6,851	70	4	18,934
Fayette	1,434	69	47	856	11	1	2,418
Greenbrier	1,958	69	45	1,008	8	0	3,088
McDowell	375	15	7	178	2	0	577
Mercer	1,000	45	45	694	7	0	1,791
Monroe	1,352	69	54	1,124	9	1	2,609
Raleigh	1,196	61	49	646	2	1	1,955
Summers	744	37	31	513	3	0	1,328
Wyoming	553	18	21	377	3	0	972
District 4 Subtotal	8,612	383	299	5,396	45	3	14,738
Boone	712	28	20	271	1	0	1,032
Cabell	509	43	22	311	1	0	886
Kanawha	1,343	67	56	768	7	0	2,241
Lincoln	669	47	22	347	1	0	1,086
Logan	356	5	6	178	0	0	545
Mason	1,133	82	48	1,019	4	1	2,287
Mingo	260	6	5	99	1	0	371
Putnam	692	59	35	638	1	0	1,425
Wayne	669	17	9	200	2	0	897
District 5 Subtotal	6,343	354	223	3,831	18	1	10,770
Calhoun	908	61	32	692	1	0	1,694
Doddridge	1,010	45	27	608	9	2	1,701
Gilmer	1,040	59	43	704	8	0	1,854
Jackson	1,309	105	67	1,111	7	1	2,600
Pleasants	406	20	11	232	0	0	669
Ritchie	1,717	81	59	1,283	8	2	3,150
Roane	1,333	74	57	1,081	12	0	2,557
Tyler	915	35	36	736	2	1	1,725
Wirt	664	55	44	677	5	0	1,445
Wood	1,136	92	73	1,119	6	0	2,426
District 6 Subtotal	10,438	627	449	8,243	58	6	19,821
State Total	56,189	2,865	2,096	37,993	270	24	99,437



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