

**NWTF Technical Committee Representatives' Report - PA Chapter NWTF
Board of Directors Meeting, October 9, 2011**

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Wild Turkey Population and Harvest Management

2011 was the first year of an all-day spring season during the second half of the season. During the ½ day portion, 72% of the harvest occurred before 9am (Table 1). During the all-day season the majority of the harvest remained before 9am, 55%, and 78% of the harvest occurred by noon. For the afternoon segment, the majority of the harvest occurred between 6-8pm. The latest reported harvest was 8:35pm. Hunting hours closed from 8:39-8:59pm during the first week of all-day hunting (ended 4 minutes later for each meridian west), up to 8:51-9:11pm during the last week of hunting. Afternoon harvests comprised 5% of the total season harvest and 22% of harvests during the all-day portion of the season.

All-day spring hunting for the second half of the season also is offered in Virginia, Ohio and Maryland. These states also reported similar results and will continue monitoring harvests, gobbler age structure and hunter attitudes, to determine the long-range results (positive and negative) of this all-day season.

Results of the recently published 2010 annual game-take survey, which surveys 2% of Pennsylvania general hunting license holders, showed that turkey harvests decreased in 2010, but turkeys continued to be the second most popular game species.

Fall harvests are regulated by season length (varying from a closed season to 3 weeks), by Wildlife Management Unit. In 2010 hunters were provided an additional 3-day Thanksgiving holiday season (Thanksgiving Day + Friday and Saturday), but the traditional seasons were shortened in all WMUs, and 2 WMUs in eastern Pennsylvania were closed to fall hunting due to decreasing turkey population trends. With fewer hunting days and dispersed flocks due to excellent mast crop, the final fall 2010 harvest was $15,884 \pm 2,330$, 24% lower than the 2009 harvest of 20,934, and 36% below the previous 3-year average (24,713; Table 2). Harvest density (0.31 turkeys harvested per square mile) was 42% below the previous 3-year average (0.53 turkeys/mi²), the lowest level since prior to 1995, and averaged below 0.60 turkeys/mi² for the 7th consecutive year. Fall harvest densities have been decreasing since the peak in 2001 (1.06 turkeys/mi²). With fewer WMUs open to fall hunting and shorter seasons, days hunted (457,435) decreased from 2009 (529,427) and was 32% below the long-term 10-year average. On a positive note, the number of fall turkey hunters (163,433) increased from 2009 (156,752). Additionally, the trend of decreasing fall turkey hunter numbers softened, whereby fall turkey hunters decreased 18% from the 10-year average versus 23% in 2009. General license sales decreased 8% from the 10-year average in 2010. In an effort to increase both number of fall hunters and hunting days, the traditional fall seasons were re-instated for 2011 while maintaining the additional 3-day Thanksgiving holiday season. Hunter success in 2010 (10%) was 27% below 2009 (13%), and 29% below the previous 3-year average. Hunter success has been as high as 21% (2001, a year with excellent recruitment), and as low as 4% (1979).

Fall harvest per unit effort (success) has generally followed the normalized summer turkey-sighting index, showing how fall harvests often track summer production (Figure 1). From 1990-2001 fall harvest per unit effort showed a sharply increasing trend, then from 2002-2005 it declined sharply, increased again from 2006-2008 and decreased again in 2009, following the summer sighting ratio. However, during some years (e.g., 2002 and 2004) these 2 indices were not well correlated and other factors may have affected hunter success (mast crop, weather, season length, etc.). The adjusted hunter success (success/normalized summer sighting index) is not well correlated with the normalized summer sighting index.

The final 2010 spring harvest of 33,849 ($31,908 \pm 3,213$ initial harvests + 1,941 second harvests from hunters who purchased an additional license) was 25% below the 2009 harvest of 44,639 ($42,478 \pm 3,674$ initial + 2,161 second), and 11% below the previous 3-year average (38,207; Table 2). In 2010 we sold 13,599 second licenses, a 55% increase from the previous average of 8,785. The ½ day youth harvest accounted for 7% of the spring harvest or 2,393 bearded birds. The final spring 2010 harvest density was 0.79 turkeys/mi², compared to 0.93 for 2009 and 0.87 for the previous 3-year average.

Similar to fall hunter participation, participation also increased for the spring season to 237,037, from 228,903 in 2009, and was 6% higher than the previous 3-year average of 223,074. Hunter success, however, was lower than the previous 3-year average; 14% and 17% respectively. Highest hunter success was in 2001 at 21%.

Jakes comprised only 10% of the 2010 spring harvest, half of the previous 6-year average and the lowest percentage recorded, demonstrating the lower than average recruitment in 2009. Two-year-old gobblers comprised a the larger than average proportion of the harvest at 39%, but 3-year old gobblers continued to comprise the majority of the harvest, 46% (Table 3). Harvest of bearded females was average, 5% of the harvest. Regulations allow harvest of any bearded bird.

Turkey Hunting Related Shooting Incidents

Preliminary Spring 2011 was 5, including one fatal (Table 4). Spring 2011 was the 4th year with no fluorescent orange requirement, and the incidents decreased from the previous average of 7 during fluorescent orange regulation, and decreased from 10 in 2010. Last year's increase in HRSIs may be related to hunter density and/or turkey population. Green up was early last year, but most of the incidents were the first week of season with highest hunter density.

SB 274 – Tag Transfer Legislation

The Bureau of Wildlife Management confirmed with the Executive Office that the PGC Board of Commissioners has the authority to use this legislation for mentors to transfer their fall wild turkey tag to a mentored youth. The BWM acknowledged this is unlikely to significantly affect the fall harvest nor the current hen turkey harvest and survival rate study. This is also consistent with the Turkey Management Plan, strategy 4.3; annually assess and explore opportunities for continued development of the turkey hunting aspect of the youth mentored hunting program in Pennsylvania. Therefore, the BWM will include the transfer of a fall turkey tag from one mentor to one mentored youth in our 2012 fall turkey season recommendations.

Wild Turkey Hen Harvest Rates and Annual Survival Rates Study

The majority of my time was dedicated to this study, finalizing the re-design of the transmitter harness system due to the previous design causing the transmitter to fall off after one year of continuous use, ordering equipment, retrieving transmitters from mortalities, trapping turkeys and overall study coordination. Trapping results to date are: 66 females banded; 44% of the 150 trapping goal; 42 in Study Area 1 (WMUs 2C, 2E, 4A, 4B & 4D) and 24 in Study Area 2 (WMUs 2F & 2G). Twenty-two of these females were fitted with backpack style satellite transmitters, 16 in SA1 and 6 in SA2. Additionally crews have leg banded 23 juvenile males and 8 juveniles of unknown sex (sex determination is difficult with young poults). Low trapping success is due to a combination of poor trapping weather, late hatches causing some juveniles to be too small for bands, and other work obligations for some personnel. Trapping will continue in areas with no archery deer hunting.

From mid-June through early September we recovered 9 transmitters in Study Area 1 (5 harness failures, 2 predations, 2 died within 1 week of trapping) and 5 transmitters in Study Area 2 (2 harness failures, 1 predation, 1 road kill, 1 possible poaching). Mortality rates were highest during incubation (mid-April to early-July) and decreased substantially once hens began brood-rearing. Of the 141 total hens transmitted since January 2010, 39 transmitters are active as of 5 October (25 of 77 in SA1; 14 of 64 in SA2).

Regional Oak Mast Survey

Since 2006 the PA Game Commission has participated in this survey, coordinated by the Virginia Department of Game and Inland Fisheries. Turkey harvest rates are lower during autumns with abundant mast crops because the abundance of food spreads the flocks making them more difficult for hunters to locate. Knowledge of annual variations in acorn crops is an important aspect of big-game management. Three surveys are conducted annually in PA. Surveys were conducted in the Allegheny Mountains, Ridge and Valley and Northeastern Pocono Plateau provinces. Unlike the abundant hard mast last year in the Allegheny Mountains and Ridge and Valley regions, both red and white oak acorn production were well below average with 0 acorns

on many trees, possibly due to the 3-month period of dry, hot weather. The Pocono Plateau region showed below average white oak acorn production, similar to last year, but above average red oak acorn production.

PANWTF 2012 Joe Kurz Award Recipient

The PA Game Commission’s Executive Office selected George J. Miller, Land Management Group III Supervisor in Clarion & Jefferson Counties in the Northwest Region, for this award.

Table 1. Percent (%) of spring 2011 turkey harvest during different time segments in Pennsylvania, from reported harvests.

	½ day season (%)	All-day season – Just Morning Portion (%)	All-day season – Just Afternoon Portion (%)	All-day season – Entire Day (%)
Before 9am	72	70		55
To Noon				78
Before 7am	33	29		23
7am-7:59am	24	25		20
8am – 8:59	15	16		12
9am – 9:59	11	13		10
10am – 10:59	9	9		7
11am – 12pm	8	8		6
12:05pm-12:59			7	1
1pm-1:59			7	1
2pm-2:59			7	2
3pm-3:59			8	2
4pm-4:59			11	2
5pm-5:59			13	3
6pm-6:59			22	5
7pm-7:59			20	4
8pm-8:35			3	1

Table 2. Pennsylvania spring (initial + second harvests from special turkey license) and fall wild turkey harvests by Wildlife Management Unit (WMU), determined from annual Game-Take Surveys, 2006 – 2010, and preliminary spring 2011.

WMU	Spring						Fall				
	2006	2007	2008	2009	2010	Prelim. 2011	2006	2007	2008	2009	2010
1A	1,674	2,185	1,305	2,163	2,581	2,232	1,015	80 5	74 5	1,430	53 2
1B	2,312	3,183	2,878	3,372	3,139	2,287	1,626	1,006	1,598	1,634	1,331
2A	2,685	1,692	2,293	3,321	2,321	1,982	1,321	1,208	53 3	61 3	88 7
2B	1,853	1,385	2,168	1,605	1,767	1,548	1,117	80 5	31 9	71 4	26 7
2C	2,363	2,357	2,191	1,752	2,375	2,154	91 5	1,309	1,065	1,634	79 9
2D	2,822	2,490	3,166	4,153	3,384	2,697	2,641	1,611	2,130	1,532	6 97
2E	1,134	335	1,163	1,035	1,259	1,303	60 9	1,006	1,065	91 9	79 9
2F	1,650	1,679	1,462	1,520	1,499	1,223	9 1,219	80 5	63 9	81 7	97 6
2G	2,387	2,302	3,061	2,566	2,994	2,070	2,539	2,315	2,342	1,634	1,686
3A	2,064	1,212	992	1,538	1,692	1,166	1,117	1,510	95 8	30 6	1,154 79
3B	2,268	2,175	2,533	3,129	2,577	1,787	71 1	1,409	95 8	1,327	9
3C	2,395	2,028	3,680	2,988	2,804	2,321	1,524	2,617	2,982	2,043	1,065
3D	2,177	2,467	2,006	2,525	2,017	1,674	71 1	70 4	95 8	51 1	71 0
4A	1,968	1,507	1,276	1,954	1,599	1,266	1,828	2,315	1,172	1,634	9 79
4B	2,067	1,397	1,097	1,548	1,401	1,272	1,321	1,006	1,065	1	0
4C	2,480	2,687	2,744	2,362	2,704	2,026	1,015	60 3	95 8	51 1	62 2
4D	1,463	2,180	2,830	2,467	2,824	2,138	1,524	2,315	3,088	1,430	88 7
4E	1,898	2,561	3,064	2,767	2,937	2,067	1,321	1,811	1,598	1,634	7 88
5A	41 2	774	730	314	649	1	-	-	-	-	-
5B	32 1	491	425	509	729	1,000	-	-	-	-	-
5C	89 5	797	1,242	830	1,266	1,111	38 7	20 1	10 7	10 2	-
5D	5 2	79	103	196	42	5	6 1	1 9	1 8	0	-
Unknown	-	9	28	27	228						
TOTAL	39,339	37,992	42,437	44,639	44,788	35,942	24,482	25,369	24,288	20,934	15,883

Table 3. Percent (%) distribution of gobbler age in each year's Pennsylvania spring harvests, 2003 - 2010 from Game-Take survey data. No data for 2004.

Age	2003	2005	2006	2007	2008	2009	2010	Average
1	29	23	14	18	19	20	10	19
2	27	28	34	33	27	34	39	32
3+	41	44	47	45	48	41	46	44
Female	3	5	4	4	6	6	5	5

Figure 1. Pennsylvania fall turkey harvest per 100 hunter days (success), the normalized summer sighting index (summer sighting/10-year average) and adjusted fall harvest/100 hunter days (success/normalized summer sighting index), 1990-2010.

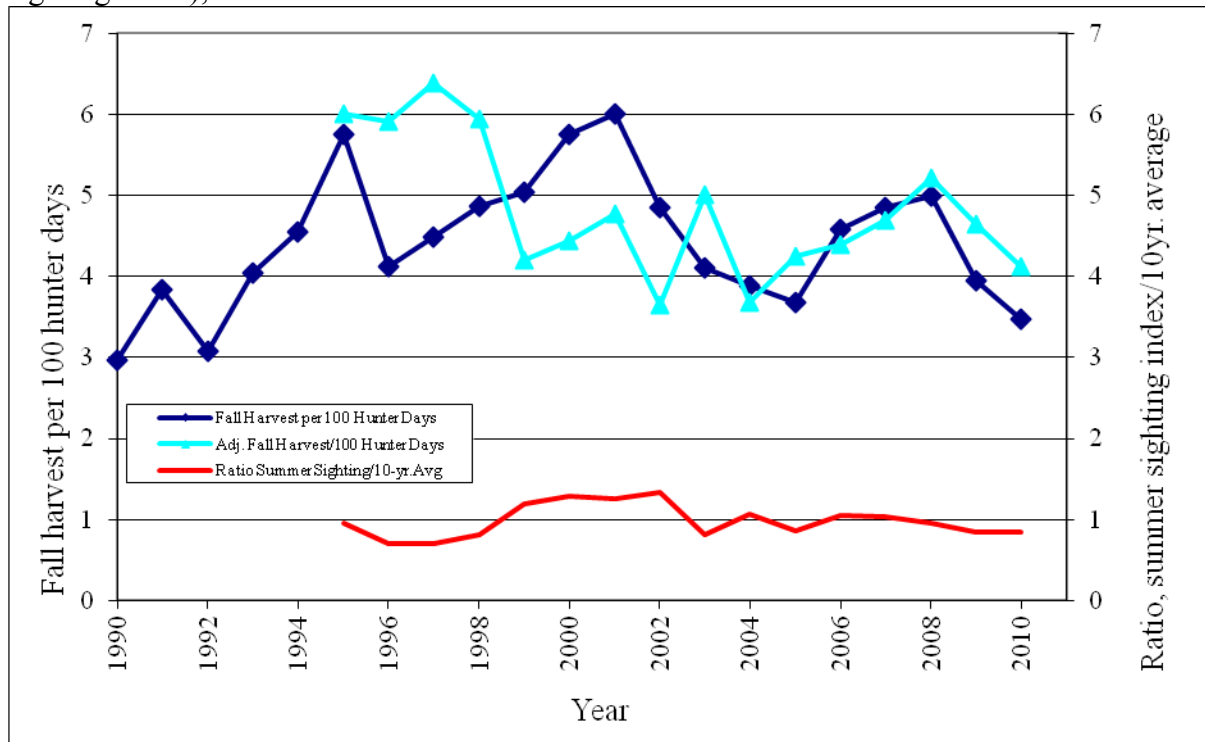


Table 4. Pennsylvania wild turkey hunting-related shooting incidents and incident rates (hunting-related shooting incidents per 100,000 turkey hunters).

YEAR	SPRING			FALL		
	Number	Fatal	Rate	Number	Fatal	Rate
1985	8	2	3.7	17	1	5.7
1986	10	0	4.1	25	1	7.4
1987	8	0	3.9	25	1	8.8
1988	8	0	3.5	21	3	7.0
1989	4	1	1.8	19	0	6.4
1990	8	1	4.2	38	3	16.2
1991	16	0	8.9	37	2	14.7
1992 ^a	8	0	4.3	6	0	2.8
1993 ^b	5	0	2.5	6	0	2.7
1994	9	1	4.0	7	0	2.9
1995	16	0	6.7	14	0	5.4
1996	12	0	5.0	11	1	4.8
1997	12	0	4.7	14	0	5.6
1998	11	0	5.6	8	2	4.0
1999	14	0	5.9	16	1	6.5
2000	10	0	4.5	10	0	4.5
2001	7	0	3.0	13	0	5.7
2002	8	1	3.7	15	0	6.9
2003	9	0	3.6	2	0	0.9
2004 ^c	9	0	?	5	0	?
2005	8	0	3.2	2	0	1.0
2006	5	0	2.0	4	0	2.2
2007	5	0	2.2	1	0	0.6
2008 ^d	8	0	3.7	2	0	1.3
2009	5	0	2.2	3	0	1.9
2010	10	1	4.6	1	1	1.2
2011	5	1				
10-year avg.	7.2	0.3	3.2	4.8	0.1	2.2

^a Beginning fall 1992, fluorescent orange required for fall hunting.

^b Beginning spring 1993, fluorescent orange required while moving for spring hunting.

^c Hunter participation data not available for 2004.

^d Beginning spring 2008, spring fluorescent orange requirement was removed, but the agency recommends hunters wear orange while moving.