



2007 Arkansas Wild Turkey Brood Survey Summary



National Wild Turkey Federation

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Brood Survey Results: The Arkansas Game and Fish Commission (AGFC) has conducted the annual Wild Turkey Brood Survey since 1982. Throughout its history, the survey has assisted AGFC in evaluating turkey stocking success, examining spread and growth of existing populations and determining trends in turkey numbers. The survey has also proven to be highly correlated to turkey harvests in subsequent fall and spring seasons. Special thanks to the many AGFC, USFS, USFWS, NPS, State Parks, timber company biologists and others who assisted in collecting and reporting data throughout summer months.

In 2007, five hundred and fifty-three (553) survey forms were returned to the Turkey Program Coordinator. In a typical year, an average of about 550 surveys are normally returned, so 2007 results should be comparable to past surveys. A total of 1,073 individual turkey observations from 299 respondents were recorded in 2007, up from 1,000 observations from 259 respondents in 2006. However, this is down from the survey record of 1,305 observations in 1998.

Brood survey indices suggest that reproduction was slightly poorer in 2007 than it was in 2006, but that it was better than the record low indices of 2005. The summer of 2007 represents the 6th year in a row of below-average reproduction on a statewide basis. Fifteen hundred and fifty-eight (1,558) hens were observed with 2,769 poults in 557 broods during 2007 (Table 1). In 2006, slightly more than 3,000 poults were observed on this survey. However, around 4,000-5,000 poults were reported during the above-average reproduction years of the late 1990s and early 2000s. The poult/hen index of 1.78 for 2007 was down slightly from 1.81 recorded in 2006, and still remains well below the long-term average of 3.23 poults/hen. In 2006, 49% of hens were observed with poults, down from around 60% in above-average years.

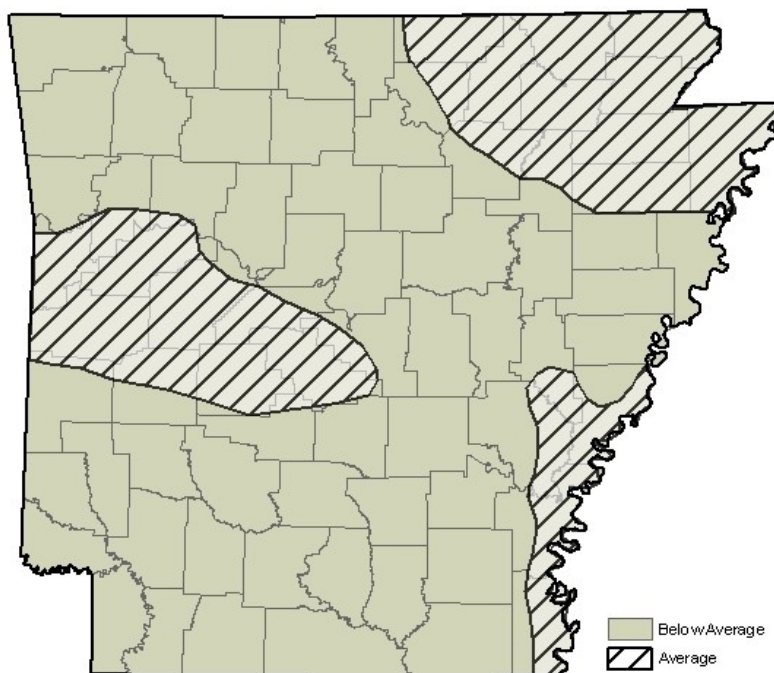
On a positive note, the number of gobblers reported on the survey was up 180 birds from the previous year, with 868 reported in 2007 (Table 1). The gobbler/hen index (0.557) rose significantly from the previous year (0.406) after declining since 2001. This index rose in all regions of the state, suggesting that carryover of gobblers into the spring 2008 season will be better than it has been in several years. This increase in gobbler carryover would appear to be primarily the result of a more conservative spring turkey season in 2007.

Table 1. 2007 Wild Turkey Brood Survey results by physiographic region.

Region	Surveys Returned	Gobblers	Hens		Number Poults	Number Broods	Poults/Hen	Gobbler/Hen
			With Poults	W/O Poults				
Ozark	150	291	290	342	1109	225	1.75	0.460
Ouachitas	135	170	189	172	720	148	1.99	0.471
GCP	117	161	125	145	410	83	1.52	0.596
Delta	151	246	161	134	530	101	1.80	0.834
State	553	868	765	793	2769	557	1.78	0.557

Two reproductive indices—the total number of poults and the average number of poults/hen—have been used to categorize the 2007 hatch. Reproduction in the Boston Mountains of the western Ozarks appears below average, while reproduction appears average on the Salem Plateau in the eastern Ozarks. The Arkansas River Valley appears to have average reproduction in the western half and below average reproduction in the eastern half. The Ouachitas appears to have average reproduction in northern areas, but below average reproduction in southern areas. Most of the Gulf Coastal Plain (GCP) appears to have below average reproduction. The Delta appears to have average reproduction in northern areas, along the lower White River and in the southern part of Zone 17, with below-average reproduction in other portions of this region. Figure 1 has been prepared to show categorized reproductive levels for the state. Keep in mind that these categorizations are subjective and based on limited data in some areas!

Figure 1. Statewide reproductive success based on 2007 Arkansas Wild Turkey Brood Survey results.



The average statewide hatch date for 2007 was June 2 (SD – 17.9 days). Regionally, the average hatch date was June 1 Ozarks, June 6 Ouachitas, May 26 GCP and June 2 Delta. North of I-40, the average hatch date was June 2; south of I-40 it was June 3.

Hatch dates are figured by back-dating poultts based on size. Statewide, poultts hatched from the week of April 2-8 through the week of August 6-12 (Fig. 2). The first significant hatch occurred the week of May 7-13 when 28 broods were reported (6% of back-dated broods). Hens that produced these broods would have bred during the week of March 26-April 1. Prior to the week of May 7-13, 24 broods were reported to have hatched (5% of broods; therefore, 5% of hens bred prior to March 26). The peak week for hatching—statewide and in all regions—was May 28-June 3 when 94 broods hatched (20% of broods; hens bred the week of April 16-April 22).

Brood survey data were examined to see if any effects of the extremely cold weather of April 7-8—record lows as much as 25 degrees below normal; down to 15 degrees in parts of north AR—could be detected. This survey suggested that about 15% of successful hens bred prior to the low temperatures on April 7-8. At least some nests where hens were in the egg-laying (not incubation) period, including nests in north Arkansas, appeared to have come through the extremely cold temperatures of early April.

2007-08 Fall and Spring Season Predictions: The harvest of turkeys during fall and spring seasons in Arkansas has been found to be highly correlated to several indices associated with the Wild Turkey Brood Survey. In fall 2007, archery/crossbow and fall gun season harvest should continue to decline based on below-average brood production and lower interest in fall hunting.

For spring 2008, harvest should be similar to that of spring 2007, although it very well could continue to decline. Regionally, data on poult production and gobbler carryover collected in recent Wild Turkey Brood Surveys (Figure 3) suggest that spring harvest in 2008 will rise slightly in the eastern Ozarks and in Zone 17. These areas should have a good crop of 2-year-old gobblers from the above average hatches they experienced in 2006. In all other areas of the state, harvest should be similar to or decline slightly from that of 2007. Two-year-old gobblers will not be as abundant in these areas, but better carryover from the conservative season of spring 2007 will help stabilize harvests.

Figure 2. Statewide and regional hatch dates by week (# of broods), 2007.

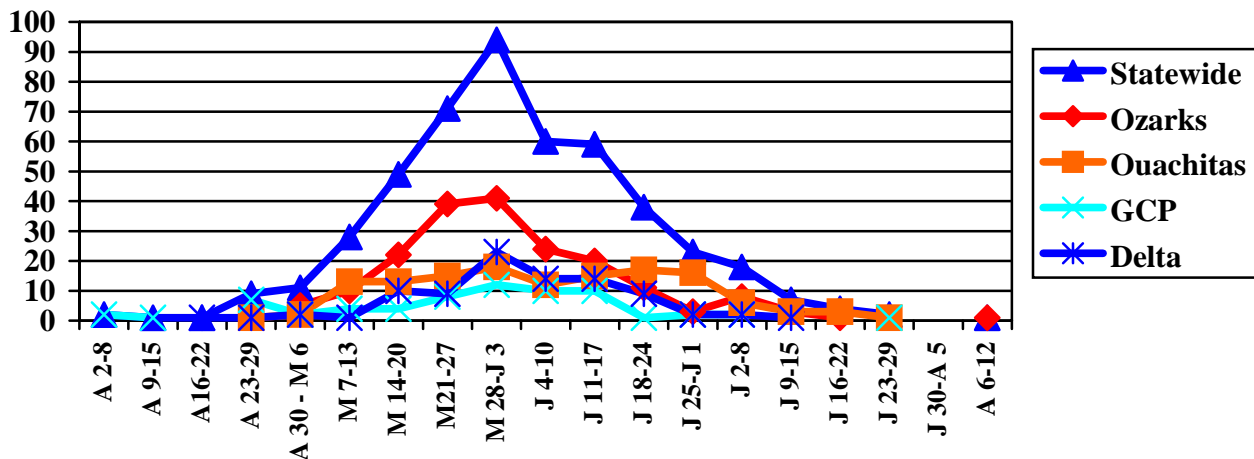


Figure 3. Reproductive and gobbler carryover indices for the four physiographic regions of Arkansas, 1982-2007.

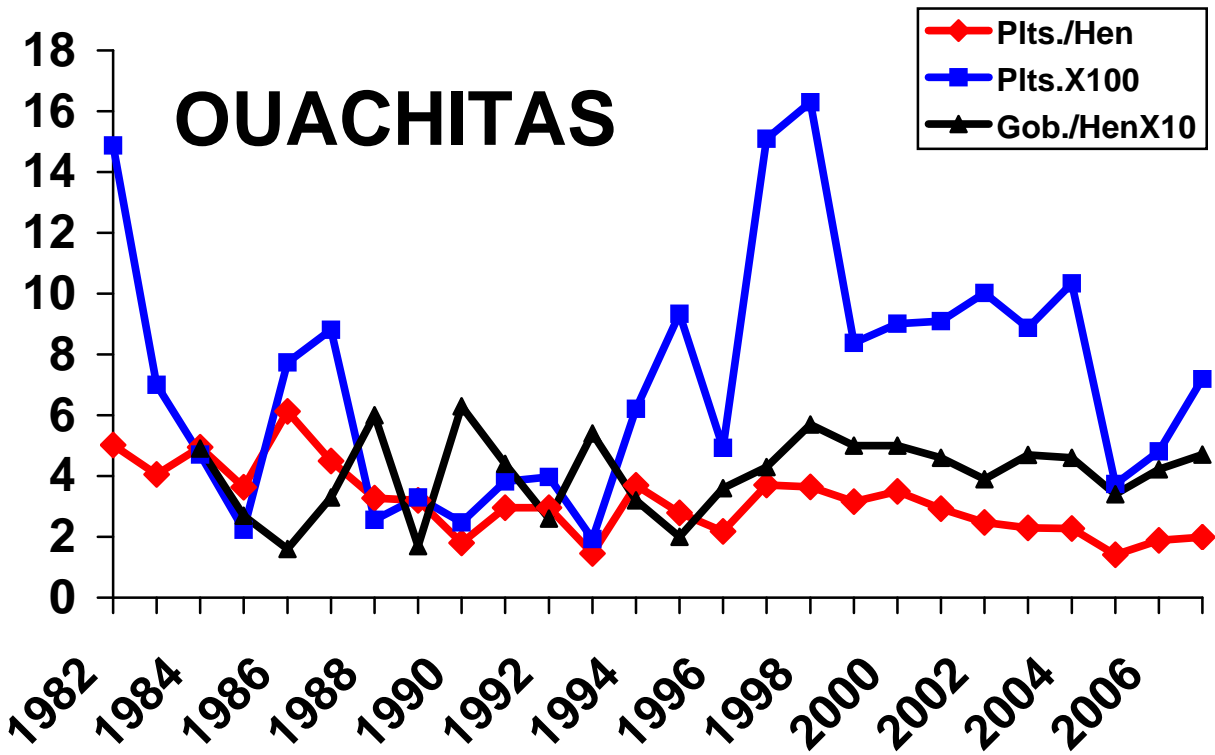
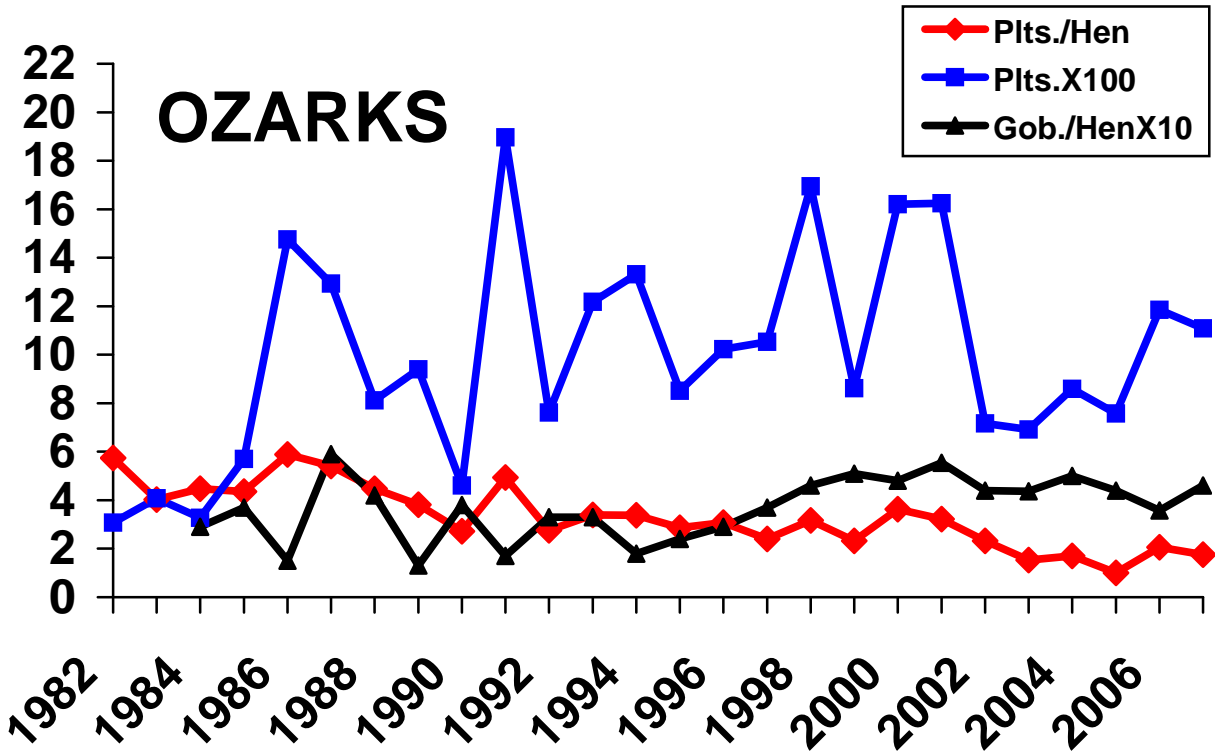


Figure 3. cont.

