



*Wildlife
Management
Division*

2006 Arkansas Wild Turkey Brood Survey Summary



Prepared by Michael Widner, Turkey Program Coordinator

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The Arkansas Game and Fish Commission 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, AR State Parks, company biologists and others who assisted in collecting data.

In 2006, five hundred and twenty-five (525) survey forms were returned to the Turkey Program Coordinator. In a typical year, an average of about 550 surveys are normally returned, so 2006 results should be fairly comparable to past surveys. A total of 1,000 individual turkey observations from 259 respondents were recorded in 2006—this is down from the survey record of 1,305 observations in 1998.

Reproduction was better in 2006 than it was in 2005, but still remains below average on a statewide basis. Sixteen hundred and ninety-three (1,693) hens were observed with 3,056 poults in 577 broods during 2006 (Table 1). 2006 marks the first year that more than 3,000 poults have been reported since 2001. 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 1.81 for 2006 was much better than the 1.39 recorded in 2005, but still remains below the long-term average of 3.28 poults/hen. The number of hens reported in 2006 was almost identical to that of 2005 and has remained relatively steady since the late 1990s. This suggests that, even with relatively poor individual reproduction by hens, enough poults are being added to the population to maintain relatively stable hen populations. Many other states with long-established turkey populations are seeing this same trend. In 2006, 46% of hens were observed with poults, down from around 60% in above-average years.

The number of gobblers reported on the survey was down from the previous year, with 668 reported in 2006 and 746 reported in 2005 (Table 1). The gobbler/hen index (0.406) has declined in all years since 2001, and is the lowest it has been statewide since 1995. Regionally, this index is especially low in the Ozarks and GCP, suggesting that carryover of gobblers into the spring 2007 season will be minimal. This low statewide index follows the record low poult/hen index of 2005 (1.39) and the spring harvest from 2006 with only 17% jakes. Two-year old gobblers will be scarce in spring 2007. The primary reason for the decline in this index has been below-average hatches since 2001, but liberal spring seasons during 2001-20 have exacerbated this decline.

Table 1. 2006 Wild Turkey Brood Survey results by physiographic region.

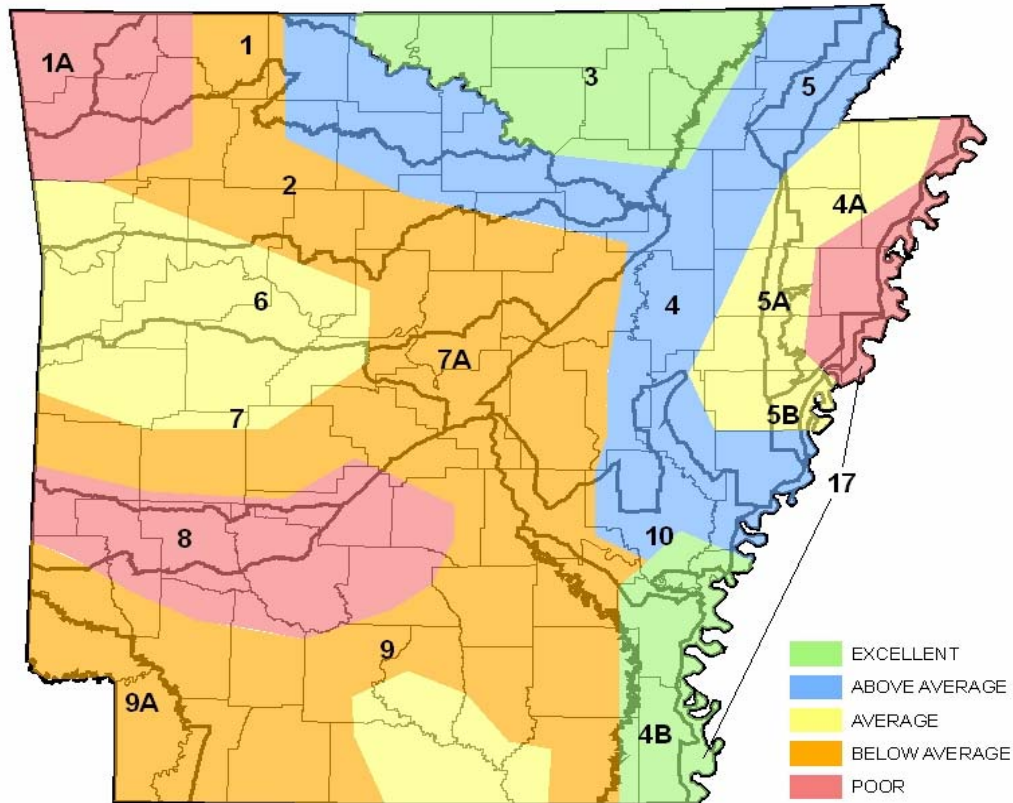
Region	Surveys Returned	Gobblers	Hens		Number Poults	Number Broods	Poults/Hen	Gobblers/Hen
			With Poults	W/O Poults				
Ozark	132	206	319	259	1185	222	2.06	0.358
Ouachitas	123	108	111	145	481	100	1.88	0.422
GCP	119	161	199	331	664	132	1.25	0.304
Delta	151	213	143	186	726	123	2.21	0.647
State	525	688	772	921	3056	577	1.81	0.406

Two reproductive indices—the total number of poults and the average number of poults/hen—have been used to categorize the 2006 hatch. Reproduction in the Boston Mountains of the western Ozarks appears below average, while reproduction appears average or above average for the north-central and 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 northwestern areas, but below average reproduction in southern and eastern areas. Most of the GCP appears to have below average reproduction, although southern areas near the

Ouachita River appear better. The Delta appears to have a “mixed bag,” with northeast AR showing good reproduction adjacent to the Ozarks, poor reproduction north of West Memphis, above-average reproduction along the lower White River and excellent reproduction in the southern part of Zone 17. Water levels rose in late April and early May along the Cache and White Rivers, but were at low levels along the Mississippi River. This is probably the main reason for the better hatch in Zone 17. 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 2006 Arkansas Wild Turkey Brood Survey results.



The average statewide hatch date for 2006 was June 7. Regionally, the average hatch date was June 10 Ozarks, June 7 Ouachitas, May 28 GCP and June 10 Delta. North of I-40, the average hatch date was June 10; south of I-40 it was June 4. The difference of approximately one week in average hatch date for 2006 between north and south AR is more than occurs in most years, and is primarily the result of a good “late” hatch in northern areas.

Hatch dates are figured on back-dating poults based on size. These data were examined by week on a statewide and regional basis. Statewide, the week of June 18-24 was best, with 67 broods recorded to have hatched during this week. This was followed by the week of May 21-27 with 64 broods. The statewide hatch in 2006 began to peak during the week of May

14-20 (59 broods) and continued to be good (from 47 to 67 broods each week) until the week of Jun 18-24 (67 broods). Thus it would appear that there was a good “early” hatch as well as a good “late” hatch. Regionally, the Ozarks appeared to have a protracted, early and late hatch with from 19 to 30 broods reported during the 5 weeks framed by May 21 through June 24. Hatches appeared to begin to peak slightly earlier in the Ouachitas, with from 6 to 16 broods reported during the 7 weeks framed by May 14 through July 1. In the GCP, only an early hatch was evident, as good numbers of broods (from 17-26) were reported for the 3 weeks framed by May 14 through June 3. In the Delta and in Zone 17, only a good late hatch was evident, with good brood numbers (10-22 in the Delta) during the 4 weeks framed by June 11 through July 1.

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 2006, harvest should rise slightly in areas open to gun and archery/crossbow hunting, as more juvenile turkeys will be available. For spring 2007, harvest should continue to decline statewide based on 4-5 below average hatches in a row and a continued decline in the gobbler/hen index. Figure 2 has been prepared to show the relationship of spring harvest to an index (total turkeys) of brood production for the period 1982-2006

Regionally, data collected in recent Wild Turkey Brood Surveys suggest that spring harvest in 2007 will rise slightly in the eastern Ozarks and continue to decline in the western Ozarks. It should also decline in the Ouachitas and the Gulf Coastal Plain. In the Delta and in Zone 17, harvest should continue to inch upward for the next couple of years due to average or above reproduction in 2005 and 2006. Figure 3 has been prepared to show trends in the poult/hen index, the total number of poults and the gobbler/hen index for the four physiographic regions of the state.

Figure 2. Relationship between the total turkeys reported in the Wild Turkey Brood Survey and spring turkey harvests, 1982-2006.

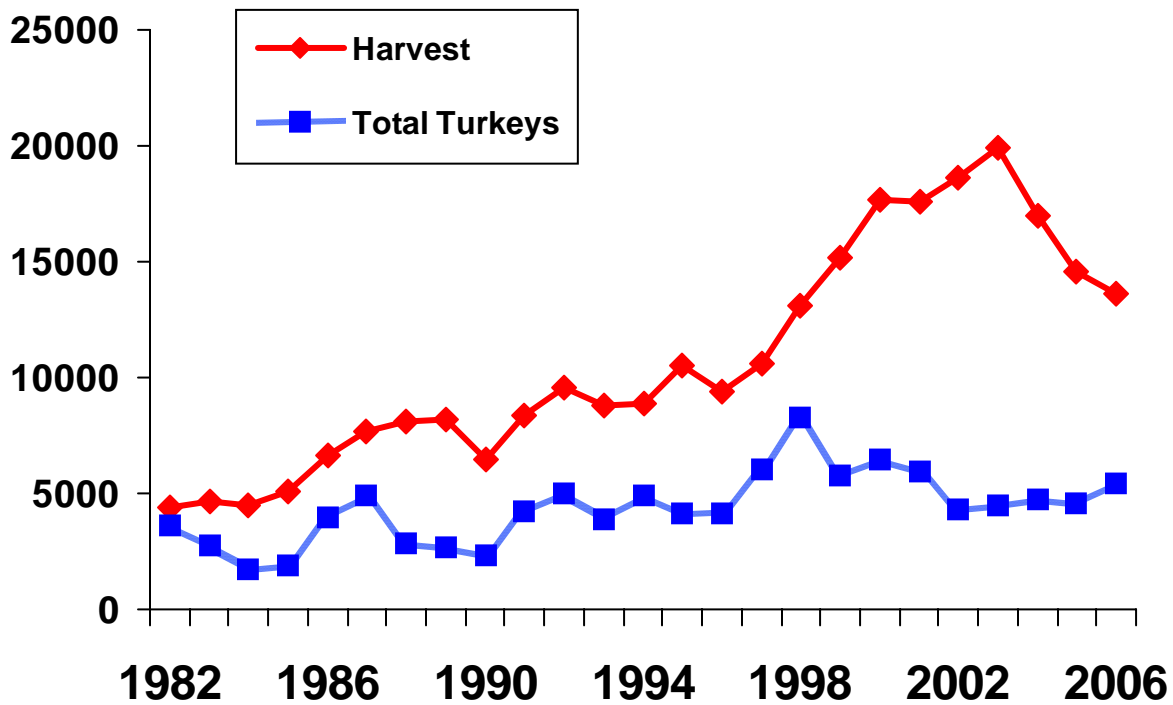


Figure 3. Reproductive indices for the four physiographic regions of Arkansas, 1982-2006.

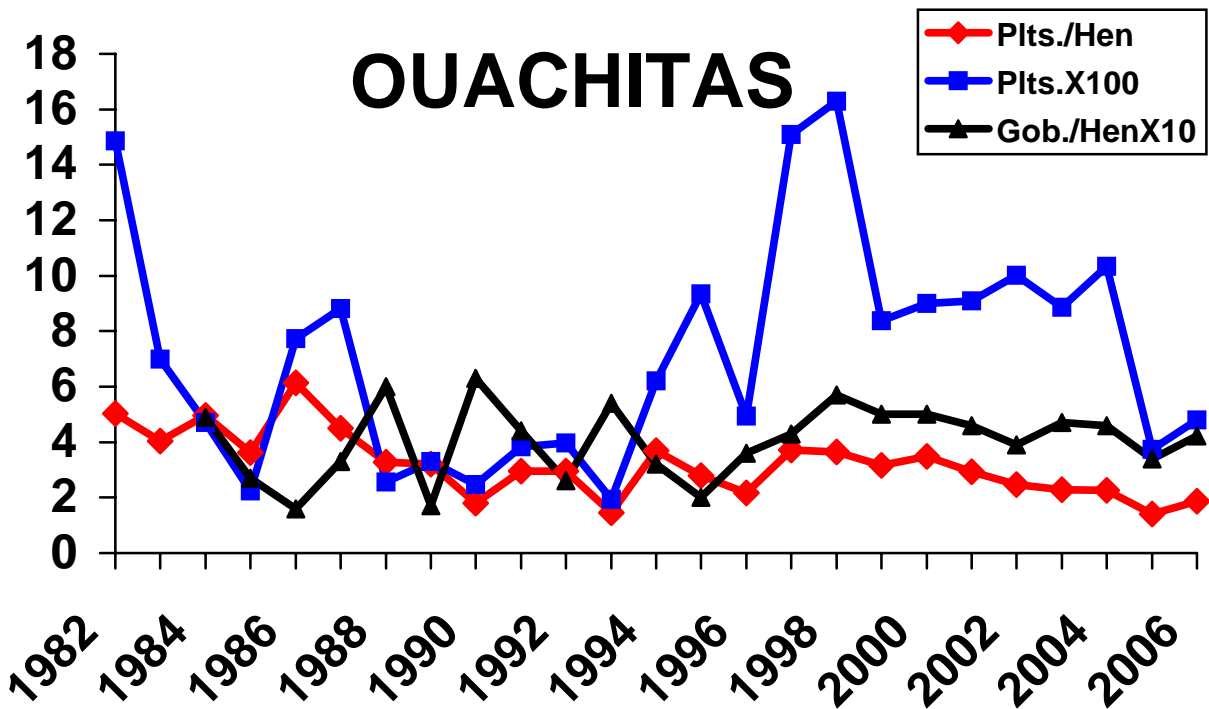
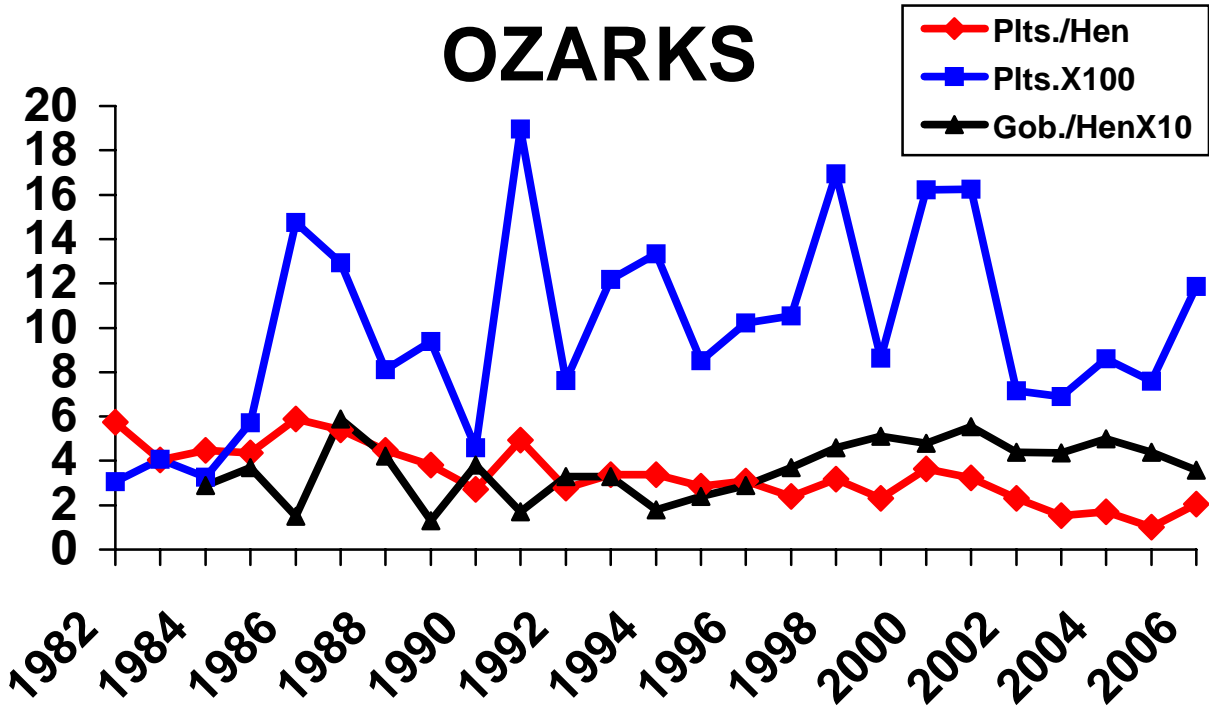


Figure 3. cont.

