

# Wild Turkey 2015-2016 Annual Report September 2016



Wild turkeys are an important game bird in Maryland, providing recreation and enjoyment for countless hunters, wildlife enthusiasts, and citizens. Turkey hunting alone results in an economic benefit to Maryland of nearly \$5 million every year. The Department of Natural Resources' (DNR) Wild Turkey Program monitors population levels, develops hunting regulations, and manages habitat to ensure that turkeys continue to flourish in Maryland.



Following a period of population stabilization in early 2000's, the statewide wild turkey population has increased slightly over the last 10 years and likely numbers nearly 40,000. Much of the increase can be attributed to recent increases in the central region's turkey population. Data suggest that turkey numbers and range in areas of previously low populations have increased at a rapid rate. However populations in the western and lower eastern shore regions have stabilized at levels below their previous high densities. Densities also vary considerably across the state and within regions due to differences in habitat quality and recent reproduction success.

Over 10,000 hunters annually pursue turkeys in either the spring or fall hunting seasons in Maryland. The 2015 fall turkey harvest of 116 was lower than the 2014 harvest and likely reflects a long-term decline in fall hunting participation. A total of 61 turkeys were reported harvested during the 2<sup>nd</sup> winter turkey season, which was hampered by severe winter weather. Spring hunters set another new harvest record with 3,874 reported birds. Increasing turkey populations in some regions, good weather during the 1<sup>st</sup> week of the season, and additional Sunday hunting opportunities likely helped to boost the harvest.

Reproductive success in the summer of 2016 was estimated to be well below average in all regions except the central region. Nesting success appeared to be exceptional low in some areas, likely a result of persistent wet weather during nesting season. As a result, turkey populations, sightings, and harvest are expected to remain stable or possibly decrease slightly in most parts of the state. However, continued population growth is expected in the central region.

More detailed information about the wild turkey population status, hunting statistics, and surveys can be found in the following report.

## POPULATION STATUS

Maryland's wild turkey population has increased over the past 10 years but some regions are showing a significant increasing trend and others are stable (Figure 1). Density indices (2014-16 average spring turkey kill per forested mi<sup>2</sup>) are categorized as high in 8 counties (>1 kill/mi<sup>2</sup>), moderate in 11 counties (0.5-1.0 kill/mi<sup>2</sup>), and low in the remaining 4 counties (<0.5 kill/mi<sup>2</sup>, Table 1). The highest densities of turkeys are found in the western mountains, the eastern region, and portions of the southern region (Figure 2). Densities are lowest in the central portion of the state where suburbia and development limit available habitat. However harvest density may under-represent true population levels in areas where hunting opportunities are limited. Complaints involving wild turkeys in suburban areas have increased slightly in recent years, but are still somewhat rare.

Table 1. Maryland's reported spring gobbler season harvest, 2010-2016.

County	2010	2011	2012	2013	2014	2015	2016	% Change 2015-2016	10-year Average	Average kill/ sq. mi. 14-16
Allegany	327	287	257	269	258	298	256	-14.1	290	0.87
Anne Arundel	56	38	58	82	54	62	45	-27.4	54	0.33
Baltimore	39	25	29	37	32	35	52	48.6	33	0.19
Calvert	35	40	50	57	59	69	73	5.8	53	0.62
Caroline	118	132	164	142	141	159	172	8.2	132	1.64
Carroll	20	22	30	33	45	62	76	22.6	35	0.58
Cecil	30	34	43	55	57	67	69	3.0	44	0.50
Charles	215	222	303	270	254	253	265	4.7	237	0.95
Dorchester	213	210	219	245	239	252	274	8.7	234	1.44
Frederick	113	122	140	215	193	256	299	16.8	172	1.10
Garrett	345	339	368	386	383	421	387	-8.1	362	0.93
Harford	67	69	98	110	97	102	110	7.8	82	0.70
Howard	10	16	16	16	10	16	34	112.5	13	0.27
Kent	88	97	103	118	150	164	181	10.4	110	2.29
Montgomery	42	47	51	82	68	97	94	-3.1	62	0.61
Prince George's	79	79	92	78	79	87	87	0.0	78	0.45
Queen Anne's	125	114	152	159	165	183	190	3.8	141	1.81
St. Mary's	106	114	122	124	120	169	150	-11.2	132	0.78
Somerset	67	83	99	127	173	193	188	-2.6	113	1.71
Talbot	110	98	102	103	83	68	88	29.4	93	1.26
Washington	303	285	292	309	343	392	355	-9.4	314	2.03
Wicomico	148	162	152	124	146	138	206	49.3	149	1.13
Worcester	191	191	192	203	176	224	223	-0.4	200	0.86
State	2847	2826	3132	3344	3325	3767	3874	2.8	3131	0.95

### Maryland Estimated 10-year Wild Turkey Population Trends by Region Based on Spring Turkey Harvest, 2007-2016

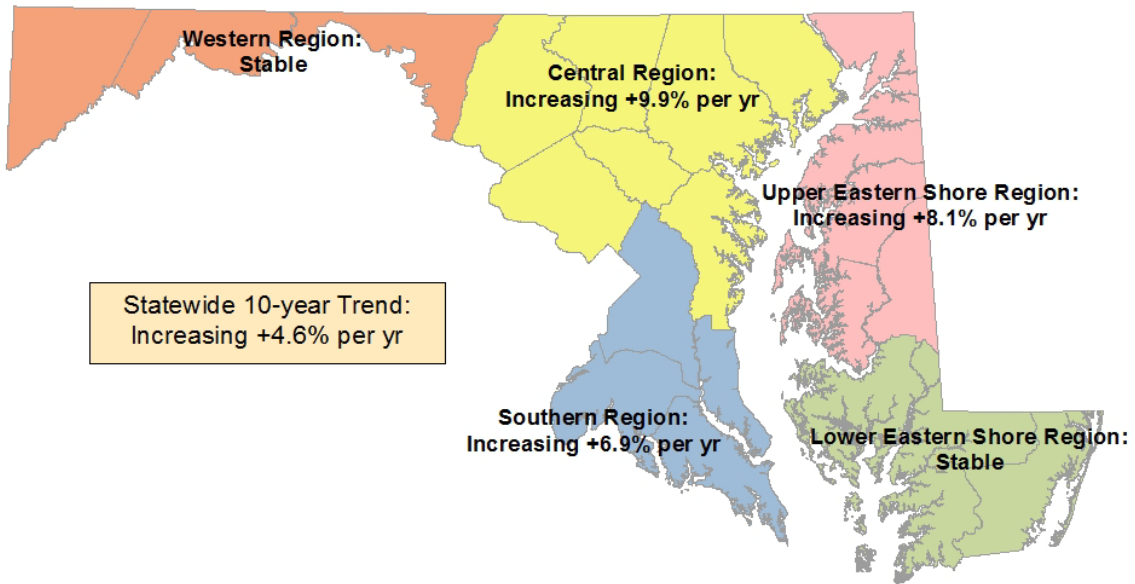


Figure 1. Maryland wild turkey 10-year population trends based on spring turkey harvest, 2007-2016.

### Average Spring Turkey Harvest per Square Mile of Forest, 2014-16

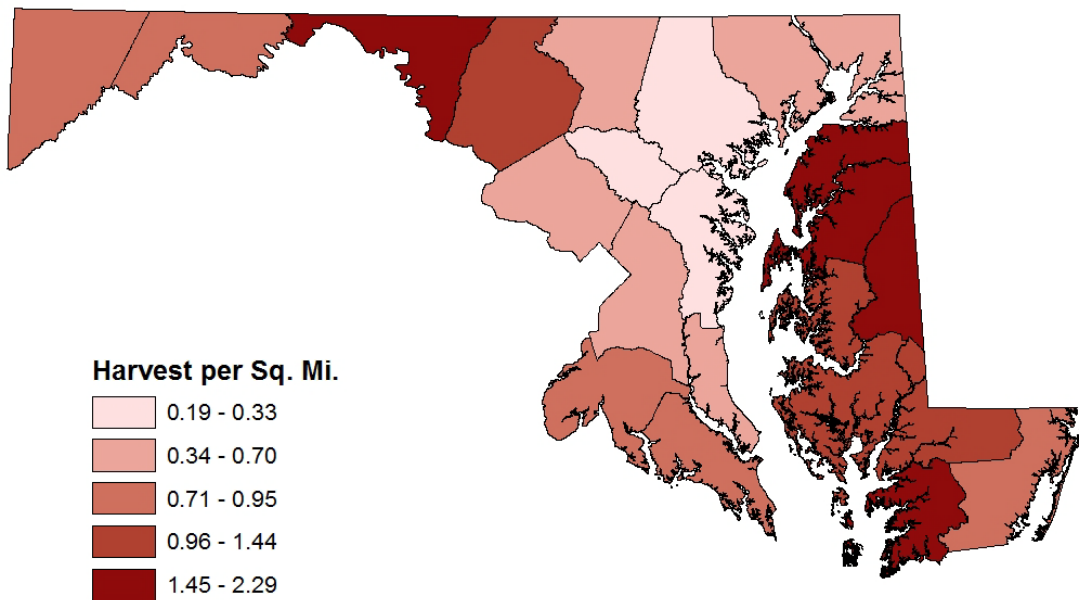


Figure 2. Maryland wild turkey density indices based on average spring turkey harvest per square mile of forest, 2014-2016.

## FALL SEASON

Turkey hunters reported taking 116 wild turkeys during the one week 2015 fall season. The harvest was 13 percent lower than the 2014 harvest of 134 (Table 2, Figure 3). Reasons for the drop are unclear, but the numbers reflect a long term decline in hunter participation in this season. Fall hunting is only permitted in the 3 westernmost counties. Electronic checking data indicated that 58% of the harvest was comprised of juvenile turkeys.

Table 2. Maryland's fall turkey season harvest, 2009-2015.

County	2009	2010	2011	2012	2013	2014	2015	%Change 2014-2015	10-year average
Allegany	67	62	72	50	56	52	36	-30.8	65
Garrett	53	76	64	40	59	54	49	-9.3	64
Washington	30	33	31	21	42	28	31	10.7	34
Total	150	171	167	111	157	134	116	-13.4	163



## WINTER SEASON

Hunters reported taking 61 wild turkeys during Maryland's 2<sup>nd</sup> winter turkey season that was open January 21-23 statewide, significantly lower than the 108 birds taken in the 1<sup>st</sup> winter season in 2015 (Table 3). The decline was undoubtedly due to Winter Storm Jonas that produced blizzard conditions statewide for the final hunting day. The harvest during the 1<sup>st</sup> 2 days of the season was on-par with 2015, but only 6 turkeys were reported taken Saturday, January 23. Adult males comprised about 43 percent of the harvest with the remainder females and juvenile birds. Eighty percent were taken with a shotgun, but some hunters harvested their winter turkey with a cross- or vertical-bow.

Table 3. Maryland's winter turkey season reported harvest, 2015-2016.

County	2015	2016
Allegany	6	3
Anne Arundel	3	0
Baltimore	2	2
Calvert	5	1
Caroline	6	8
Carroll	0	2
Cecil	0	2
Charles	5	0
Dorchester	15	6
Frederick	4	4
Garrett	11	4
Harford	4	3
Howard	1	1
Kent	4	1
Montgomery	4	0
Prince George's	1	1
Queen Anne's	7	2
Somerset	3	4
St. Mary's	7	6
Talbot	3	2
Washington	6	7
Wicomico	4	0
Worcester	7	2
<b>Total</b>	<b>108</b>	<b>61</b>

### SPRING SEASON

Hunters reported harvesting a total of 3,874 wild turkeys during the 2016 regular spring and junior hunt turkey seasons that ended on May 23 (Table 1, Figure 3). The harvest is 3 percent higher than the 2015 record-setting harvest of 3,767 and well above the 10-year average of 3,131. The high harvest can be attributed to a combination of factors, including growing turkey populations, excellent weather during the 1<sup>st</sup> week, and more Sunday hunting opportunities. Wild turkey populations are at all-time highs in some areas, with record numbers reported in many counties. Additionally, ideal weather during the 1<sup>st</sup> week of the season likely increased hunter participation and helped them locate and call in cooperative gobblers. Nearly 50% of the total harvest typically occurs by the end of the 1<sup>st</sup> week. Juvenile gobblers comprised 21% of the spring harvest, below the average of 27%.

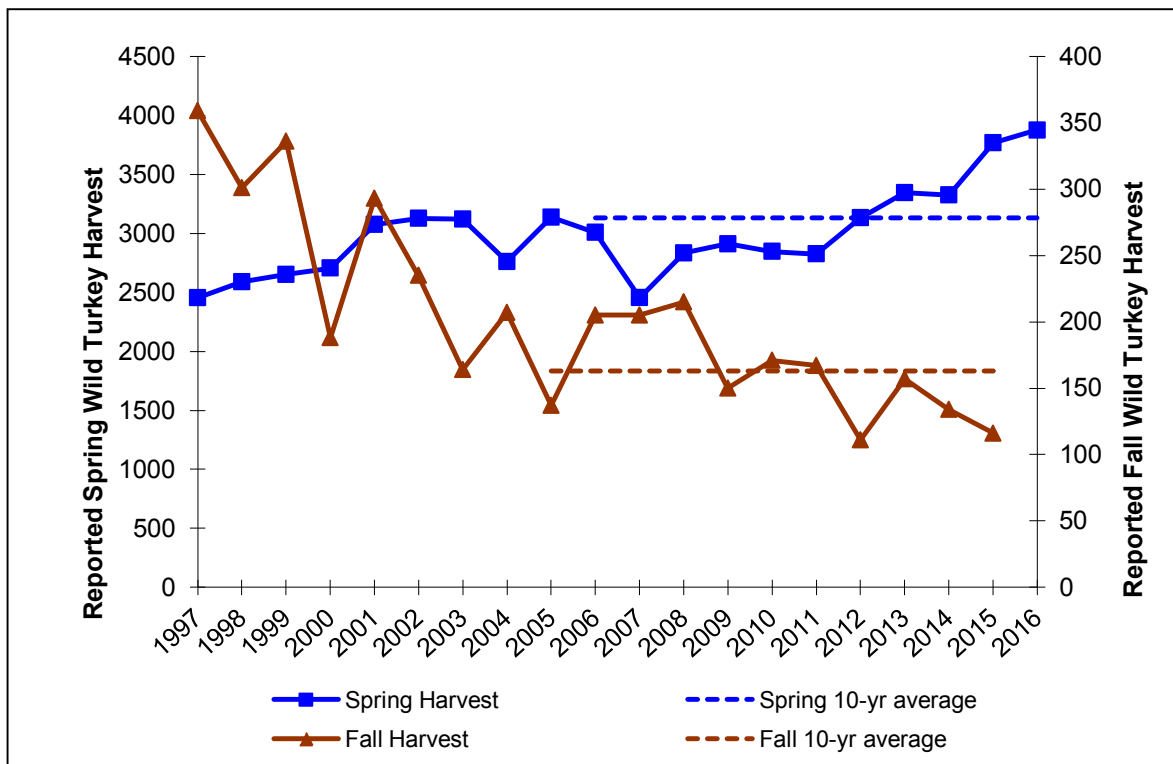


Figure 3. Reported Maryland wild turkey harvest in spring and fall seasons, 1997-2016.



### HUNTER PARTICIPATION

The annual hunter mail survey estimates that the number of turkey hunters in Maryland has generally declined over the last 20 years (Figure 4). Fall turkey hunting participation has declined by over 80% since the 1980s. In the 2014-15 season, about 1,600 fall turkey hunters spent 3,400 days afield. Success rate in the fall season is typically about 10%. Spring turkey hunting participation peaked in the mid-1990s when the season was opened statewide and has gradually declined since then. The most recent hunter mail survey estimated that about 9,700 spring turkey hunters hunted 48,000 days. About 30% of spring hunters are typically successful in taking at least one turkey. Data are only available for the 1<sup>st</sup> year, but the hunter mail survey estimated that 1,800 hunters spent 2,500 days pursuing turkeys during the winter season statewide.

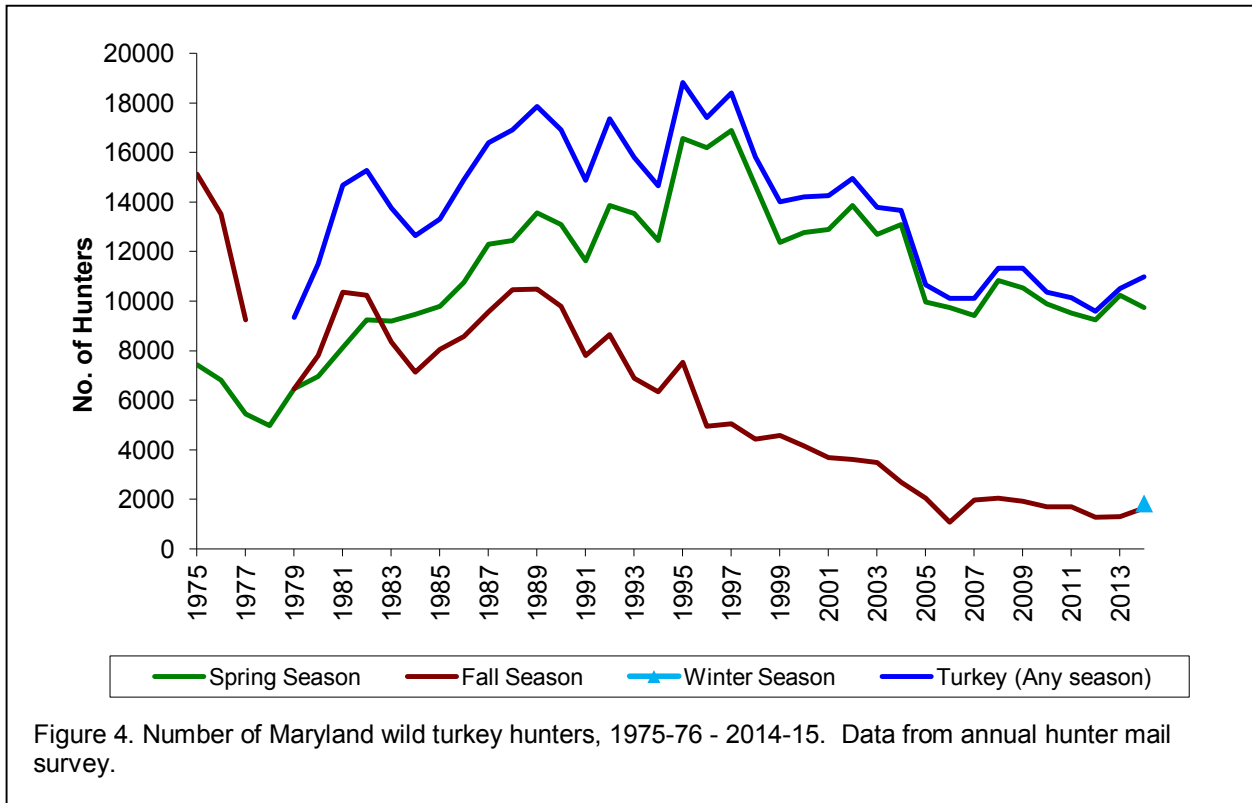


Figure 4. Number of Maryland wild turkey hunters, 1975-76 - 2014-15. Data from annual hunter mail survey.

## SUMMER WILD TURKEY OBSERVATION SURVEY

A statewide turkey observation survey has been conducted in Maryland since 1993. Survey forms are distributed to interested DNR personnel, hunters, landowners, and citizens. The survey is conducted during the months of July and August when broods are most easily observed and age can be readily determined. A total of 3,888 turkeys were recorded by the 91 individuals or groups that returned survey forms in 2016, significantly lower than the 4,634 turkeys observed by 81 participants in 2015. The number of adult hens and gobblers counted was higher, but the number of poults observed declined 35%. Statewide, an average of 2.0 poults was observed per hen. This is the lowest production index ever recorded in the 23 years of the survey. It is also well below both the 2015 index of 3.1 and the 14-year average of 3.0 poults per hen. All regions except the central region had below average production indices.

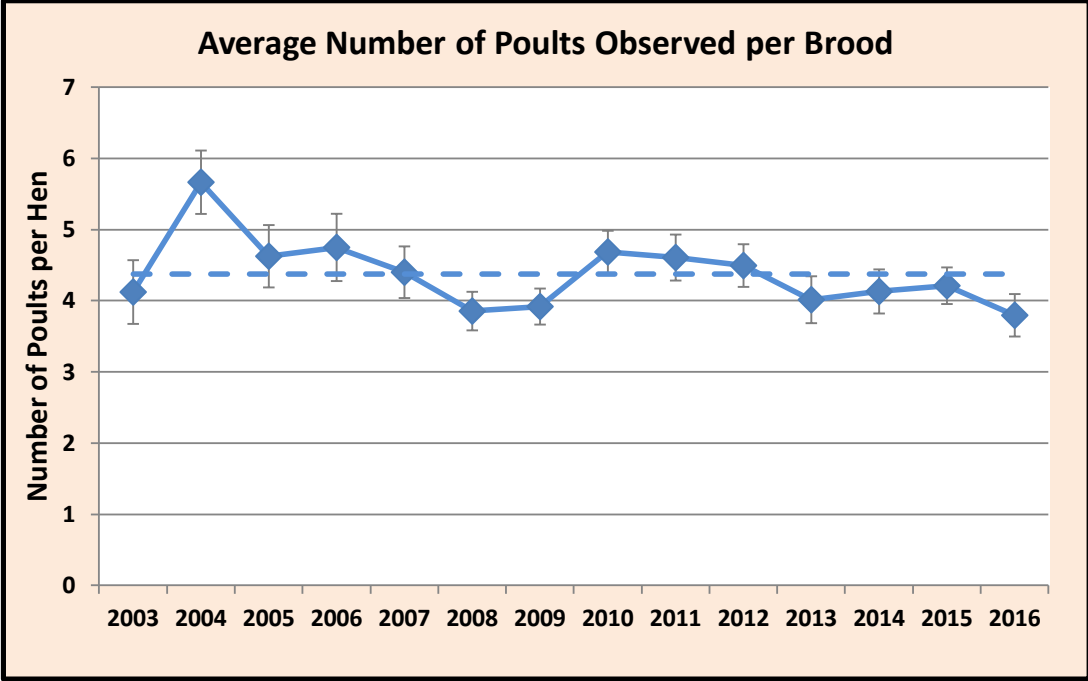
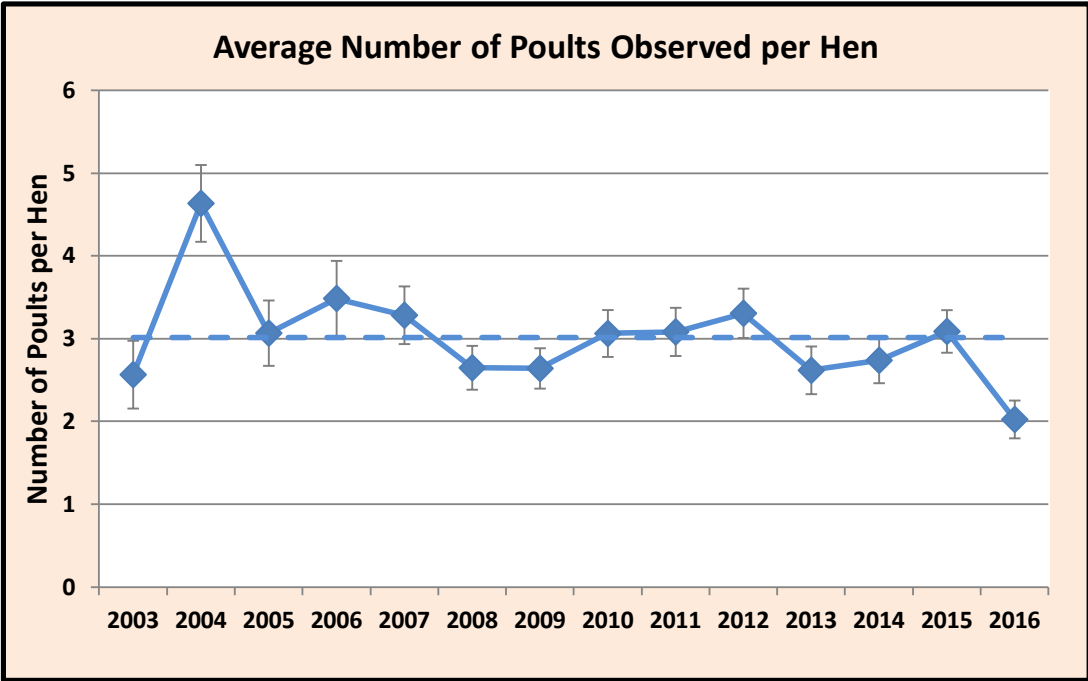
Statewide, only 52% of hens were observed with young. In a typical year, approximately 70% of hens are seen with young. This suggests that nesting success was exceptionally low this year. Precipitation was very frequent in most of the state during May, when most hens are incubating nests. Research has shown that persistent wet weather increases predation rates on nests because of increased ability of predators to scent nesting hens. This is sometimes referred to as the “wet-hen theory.” Some hens that lose their first nest attempt to renest, but they typically lay fewer eggs and are less successful. The average number of poults observed per brood was very low at 3.8, indicating more reneesting and/or lower poult survival than in a typical year. Additionally, the relatively high number of young produced in the summer of 2015 may have had an impact on this year’s poult production. Young hens do not always nest in their first year and, if they do, they nest later and have lower success than adult hens. More detailed information can be found in Table 3 and Figures 5 and 6. The full report can be found online [here](#).

Table 3. Wild Turkey Observation Survey data, 2016

	No. of Observations	No. of Turkeys Observed					Percent of Hens Observed w/ Brood	Average No. Poults per Hen	Average No. Poults per Brood
		Hens	Poults	Gobblers	Unknown	Total			
Western	175	303	664	140	13	1120	54.8	2.6	4.6
Central	53	76	282	38	0	396	86.8	3.8	4.5
Southern	58	132	223	62	4	421	55.3	1.8	3.3
Upper ES	190	361	516	245	3	1125	51.5	1.8	3.3
Lower ES	168	304	294	223	5	826	38.2	1.2	3.2
Statewide	644	1176	1979	708	25	3888	51.6	2.0	3.8

<sup>1</sup> Regions defined as:  
 Western – Garrett, Allegany, Washington;  
 Central – Frederick, Carroll, Baltimore, Harford, Howard, Montgomery, Anne Arundel  
 Southern – Prince George’s, Calvert, Charles, St. Mary’s  
 Upper Eastern Shore – Cecil, Kent, Queen Anne’s, Talbot, Caroline  
 Lower Eastern Shore – Dorchester, Wicomico, Worcester, Somerset





Figures 5 and 6. Average number of poults observed per hen and per brood on summer turkey survey, 2003-16. Dashed line indicates average. Error bars indicate a 95% confidence interval.

## ARCHERY HUNTER SURVEY

An annual survey of Maryland bowhunters has been used since 2002 to gather trend data on a variety of species. Bowhunters observed an average of 19.1 wild turkeys per 100 hours in the 2015-16 season (Figure 7). This is similar to the 2014-15 observation rate (18.9 turkeys per 100 hours) and above the long-term average (15.7 turkeys per 100 hours). The results suggest that wild turkey populations have increased or remained stable in all regions of the state since the survey began. Annual fluctuations in the observation rates may be due to differences in reproductive success or fall mast production. In years of poor hard mast production, wild turkeys tend to frequent open fields more often and may be more visible to hunters. Regional observations were generally aligned with other data showing highest densities in the western and eastern parts of the state. The full report can be found online [here](#).

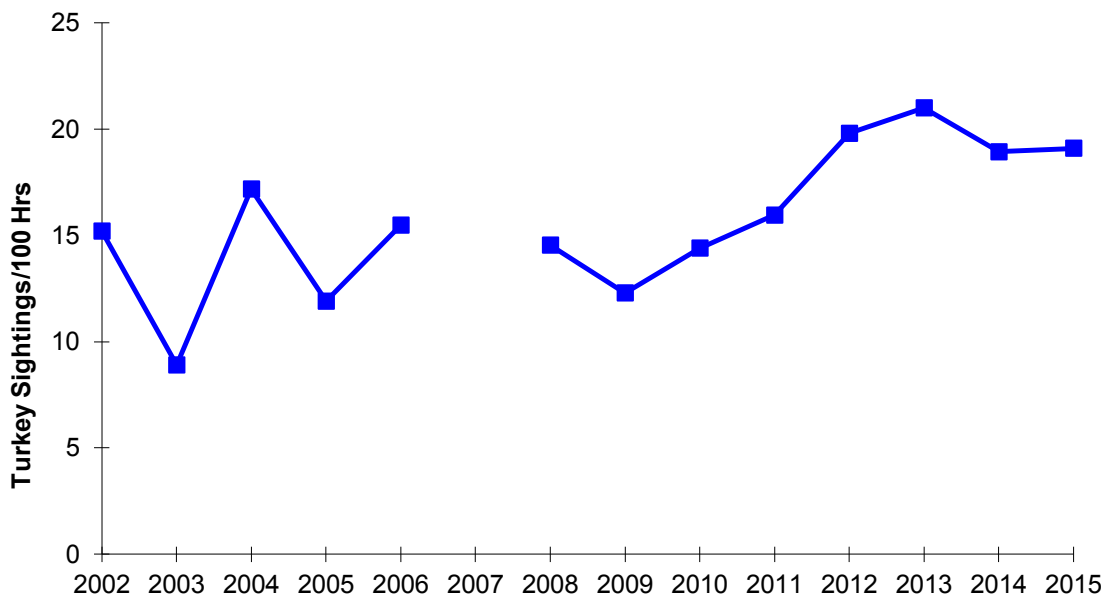


Figure 7. Maryland statewide wild turkey observation rates by archery hunters (sightings/100 hours) Insufficient data precluded analysis of the 2007-08 bowhunter survey.

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*Photos courtesy of the National Wild Turkey Federation*