

Wild Turkey

2018-2019 Annual Report

October 2019



Wild turkeys are an important game bird in Maryland, providing recreation and enjoyment for many hunters, wildlife enthusiasts and citizens. Turkey hunting alone results in an estimated economic benefit to Maryland of nearly \$5 million annually.

Following a period of population stabilization in the 2000s, the statewide wild turkey population has grown significantly over the last 10 years and likely numbers over 40,000. Much of the increase can be attributed to recent growth of 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 region and portions of the eastern shore have stabilized at levels below their previous high densities. Densities vary considerably across the state and within regions due to differences in habitat quality and recent reproduction success.

Approximately 10,000 hunters annually pursue turkeys in the spring, fall or winter hunting seasons in Maryland. Only deer and waterfowl attract more hunting participation. In the popular spring season, hunters harvested 4,002 turkeys, the second highest harvest on record and a four percent increase over the previous year. Good weather and a fair number of two-year old turkeys likely contributed to the increase. The 2018 fall turkey harvest of 97 was slightly lower than the 2017 harvest and reflects a long-term decline in participation during the fall season. A total of 73 turkeys were reported harvested during the three day winter turkey season.

Reproductive success in the summer of 2019 was estimated to be at the highest level since 2015 in most of the state. Nesting success and poult survival was near or above average, likely due to favorable weather during nesting season. Following three consecutive summers of below-average reproduction, this year's success should boost populations in most areas.

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



POPULATION STATUS

Maryland’s estimated wild turkey population has increased in some regions and remained stable in other regions over the past 10 years (Figure 1). The most rapid growth has occurred in the central region, where populations have increased at an estimated 10.8 percent per year. Populations in the eastern and western regions have remained stable. Density indices (2017-19 average spring turkey kill per forested mi²) are categorized as high in 10 counties (>1 kill/mi²), moderate in nine counties (0.5-1.0 kill/mi²), and low in the remaining four counties (<0.5 kill/mi², Table 1). The highest densities of turkeys are still found in the western mountains, the eastern region and portions of the southern region, but densities continue to increase in non-traditional areas (Figure 2).

Table 1. Maryland’s reported spring gobbler season harvest, 2013-2019.

County	2013	2014	2015	2016	2017	2018	2019	% Change 2018-2019	10-year Average	Average kill/ sq. mi. 17-19
Allegany	269	258	298	256	293	250	278	11.2	277	0.88
Anne Arundel	82	54	62	45	58	49	74	51.0	58	0.37
Baltimore	37	32	35	52	51	55	56	1.8	41	0.26
Calvert	57	59	69	73	59	76	68	-10.5	59	0.63
Caroline	142	141	159	172	149	135	152	12.6	146	1.51
Carroll	33	45	62	76	103	103	73	-29.1	57	0.89
Cecil	55	57	67	69	87	69	89	29.0	60	0.64
Charles	270	254	253	265	320	336	348	3.6	279	1.24
Dorchester	245	239	252	274	303	212	221	4.2	239	1.39
Frederick	215	193	256	299	332	313	304	-2.9	229	1.40
Garrett	386	383	421	387	429	412	429	4.1	390	0.99
Harford	110	97	102	110	127	105	124	18.1	101	0.81
Howard	16	10	16	34	24	36	33	-8.3	21	0.42
Kent	118	150	164	181	174	168	166	-1.2	141	2.35
Montgomery	82	68	97	94	135	149	135	-9.4	90	0.99
Prince George's	78	79	87	87	91	76	105	38.2	85	0.49
Queen Anne's	159	165	183	190	160	115	145	26.1	151	1.41
St. Mary's	124	120	169	150	163	145	129	-11.0	134	0.77
Somerset	127	173	193	188	202	191	188	-1.6	151	1.79
Talbot	103	83	68	88	94	80	87	8.8	91	1.38
Washington	309	343	392	355	426	459	414	-9.8	358	2.42
Wicomico	124	146	138	206	175	139	155	11.5	155	1.09
Worcester	203	176	224	223	220	188	229	21.8	204	0.88
State	3344	3325	3767	3874	4175	3861	4002	3.7	3515	1.04

Maryland Estimated 10-year Wild Turkey Population Trends by Region Based on Spring Turkey Harvest, 2010-2019

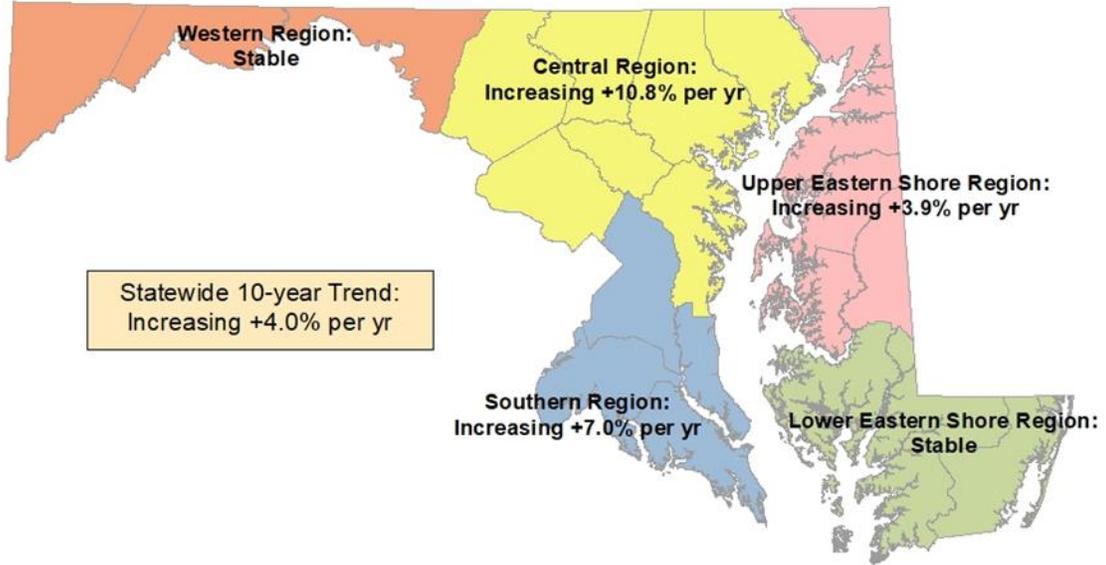


Figure 1. Maryland wild turkey 10-year population trends based on spring turkey harvest, 2010-2019.

Average Spring Turkey Harvest per Square Mile of Forest, 2017-19

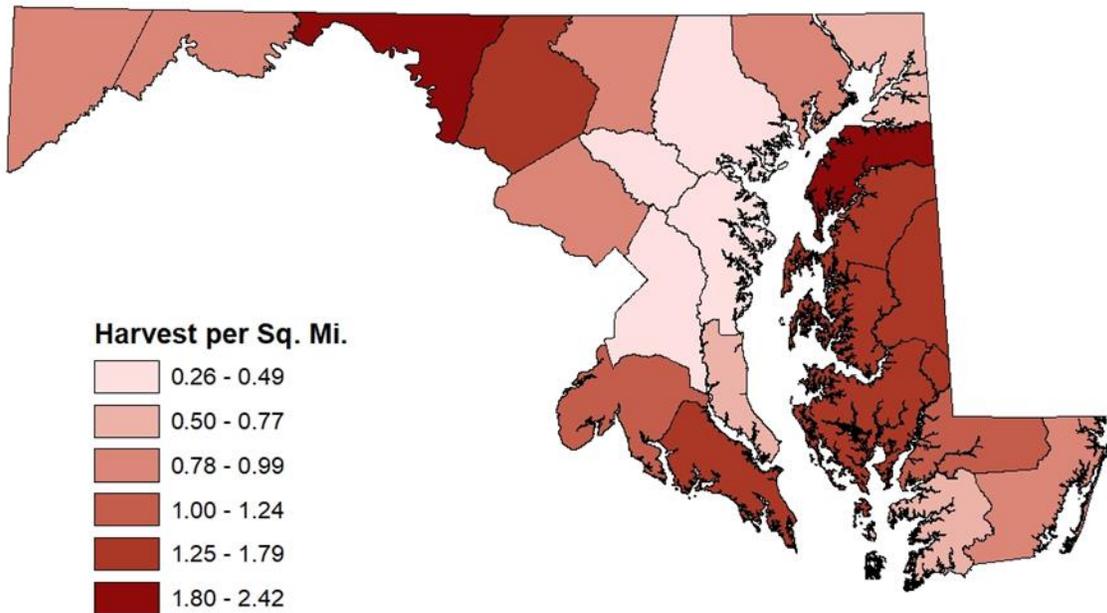


Figure 2. Maryland wild turkey density indices based on average spring turkey harvest per square mile of forest, 2017-2019.

FALL SEASON

Turkey hunters reported taking 97 wild turkeys during the one week 2018 fall season. The harvest was slightly lower than the 2017 fall season harvest of 105 (Table 2, Figure 3). The fall season is limited to the three westernmost counties in Maryland.

Table 2. Maryland's fall turkey season harvest, 2012-2018.

County	2012	2013	2014	2015	2016	2017	2018	%Change 2017-2018	10-year average
Allegany	50	56	52	36	35	24	31	29.2	49
Garrett	40	59	54	49	51	55	50	-9.1	55
Washington	21	42	28	31	33	26	16	-38.5	29
Total	111	157	134	116	119	105	97	-7.6	133

WINTER SEASON

Hunters reported taking 73 wild turkeys during the 2019 winter turkey season that was open January 17-19 statewide. The harvest was lower than the 87 birds taken during the 2018 winter season. Adult males comprised 56 percent of the harvest with the remainder females and juveniles. Eighty-five percent were taken with a shotgun, but some hunters harvested their bird with a crossbow or vertical bow. The winter turkey season was established in 2015 to provide hunters additional turkey hunting opportunities while minimizing conflicts with other hunting seasons.

Table 3. Maryland's winter turkey season reported harvest, 2015-2019.

County	2015	2016	2017	2018	2019
Allegany	6	3	9	6	4
Anne Arundel	3	0	2	4	2
Baltimore	2	2	7	1	1
Calvert	5	1	0	1	1
Caroline	6	8	2	2	1
Carroll	0	2	2	3	2
Cecil	0	2	2	2	3
Charles	5	0	10	4	3
Dorchester	15	6	14	8	6
Frederick	4	4	6	6	7
Garrett	11	4	9	8	7
Harford	4	3	2	2	1
Howard	1	1	1	1	1
Kent	4	1	3	4	3
Montgomery	4	0	3	2	1
Prince George's	1	1	3	0	2
Queen Anne's	7	2	5	5	6
Somerset	3	4	3	2	4
St. Mary's	7	6	7	10	6
Talbot	3	2	1	2	0
Washington	6	7	11	8	7
Wicomico	4	0	6	3	3
Worcester	7	2	1	3	2
Total	108	61	109	87	73

SPRING SEASON

Hunters reported harvesting a total of 4,002 wild turkeys during the 2019 regular spring and junior hunt turkey seasons (Table 1, Figure 3). The harvest was the second highest on record and an increase of four percent over the 2018 harvest of 3,861 birds. The combination of a fair number of two-year old gobblers and good weather during the season likely contributed to the increase in harvest. Juvenile gobblers comprised just 14 percent of the harvest. This was below the long-term average of 25 percent and consistent with the poor reproductive success documented in the previous summer.

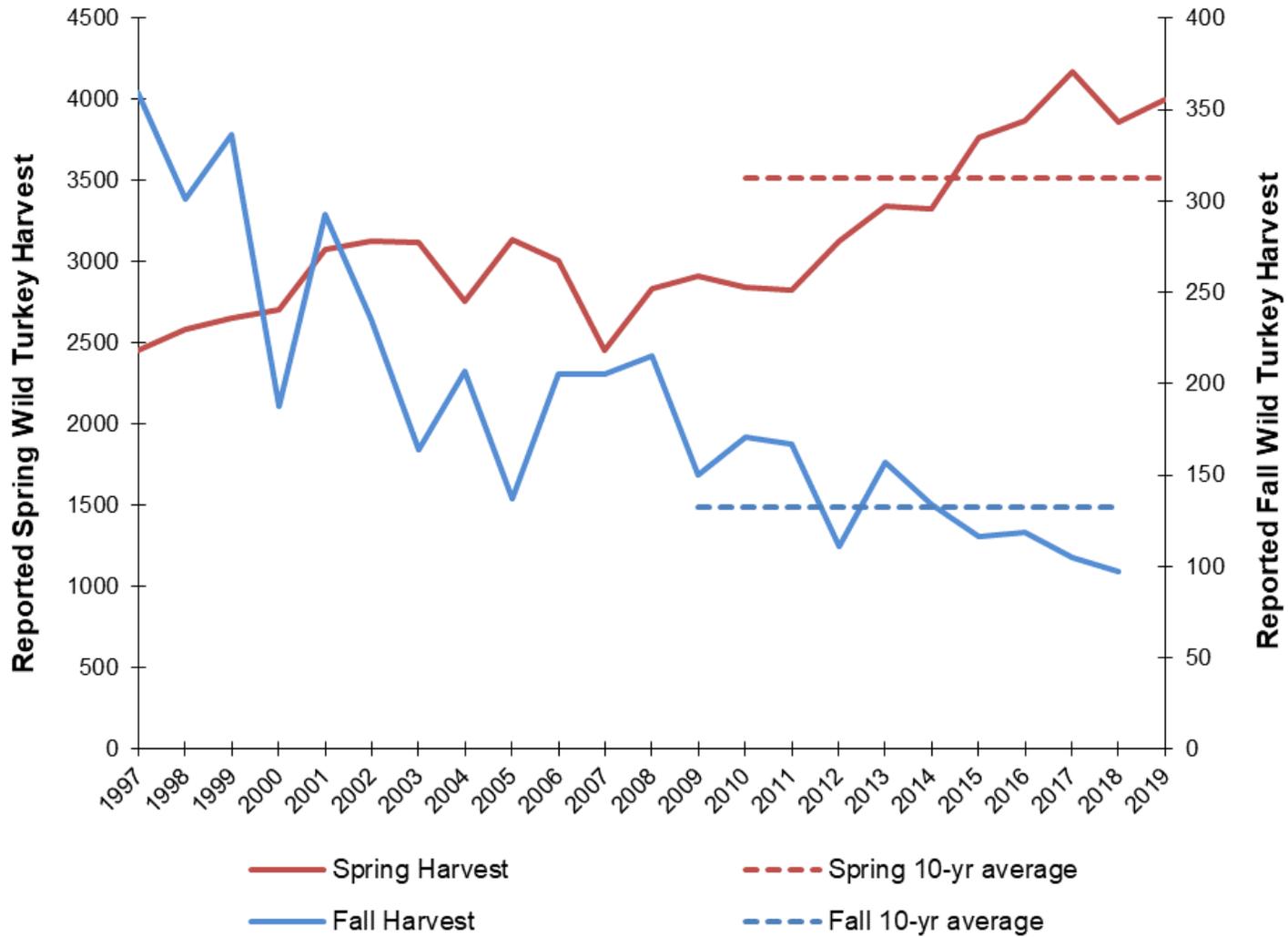


Figure 3. Reported Maryland wild turkey harvest in spring and fall seasons, 1997-2019.

HUNTER PARTICIPATION

The annual hunter mail survey estimates that the total number of turkey hunters in Maryland is lower than in the 1980s and 90s, but has remained generally stable over the last 10 years (Figure 4).

Participation in fall turkey hunting has declined by over 80 percent. In the 2017-18 season, about 1,300 fall turkey hunters spent 2,700 days afield. Success rate in the fall season is typically about 10 percent. Spring turkey hunting participation peaked in the mid-1990s when the season was opened statewide. The most recent hunter mail survey estimated that about 8,900 spring turkey hunters hunted 43,000 days. About 30 percent of spring hunters are typically successful in taking at least one turkey. An estimated 1,700 hunters spent 2,300 days pursuing turkeys during the winter season statewide.

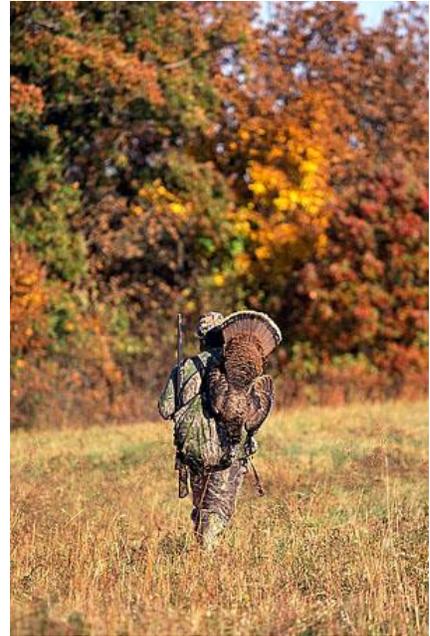


Photo credit: National Wild Turkey Federation

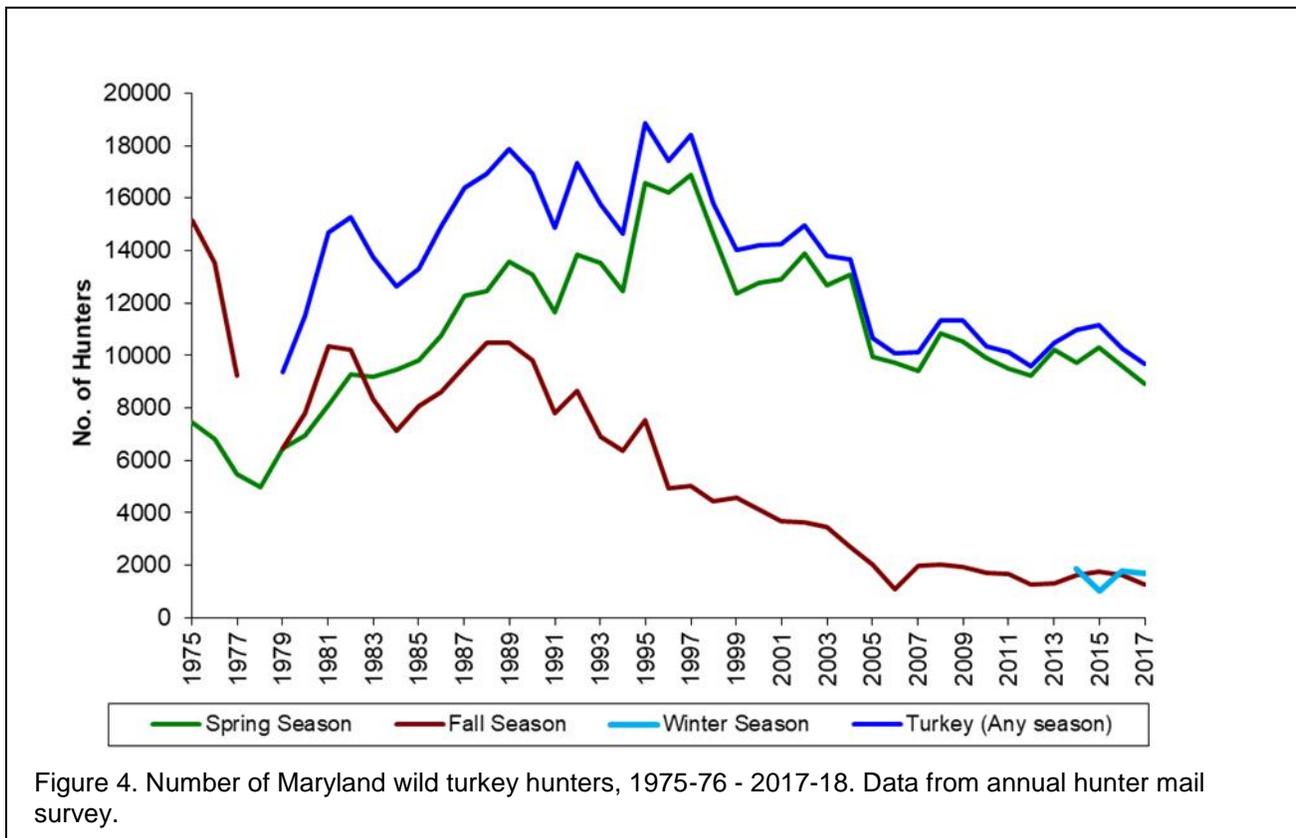


Figure 4. Number of Maryland wild turkey hunters, 1975-76 - 2017-18. Data from annual hunter mail survey.

SUMMER WILD TURKEY OBSERVATION SURVEY

A statewide turkey observation survey has been conducted during the months of July and August in Maryland since 1993. A total of 3,788 wild turkeys were recorded by the 91 individuals or groups that returned survey forms in 2019, significantly higher than the 2,582 turkeys observed by 99 participants in 2018. Statewide, the 2019 reproductive index was estimated at 2.8 poults per hen. This is well above the 2018 index of 1.9 poults per hen and near the 17-year average of 2.9 poults per hen. The survey documented increased reproductive success in all regions of the state. However, some regions saw above-average success, while others were near or somewhat below long-term averages.



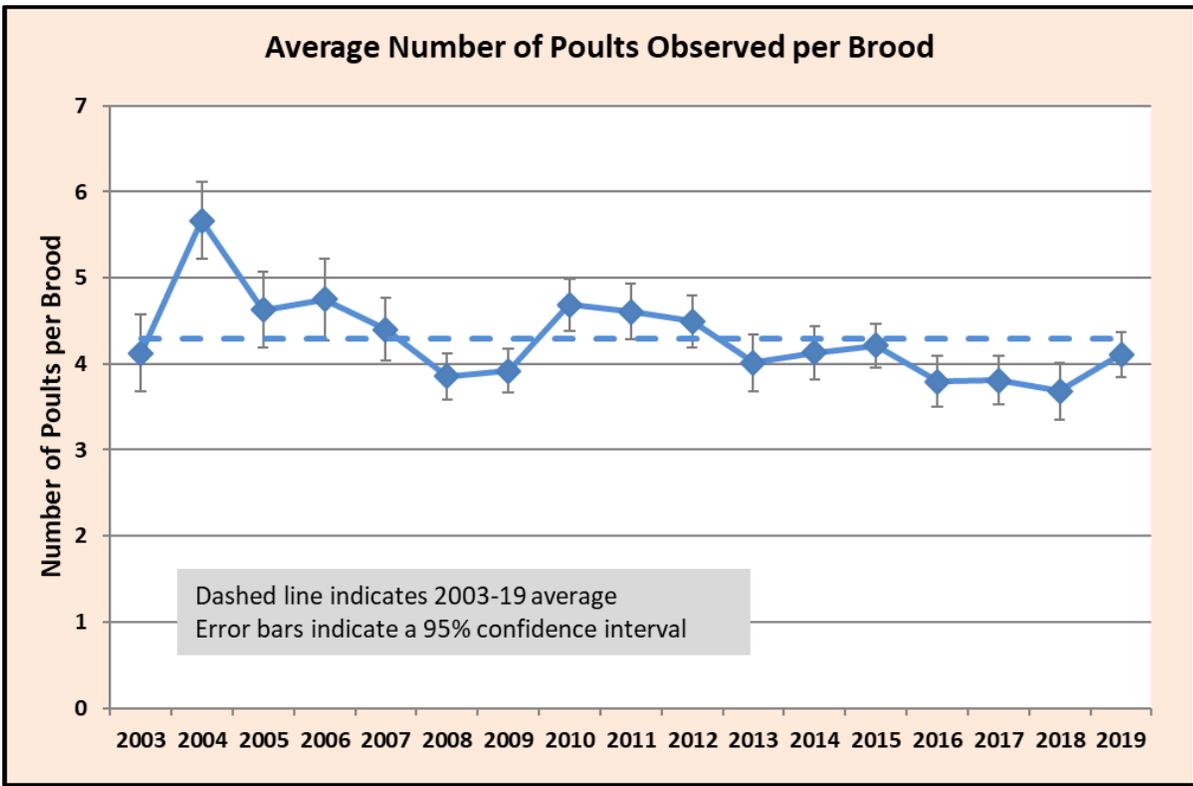
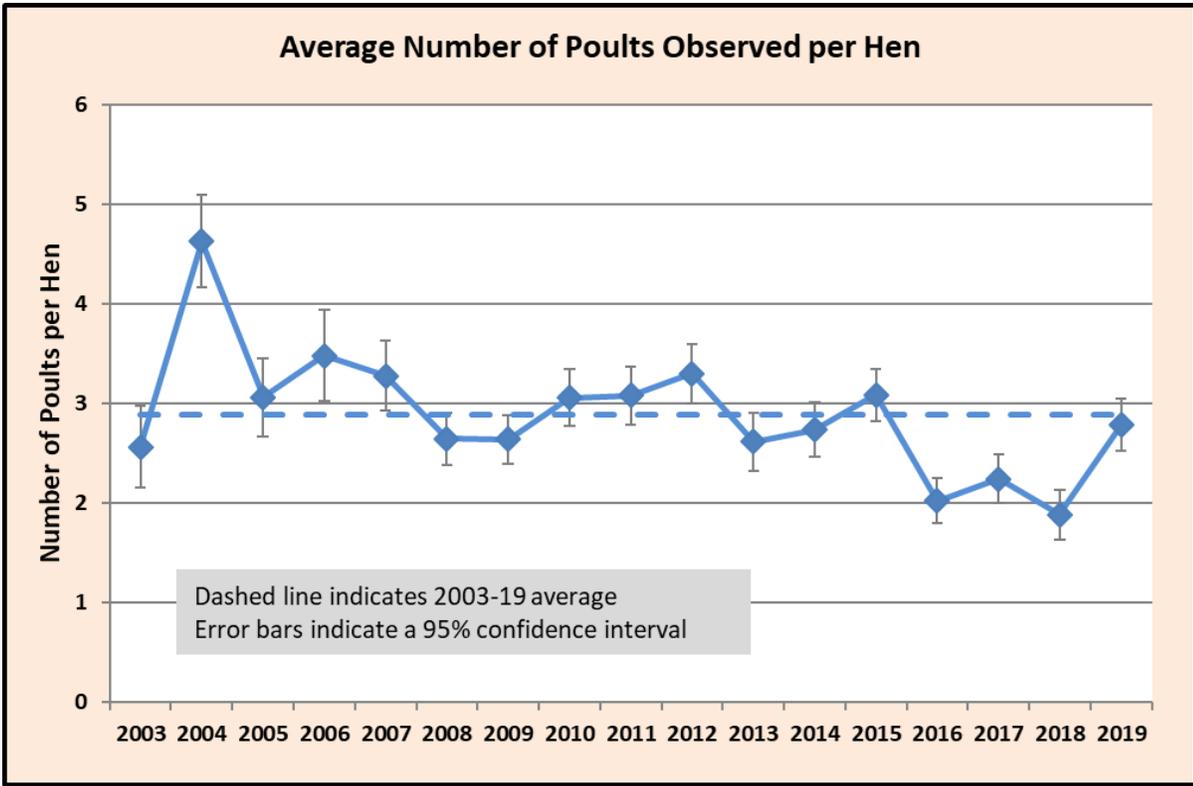
Photo credit: National Wild Turkey Federation

Statewide, 72 percent of hens were observed with young, well above the 48 percent seen with broods in 2018 and above the long-term average of 68 percent. Observers recorded an average of 4.1 poults per brood. This is the highest number of poults seen per brood since 2015, but still slightly below the average of 4.3. This indicates that, although nesting success was high, poult survival was about average. Below average spring and summer rainfall in most of the state likely improved reproductive success this year. The results suggest that reproductive success was at its highest level since 2015 in most of Maryland. Following three consecutive summers of poor reproduction, this year's success should boost populations in most areas.

More information can be found in Table 3 and Figures 5 and 6. The full report can be found online [here](#).

	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	Unidentified	Total			
Western	167	265	742	123	12	1142	74.0	2.8	3.7
Central	36	69	234	8	0	311	87.0	3.4	4.2
Southern	94	178	427	120	1	726	74.2	2.9	3.8
Upper ES	157	220	504	141	1	866	62.7	2.4	4.1
Lower ES	99	167	496	80	0	743	73.1	2.9	4.3

¹Regions 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, 2003-19. Dashed line indicates average. Error bars indicate a 95 percent confidence interval.

SPRING TURKEY HUNTER SURVEY

A survey was conducted in 2017 to investigate preferences, opinions and behaviors of Maryland spring season turkey hunters. Response rate was 60%. Overall, responses were similar to the survey conducted in 2007. Hunters were generally satisfied with current seasons and bag limits. Responses regarding negative hunter interference and safety concerns were fewer than 10 years ago, indicating that hunt quality has improved on average. The full results summary is posted on the website [here](#).

ARCHERY HUNTER SURVEY

An annual survey of Maryland archery hunters has been used since 2002 to gather trend data on a variety of species. Archers observed an average of 12.5 wild turkeys per 100 hours in the 2018-19 season (Figure 7). This is lower than the 2017-18 observation rate (19.9 turkeys per 100 hours) and the long-term average (16.1 turkeys per 100 hours). Turkey observation rates were highest in the Appalachian Plateau Province (25.3 turkeys per 100 hours), followed by the Ridge and Valley Province (19.2 per 100 hours). Archers observed fewer turkeys in the Eastern Coastal Province (13.1 per 100 hours) and Western Coastal Province (9.4 per 100 hours). The observation rate was lowest in the Piedmont Province. The results suggest that wild turkey numbers have declined in all regions of the state. Turkey populations have likely been impacted by three consecutive summers of poor reproductive success as documented by the annual DNR Wild Turkey Observation Survey. Turkey observation rates may also vary due to annual 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. The full report can be found online [here](#).

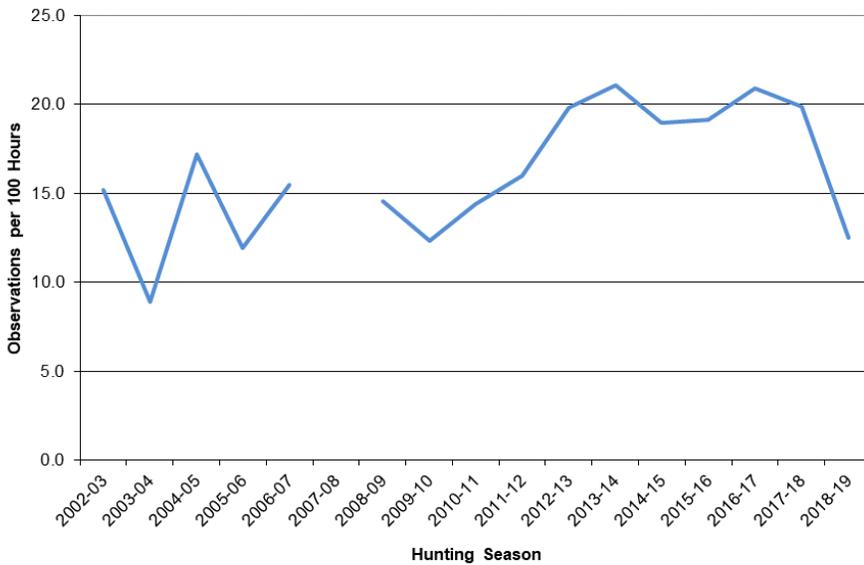


Figure 7. Maryland statewide wild turkey observation rates by archery hunters (sightings/100 hours), 2002-03 – 2018-19. Insufficient data precluded analysis of the 2007-08 survey.

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