

***Arkansas Game and Fish Commission
Wildlife Management Division
2007 Spring Gobbler Hunting Survey
Summary***

**by Mike Widner, Turkey Program Coordinator
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Introduction: The Arkansas Game and Fish Commission (AGFC) fielded numerous complaints during and after the 2006 spring turkey season relative to poor hunting quality and the lack of gobbling birds. The complaint that turkeys were “gobbled out before the season” was heard frequently. These complaints were discussed at the summer meeting of the Wildlife Management Division’s (WMD) Turkey Team. As a result of those discussions, two new surveys were recommended. The first was a Gobbling Chronology/Phenology Survey to investigate turkey gobbling activity through the spring period. This survey was implemented and run from March 1 through May 23 on 17 sites statewide in 2007. A summary of the results has been provided elsewhere and should be available on www.agfc.com by late summer.

The second survey was a survey of spring turkey hunters to gather some information on hunter activity, gobbling activity, turkey observations, success, etc. At least two other states—Mississippi and West Virginia—have conducted similar surveys for a number of years. This survey was implemented in spring 2007 as the Spring Gobbler Hunting Survey.

Both of these surveys are intended to run for several years—about 3-4 years for the Gobbling Chronology/Phenology survey and indefinitely for the Spring Gobbler Hunting Survey. The Turkey Team feels that both will provide additional information that will

be important to wildlife managers in the Natural State for years to come.

Methods: After examination of a variety of survey documents, AGFC decided to use a survey instrument similar to that used in Mississippi—a small booklet with space for data entry for each hunt to be returned to AGFC at the end of the spring turkey season. Data collected by hunters were manually entered into a database, analyzed and used for reporting results of this survey.

To recruit participants, this survey was announced at the 2007 Spring Turkey Season Public Meetings in August 2006, and volunteers were signed up at that time. Later, notification was placed in application forms for spring permit turkey hunts that were available to the public in December 2006. Hunters could request a survey form by checking a box on that application. Approximately 2/3rds of the forms sent out came from this check-off. Additionally, notification of the survey was posted on the AGFC web site and in the 2007 Spring Turkey Hunting Guidebook. Forms were sent to all Arkansas State Chapter of NWTf board members and some were handed out to turkey hunters at Regional Offices around the state. This resulted in approximately 2,500 survey forms being distributed in 2007.

One item that was included which we have not seen in other surveys was a request for out-of-state hunting information. Turkey mangers often hear hunter comments such as

“we ought to open the season early, like Mississippi” or “we need to go to half day hunting and a one bird limit the first week, like Missouri.” Partially because of these types of comments, AGFC wanted to see where our hunters were going, how many turkeys they were hearing, and what their success was in other states.

Our methods of survey distribution undoubtedly resulted in at least one bias to results. Because a large portion of the survey distribution went to those applying for permit hunts on AGFC Wildlife Management Areas (WMAs), this survey is biased toward that segment of the hunting populations. It is unknown how that affected results. The survey results are also probably biased towards more avid, “better” turkey hunters, as those who only marginally turkey hunt were unlikely to request or turn in survey forms.

Results: Hunter Parameters: Two hundred fifty-nine (259) usable survey forms were returned to AGFC and serve as the basis for this summary. Forty-four (44) surveys were returned from hunters who resided in the Ozarks; 74 from the Ouachitas (which included the Little Rock metropolitan areas); 60 from the Gulf Coastal Plain (GCP) and 75 from the Delta physiographic region. Five (5) hunters resided out-of-state.

These hunters reported on 2,927 turkey hunts, 2,322 in Arkansas and 605 out-of-state. This averaged to 8.95 hunts each in Arkansas and 2.3 hunts each in other states, for a total of 11.3 hunts per respondent. Respondents reported hunting an average of 7.75 days in AR and 2 days in other states, for a total of 9.78 days. In a 1999 random phone survey of Arkansas spring turkey hunters, they reported hunting an average of 7.2 days (seasons length was very similar at 24 days in 1999 and 23 days in 2007, respectively) in AR. This adds some evidence that the respondents to this survey tended toward more avid turkey hunters than average.

Even though hunter residence was skewed somewhat toward the Delta and GCP in this survey (see above), the total hunts that took place in each physiographic region was almost the reverse, with the most hunts in the Ozarks. Seven hundred forty-nine (749) hunts took place in the Ozarks, 568 in the Ouachitas, 675 in the GCP and 330 in the Delta. Table 1 has been prepared to show the relationship of residence of hunters and where hunts took place. Ninety-one percent of Ozark residents hunted in the Ozarks, while 65% of Ouachita residents hunted in the Ouachitas, 80% of GCP residents hunted in the GCP and only 44% of Delta residents hunted were in the Delta. These figures are very similar to the 1999 random phone survey results of Ozarks 92%, Ouachitas 63%, GCP 80% and Delta 53%.

Since Ouachita residency includes the Little Rock area, it is understandable that these hunters traveled to other areas besides the Ouachitas including the Ozarks (17% of hunts) and the GCP (13% of hunts), where many of them may have been members of hunting clubs. GCP residents mostly stayed home to hunt, but a fair number went to the Ouachitas (13% of hunts). Delta residents hunted about as much in the Ozarks (37%) as they did in the Delta (44%).

Table 1 also reports on the out-of-state activity of residents of each region. Seventy-one (71) of 259 hunters (27%) reported hunting out-of-state: 48 of those hunters hunted in one other state; 15 in two; 3 in three and 5 in four other states. Ozark residents traveled mostly to Mid-western states (50%) for their out-of-state hunts, with lesser number of hunts in Plains states (39%) and very few hunts in Southeastern states (11%). Ouachita residents traveled to Plain states mostly (57%), with about equal numbers of hunts in Southeastern (22%) and Mid-western states (17%) and a token number of hunts in Western states (4%). GCP hunters traveled mostly to Mid-western states (48% of hunts), followed by Plains states (39%) and Southeastern states (14%), even though the latter region was “closest”

in proximity to the GCP. Delta hunters traveled mostly to Southeastern states

(43%), followed by the Mid-west (32%) and Plains states (24%).

Table 1. Region of residence of hunters for all hunts (horizontal axis) compared to the region where hunts took place (vertical axis), Arkansas Spring Gobbler Hunting Survey, 2007.

		Region of Residence				
		Ozarks	Ouachitas	GCP	Delta	Out-of-State
Region of Hunt	Ozarks	355	112	33	242	3
	Ouachitas	20	425	80	39	4
	GCP	8	82	478	84	19
	Delta	6	31	5	288	--
	Southeastern States	16	31	15	76	24
	Plains States	54	79	42	43	8
	Mid-western States	70	24	52	57	--
	Western States	--	4	--	--	--

Gobbling and Harvest Activity: The 255 hunters in this survey that hunted in AR reported hearing 3,118 turkeys gobble 27,584 times for an average of 12.2 gobblers heard and 108.2 gobbles per hunter. These same hunters reported killing 175 turkeys in AR, for an average of 0.69 turkeys per hunter. This latter figure again suggests that this survey is biased toward avid, “better” turkey hunters, as it is well above any harvest numbers suggested by the 1999 random phone survey and other AGFC data.

These data indicate that AR hunters heard 1.57 gobblers and 13.96 gobbles per day of hunting on average.

More turkeys were heard in the Ozarks per 10 hours of hunting than any other region of the state, but more gobbles were heard in the Delta (Fig. 1). Gobbling indices were only slightly lower in the Ouachitas than in the

Ozarks. Gobblers heard and gobbles were lowest in the Gulf Coastal Plain region. Harvest per 100 hours of hunting varied from 1.66 in the Delta to 2.02 in the Ozarks, with the GCP only slightly behind at 1.97. Even though gobbling activity was lower in the GCP, harvest indices were in the upper range we observed.

Regional gobbling activity was examined by the week of the season and found to vary considerably. Our comparisons will be for the regular turkey season only (Weeks 3-5) as the sample size for Weeks 1 (youth hunt in Turkey Zone 17) and 2 is very low. For the regular season only, 52% of hunts occurred the first week, 27% the second and 21% the third week. With regard to gobblers heard per 10 hours of hunting, the Delta and the Ouachitas reported similar levels of gobbling throughout the regular turkey season (April 14-May 4; Weeks 3, 4,

and 5), while the Ozarks and GCP reported similar gobbling activity the first two weeks of the season followed by a steep decline the 3rd week (Fig. 2). Levels of gobblers per hour followed similar trends for each region and each week of the season, and will not be graphed in this report. However, there did not appear to be a good association with kill per 100 hours of hunting and gobbling activity in some cases. Figure 3 has been presented to show the regional kill by week of the season. Obvious, poor relationships occur, for example, between gobbling activity the 5th week of the season in the Ouachitas (good) and the kill indices for that week (poor). On the other hand, gobbling activity in late season in the Delta region appears to correspond quite well with harvest during the last week. Harvest in the Ozarks continued at good levels, even though gobbling activity appeared to decline.

Gobbling and harvest indices were examined by land ownership type (private

land, public land, club land). Minor differences in gobbling activity and harvest indices were found (Fig. 4). In general, hunting club lands had slightly better gobbling and harvest indices, followed by private land and finally public lands. It should be noted that gobblers heard per hunt, gobblers per hunt and kill per hunt were almost identical between the three land ownership categories, but hunters tended to hunt approximately 1 hour longer on public lands per hunt than they did on private or club lands.

Data were also analyzed at the Turkey Zone, County and WMA levels, but will not be reported in this summary for the most part, because of low sample sizes at these divisions. The one exception is the mention that Turkey Zones 3 and 17 had some of the highest gobbling and harvest indices of any AR Turkey Zones, which seems to compare favorably with harvest figures compiled from mandatory checking in Arkansas.

Figure 1. Regional gobbling and harvest indices for Arkansas hunts, Spring Gobbler Hunting Survey, 2007.

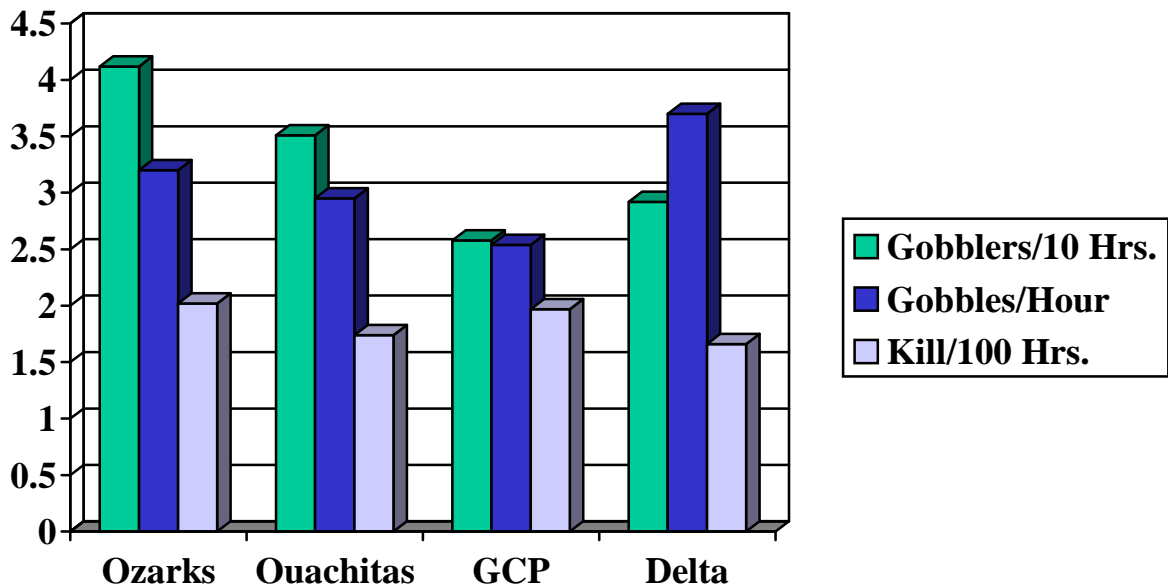


Figure 2. Regional gobbling indices (gobblers heard per 10 hours of hunting) for Arkansas hunts by week of the season, Spring Gobbler Hunting Survey, 2007.

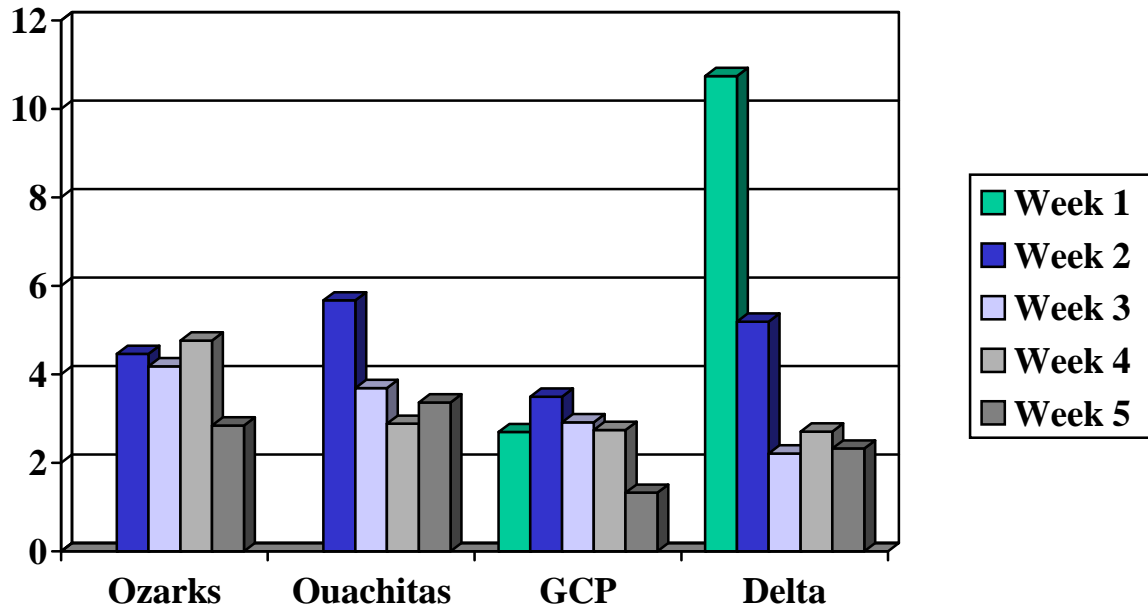


Figure 3. Regional harvest indices (kill per 100 hours of hunting) for Arkansas hunts by week of the season, Spring Gobbler Hunting Survey, 2007.

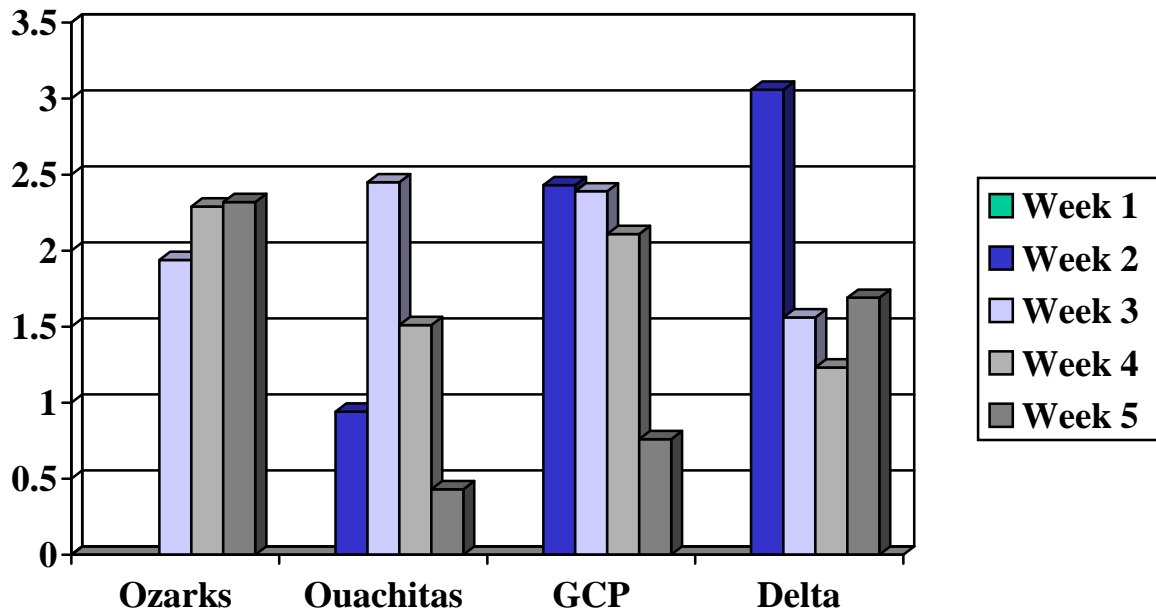
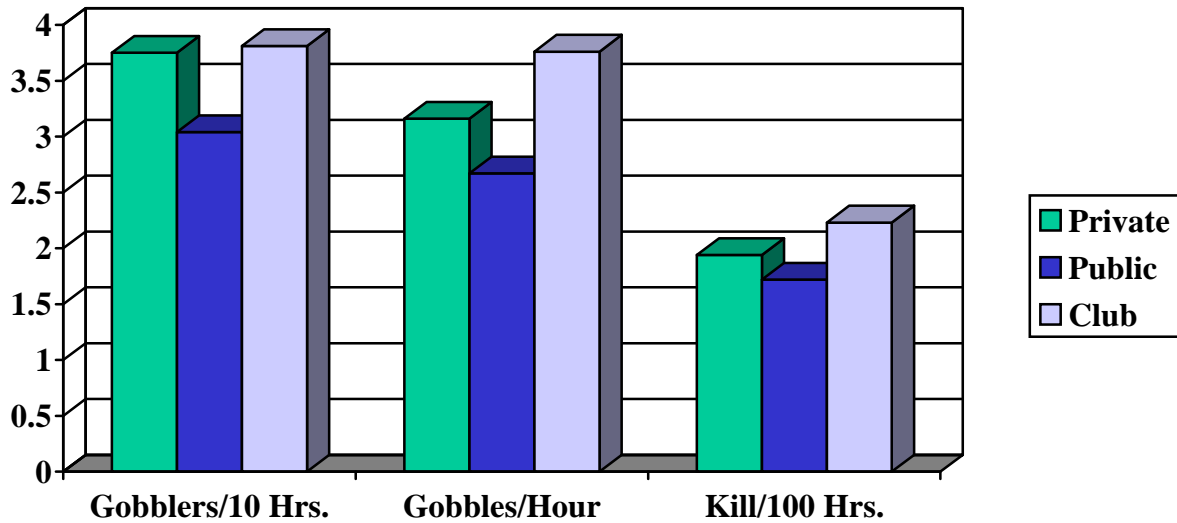


Figure 4. Regional gobbling and harvest indices for Arkansas hunts by land ownership categories, Spring Gobbler Hunting Survey, 2007.



How did in-state gobbling and kill indices compare to out-of-state hunts? Respondents journeyed to 15 other states in spring 2007: MO (30 hunters/155 hunts), KS (17/65), TX (15/71), MS (10/52), OK (9/49), AL (7/35), NE (6/42), LA (5/35), KY (4/38), FL (3/18), TN (3/14), GA (2/10), SD (2/7), IN (1/10) and CO (1/4). Because sample size is so low in all of these states, comparisons to Arkansas hunts will be made based on combining these states into regions. After lumping these states together, we found that AR hunters primarily traveled to the Plains states (49 hunters/234 hunts), followed by the Mid-west (35/203), the Southeast (30/164) and the West (1/4). Figure 5 has been prepared to compare indices of gobbling and harvest in Arkansas (both for all AR hunters and for those that traveled out-of-state; i.e., “avid” hunters) to indices for other regions of the country.

These data show that both AR gobbling and harvest indices generally came up short when compared to other regions, particularly the Plains and Mid-west regions. Gobbling indices were 2-3 times better in Plains and

Mid-west states than in AR, and harvest indices were also much higher in Plains states. Gobbling and harvest indices, at least for the “avid” segment of AR hunters, were similar, but slightly below, those same indices for Southeastern states. It would appear from these data that most AR hunters that travel out-of-state go north and west rather than south and east, and that there may be a good reason for this pattern—hunters hear more turkeys in Plains and Mid-western states than they do in Southeastern state. This pattern of hunter movement would appear to be occurring even though Southeastern states generally have much earlier, more liberal seasons and more generous bag limits.

Comparison of AR gobbling and harvest indices can also be made to published data from MS and WV--states with similar surveys. This comparison is definitely an “apples to oranges” comparison, as 2007 Arkansas data will be compared to data from past years in the other two states. Figure 6 has been prepared to compare gobbling and kill indices for AR in 2007 to past-published

data from these two states. When we examine these data, it would seem that hunting on public land in AR in 2007 was quite comparable to hunting on public land in MS in past years, both in terms of gobbling activity and harvest. However, hunting on private land in Mississippi in 2004 would appear to be much better than hunting on private lands in AR in 2007. When we compare 2007 AR data to past data from West Virginia, there would appear to be little difference in gobbling or harvest indices. The reader should keep in mind that 2007 was a poor year for turkeys in Arkansas, following 4 years of declining harvest. Had data from “peak” years during the late 1990s/early 2000s been compared, considerable differences may have been observed.

We were also able to compare AR harvest indices to data gleaned from several recent state status reports from the Southeast Director’s Wild Turkey Committee Annual Report. Arkansas harvest indices from this survey ranged from 2.23 to 1.72 gobblers per 100 hours of hunting (Fig. 4) on club and public land, or about 1 turkey per 9.7-12.6 days of hunting, respectively. In Alabama, from 8-11 man-days and from 13-19 man-days were needed to harvest a gobbler statewide and on WMAs, respectively, from 1995 through 2004. In Louisiana, 14 “hunter efforts” were needed to harvest a gobbler on WMAs in 2006. In Virginia, 13.3 man-days were needed to harvest a gobbler statewide in 2004. These data again suggest that 2007 Arkansas harvest indices are comparable, and in fact better-than, those of many other southeastern states.

Figure 5. Arkansas and U.S. regional gobbling and harvest indices, Spring Gobbler Hunting Survey, 2007.

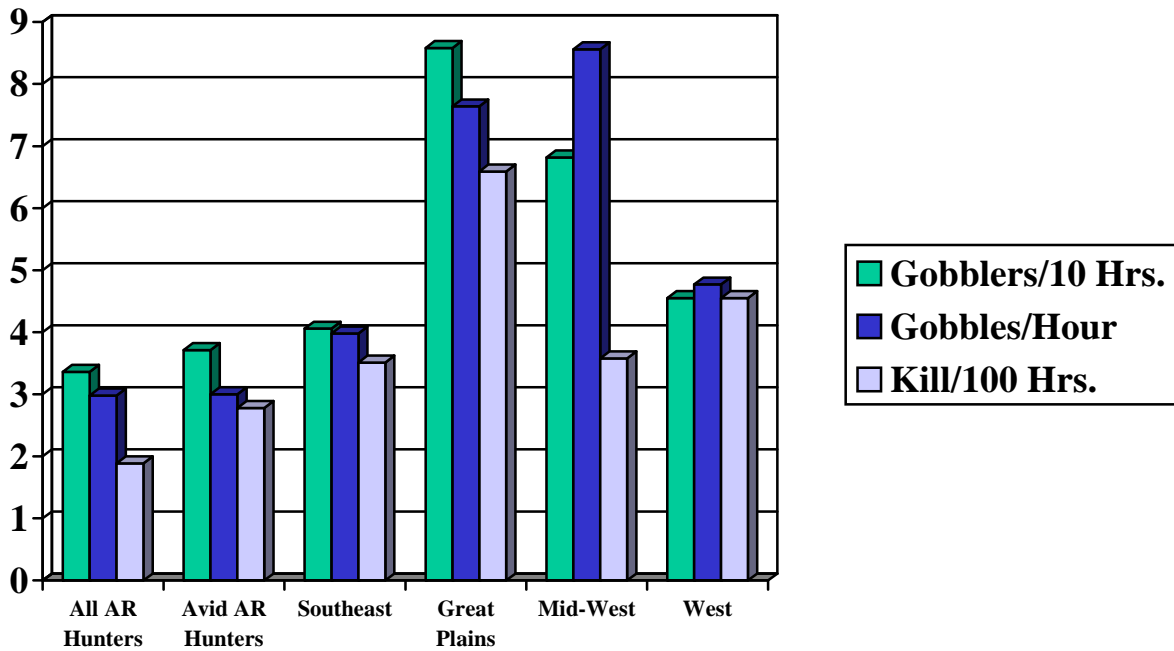
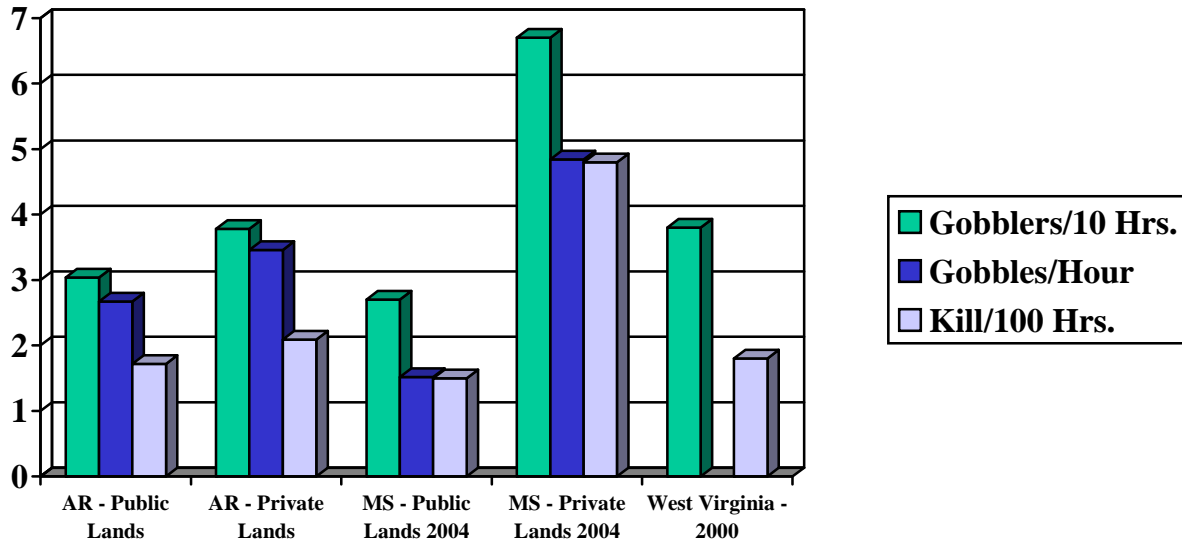


Figure 6. Arkansas private and public land gobbling and harvest indices, Spring Gobbler Hunting Survey, 2007 compared to past-published data from Mississippi and West Virginia.



Turkey Observations: Survey participants recorded all adult gobblers, jakes, hens and unknown turkeys observed while hunting. These observations are probably somewhat useful as an index to population levels, although they should only be used in conjunction with other data. In 2007, the number of gobblers seen per 100 hours of hunting was similar in the Delta, GCP and Ozarks, but considerably less in the Ouachitas (Fig. 7). The number of jakes observed was highest in the Ozarks, intermediate in the Delta and GCP and lowest in the Ouachitas. The number of hens observed was highest in the Ozarks, again intermediate in the Delta and GCP and lowest in the Ouachitas. The high number of jakes in the Ozarks seems to compare favorably with above-average brood production that was recorded in the eastern Ozarks during the 2006 Turkey Brood Survey. However, this same survey suggested that Delta areas, particularly Turkey Zone 17, also had above-average brood production in 2006—but those jakes do not appear to have shown up to the expected extent in these observations for the Delta.

Data for turkey observations by AR hunters out-of-state, combined by region, have been compared to observations in Arkansas. Figure 8 has been presented to show those comparisons. These data show that far more turkeys were observed in Plains states than in any other region. While turkey numbers may be higher in this region than any other, two other factors may have been involved with the high turkey observation rate in Plains states. First, turkey are much more visible in the rather open, lightly wooded habitats found in Plains states. Secondly, most of the turkeys in this region are Rio Grande subspecies, which have different behavior than eastern turkeys. Rio's tend to roost in large flocks in river bottom habitats and are often seen in large groups after flydown. While populations of wild turkeys may have been higher in Plains states than any other region, we believe these two factors contribute to the large difference in observations shown in Figure 8. These data again suggest reasons that more AR hunters are traveling to Plains and Mid-western states than Southeastern states—not only are they hearing and killing more turkeys, they're seeing more also.

Figure 7. Arkansas regional observation indices (gobblers, jakes and hens per 100 hours of hunting), Spring Gobbler Hunting Survey, 2007.

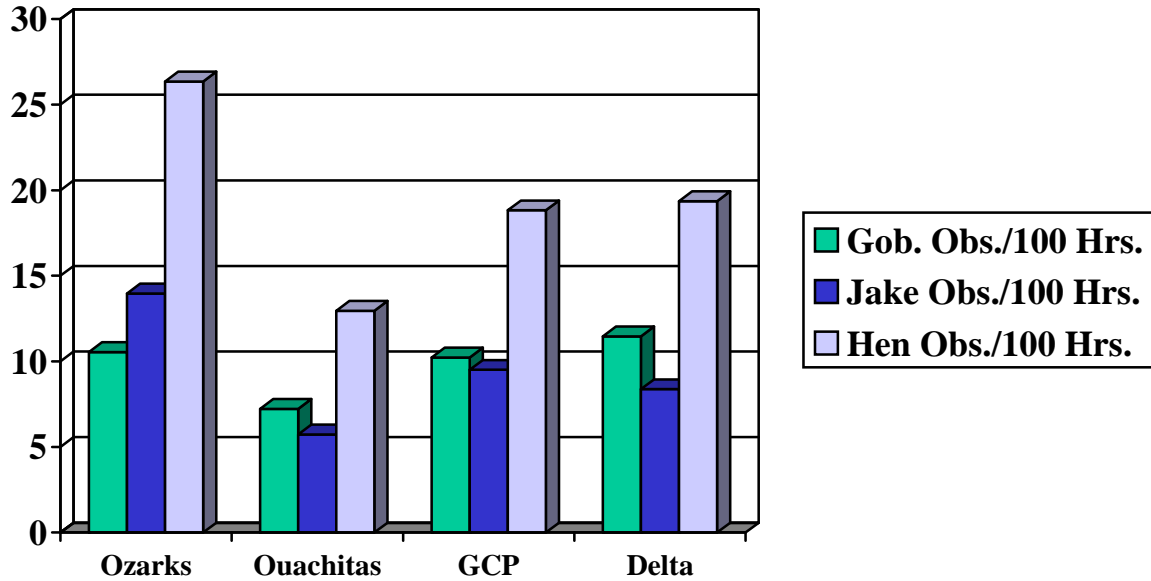
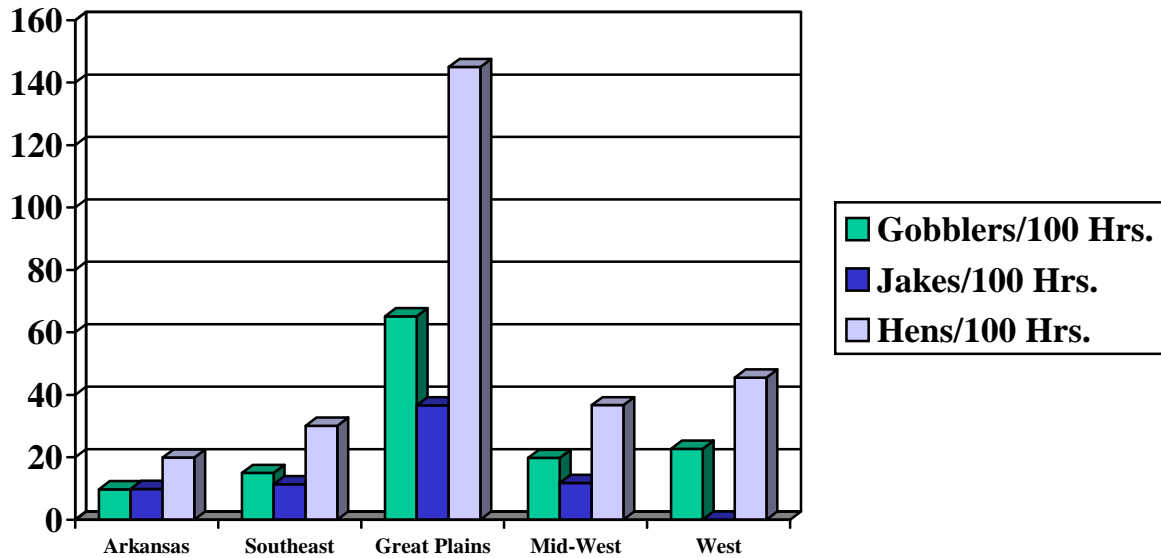


Figure 8. Arkansas and U.S. regional observation indices, Spring Gobbler Hunting Survey, 2007.



Comments and Suggestions: Slightly less than half of the 259 participants in this survey provided suggestions and comments. Most of the suggestions that were received revolved around including pre-season scouting gobbling activity in the survey and including additional weather or hunting information (e.g., birds called to, birds shot at, etc.). Consideration was given to including pre-season gobbling data in the survey during the planning stage, but this was not done because AGFC planned to collect gobbling data through its companion Gobbling Chronology/Phenology Survey and because of the extra time that would be needed to enter and process pre-season scouting data. However, consideration will be given to collecting this data at some time in the future as well as to other suggestions that were received.

Comments on the current turkey season and/or turkey management in AR were quite varied. At least 29 hunters commented that turkey numbers appeared down in the area they hunted, while 5 said they were up or OK. Support for recent conservative seasons was somewhat evenly divided, with 30 hunters expressing support for the 2007 season, 14 expressing support, but asking for an earlier opening date, and 34 hunters expressing no support for the season, primarily because it was “too late.”

A number of hunters expressed that they would like to see further restrictions to seasons or bag limits, including a no-jake rule (or jakes for youngsters only) (15 hunters), a Monday opener (13), a 1-bird limit (12), a 1-bird limit the first week of the season and/or mid-day cut-off for hunting (11), eliminate the fall season (10), reduce the spring season length (10), further restrictions to pre-season youth hunting (10), eliminating ATV use (1), outlawing pre-season calling to turkeys (1) and a later season (1). More lenient recommendations included implementing a one-week youth season (1), support of ATV use (1), bow hunting WMAs for a week before the regular season (1), using more prescribed

fire for turkey management (3), planting more food plots (5) and support of a statewide fall season (2). Other miscellaneous comments including zoning the state, north and south (3), the need for more law enforcement/more restrictive regulations (4), concerns about high predator/hog numbers (14), concerns about prescribed fire and its effect on turkeys (3), implementing a turkey stamp (1), implementing a turkey permit (1), outlawing corn feeders, at least part of the year (3), opening the same day every year, say April 10 (1) and replacing the current turkey program leader (2).

Discussion: This survey was accomplished with few problems in its inaugural year. Respondents did a good job of filling out surveys, with what appeared to be accurate information for the most part. Only four surveys were returned to AGFC with information that was unusable.

Response, in terms of the percentage of hunters returning this survey, was low. Ideally, a sample size of at least 400 respondents is needed for this type of survey, so that one has statistical confidence in statewide results. On a regional or Turkey Zone level, even more respondents are desirable. On the other hand, a much higher number of responses (e.g., 1,000+) is not desirable, as it would do little to change statistical averages and confidence while resulting in a huge workload with data entry. With a little lead-time, AGFC can probably figure out ways to reach the desired level of 400-600 respondents next spring.

The data and results in the summary represent only one year—this is important to keep in mind. Over the next several years, trend information can be collected and reported. When several years of these data have been collected, the format of this summary will change somewhat, as trends will be reported in addition to current-year data. For example, if we hit a series of good poult reproduction years again in the near

future, it will be interesting to see if hunters begin to hear and harvest more turkeys.

Along that line, the reader of this summary should keep in mind that the results presented herein represent results for a “place in time” when turkey numbers are at reduced levels in much of Arkansas when compared to past numbers. As an example, recent harvests, gobble counts and fall deer hunter observations of wild turkeys on Hobbs State Management Areas in northwest AR have all fallen over 80% from peak levels of the late 1990s. The point of this reminder is to say that, had this survey been run five years ago, gobbling and harvest indices might have been much higher and more comparable to other regions of the country. Again, AGFC needs to run this survey in future years, with sufficient responses levels from the public, to see if these indices do change as turkey populations fluctuate over time.

Given the reduced turkey numbers in Arkansas at present, gobbling and harvest indices probably compared relatively well to that of other states and regions around the county. These indices were close to levels for Southeastern states, and compared at least favorably to published data from public lands in Mississippi, all lands in West Virginia and to several other states. West Virginia is heavily forested, much like most of our turkey habitat in AR, so the observation of gobbling and harvest indices that are relatively comparable between these two states is good. Harvest indices for AR public lands in this survey would actually appear to be better than those presented for a multi-year period on public lands in Alabama, a state with a long tradition of turkey hunting.

Data from Arkansas hunters on out-of-state hunts result in some interesting conclusions. One, few AR hunters other than those from the Delta would appear to be going to Southeastern states to hunt at present. Antidotal observations suggest that this was not always the case; several decades ago,

Mississippi and Alabama were destinations for many AR hunters. We suspect that one of the reasons Delta hunters continue to go to Southeastern states in good numbers is that many are farmers who have “free time” during March when seasons open in these states, but who are tied up with farming operations when April arrives. The trend seems to be for most AR out-of-state hunters to go to Plains and Mid-western states now, even though seasons and bag limits are usually much more restrictive. Hearsay observations suggest that higher turkey numbers, better gobbling activity and a better chance of killing a turkey are driving this trend. While Missouri was and remains a destination for many AR hunters, Kansas seems to be the new “gold rush” state.

Comments suggest that many hunters recognize and are concerned about reduced turkey numbers in Arkansas at present. About the only feed-back we received that ran counter to current conservative season strategy was the comment that seasons should “open earlier.” The topic of turkeys being “gobbled out” before the season will not be addressed here due to space, but suffice to say that the Gobbling Chronology/Phenology Survey that was run in 2007 clearly showed a 2nd peak of gobbling in both north and south AR during mid-April—concurrent with the opening of the regular season.

AGFC would like to thank all the turkey hunters who participated in this important survey. Your participation in future years is also needed. The results of this survey, along with other information, such as checked harvest, brood survey data, gobbling chronology information, is important to the future wise management of wild turkeys in the Natural State.

In addition, a number of people with AGFC, including Angela Sanchez, Nancy Ledbetter, Nancy Legg, Matt Hodges, Brad Carner, Jackie Cotton and Lesley Kelly, deserve thanks for helping with various aspects of this survey.

