Leasing by Tennessee Hunters

Paul M. Jakus, *Department of Agricultural Economics and Rural Sociology, University of Tennessee, Knoxville, TN 37901-1071*

J. Mark Fly, *Department of Forestry, Wildlife, and Fisheries, University of Tennessee, Knoxville, TN 37901-1071*

Becky Stephens, *Department of Forestry, Wildlife, and Fisheries, University of Tennessee, Knoxville, TN 37901-1071*

Alan Barefield, *Department of Agricultural Economics and Resource Development, University of Tennessee, Knoxville, TN 37901-1071*

Abstract: Telephone interview surveys of the general population of Tennessee residents were used to determine the extent to which hunters leased land for hunting. About 7% of hunters leased land in Tennessee, with the average lease consisting of about 631 acres at a total cost of $1,500. Average per acre costs in Tennessee were about $3.56 per acre. Hunters who lease were more likely to have higher incomes, live in rural areas, and be more dissatisfied with wildlife management than those who do not lease. Hunters very interested in leasing, but not currently leasing, shared some of the characteristics of current lessees.

Leasing private land for hunting is an opportunity increasingly exploited by both hunters and landowners. For hunters, the appeal lies in the exclusive right to hunt a parcel of land without interference or congestion from other hunters. Lessees can also take an active role in managing wildlife habitat to maximize hunting satisfaction. Landlords, of course, benefit monetarily from providing exclusive hunting rights to hunters. But landowners, especially absentee landowners, also benefit from services provided by the presence of hunters, such as notifying the owner of problems associated with fences, structures, access roads, or damaged vegetative cover or aquatic resources. Hunters can also help control wildlife populations that may be causing damage to property, crops, or livestock.

Our goal is to provide basic information about leases currently held by Tennessee hunters. This study quantifies the number of hunters leasing and the characteristics of

those leases (average annual cost, average acres, etc.). Leasing costs to Tennessee hunters are then compared to previously published cost estimates for Tennessee and other Southeastern states. We also examine the demand for leasing by identifying the characteristics of hunters who have chosen to lease relative to those hunters who do not lease. This analysis is repeated to determine potential demand by hunters who do not currently lease, but say they are "very interested" in leasing. Information presented provides hunters, landowners, and policymakers in Tennessee and other Southeastern states with a comprehensive perspective from which to evaluate potential hunting lease opportunities.

Methods

Data upon which this paper is based were collected as part of regular semi-annual telephone interview surveys of the general Tennessee population conducted by the University of Tennessee Human Dimensions Lab and sponsored by the Tennessee Wildlife Resources Agency (TWRA). The data for this study were collected in spring and fall 1994–1996, in winter 1995, and spring 1997, so that results from 8 different surveys were combined. The sampling frame for each survey was a set of 10,000 random digit phone numbers. After adjusting for no contacts and ineligible phone numbers, response rates of 43%–55% were achieved (details available upon request). In each survey respondents were asked about their hunting, fishing, and non-consumptive wildlife-related activities in Tennessee. Data consistently showed that 6.5% to 8.8% of the Tennessee population over the age of 16 hunted in any given year. Each yearly estimate closely matched the National Survey of Fishing, Hunting, and Wildlife Associated Recreation estimates from 1991 and 1996 (U.S. Fish and Wildl. Serv. 1993, U.S. Fish and Wildl. Serv. 1997). Combining all surveys, interviewers spoke to 2,418 hunters.

Leasing data were collected over a 4-year time period, so it was necessary to adjust the dollar figures to reflect changes in the price level due to factors such as inflation. All dollar estimates were converted to "constant 1997 dollars" using the consumer price index. For example, the consumer price index in 1997 was 160.5, while in 1994 it was 148.2 (where 1982 = 100). Assuming a hunter paid $1,000 for a lease in 1994, the price paid in constant 1997 dollars is calculated as $1,000 × (160.5/148.2), or $1,083.

In addition to standard ordinary least squares (OLS) regression, probit regression analysis was used to estimate the probability that an event occurred (Greene 1990). Probit was used to identify the characteristics of those hunters choosing to lease relative to those who chose not to lease and to identify differences in leasing interest by non-leasing hunters. A positive regression coefficient on any explanatory variable in the reported probit models indicated that as the value of the variable increased, the event was more likely (e.g., a greater probability of leasing), while a negative sign indicated the event was less likely (e.g., the probability a hunter leased was smaller). The null hypothesis for each explanatory variable was that of no relation with the event, and was tested by examining the *t*-statistic associated with the variable

in question. The chi-square statistic reported for each model assesses the overall quality of the statistical model. It tested the null hypothesis that all the coefficients except the intercept were jointly equal to 0 (i.e., no statistical relationship between leasing and any of the explanatory variables).

All of the leasing literature cited in this paper focused on the cost of leases (usually from the landlord's perspective), but none addressed the characteristics of hunters who lease and how they differ from those choosing not to lease. Fundamentally, we examined the demand side of leasing arrangements, as opposed to the supply side. Intuitive arguments—primarily grounded in economic theory—are used to specify the empirical models. Economic theory would predict that the probability a hunter leased land was positively related to the hunter's income. "Free" hunting land (a substitute for leased land) should be negatively related to leasing; this accessibility factor was measured by 3 variables: whether the individual was a farmer (i.e., received income from the sales of agricultural products), the proportion of public land in the hunter's county of residence, and residence in an urban or rural setting. Demographic variables such as age and educational level might also affect demand.

Finally, it was hypothesized that hunters who were dissatisfied with TWRA wildlife management would be more likely to lease than those who were satisfied with TWRA wildlife management. Leased land offers lessees the opportunity to operate from the "supply side" if the lease allows them to actively manage habitat for desired species. Satisfaction was measured along a 5-point Likert scale, after which a simple 0–1 dummy variable separating the "very dissatisfied" and "somewhat dissatisfied" hunters from the remaining hunters was created and used in the probit regression.

The same hypotheses apply when examining the potential demand for hunting leases among those who do not currently lease. Probit models which identify the characteristics of hunters interested in leasing were estimated in 2 ways: first by combining all "very interested" and "somewhat interested" hunters into 1 category, and second by highlighting only those who were "very interested" in leasing (thus combining the "somewhat interested" group with all those who were not interested). The models provided qualitatively similar results, so we focus below on the model which distinguishes only those "very interested" in leasing from other hunters because these are the hunters most likely to lease in the future.

Results and Discussion

Characteristics of Leases

Most leases in Tennessee are annual leases for all "in-season" species, so we make no distinction between seasonal and annual leases. Over the study period, the mean lease in Tennessee was for 631 acres (median 255 acres) and earned the landowner, on average, approximately $1,500 per year (constant 1997 dollars; median $613). The average values belie a wide range of leases, however. One respondent paid a total of $2 to lease 80 acres, while another respondent belonged to a group of

150 hunters paying $30,000 for an 8000 acre parcel. Among paying leaseholders the average cost per acre (the average of each lease's size divided by total amount paid) was $3.56 (median $2.33).

This appears to be a reasonable estimate in comparison to other studies, when all cost estimates have been adjusted to constant 1997 prices (Table 1). An interesting feature of the estimate for Tennessee is that it is derived from surveys of hunters rather than from suppliers of hunting land as is most common in the published literature. Although some past studies of leasing in the southeast have used hunter-based data (e.g., Livengood 1983, Pope and Stoll 1985, Luzar et al. 1992) cost per acre estimates could not be calculated from the information provided.

Average size and cost of leases appeared to differ across the state (Table 2). In comparing leases across different TWRA management regions (Fig. 1), the mean size of lease ranged from just under 400 acres in Region 1 to >850 acres in Region 3. Similarly, average cost per acre ranged from $2.73 in Region 2 to $4.25 in Region 3. Testing for statistically significant differences across regions, while desirable, is complicated because the data for each region appear to follow non-normal distributions. Calculating a pooled sample variance estimate using methods based on the normality assumption—as required for a standard statistical test—would be incorrect. In lieu of a formal test, the method of resampling (a form of the bootstrap) is used to estimate the 95% confidence interval for lease size and cost by region (Table 2, Efron and Tibshirani 1993).

Leases were most often held by a group of hunters, with the average group size consisting of slightly over 8 hunters. The average cost to each hunter was approximately $200. Most hunters were permitted to hunt all species present on the land, as long as the species was in season. Nearly all hunters (96.1%) indicated that their lease allowed the opportunity to hunt deer, followed by squirrel (86.0%), rabbit (79.3%), turkey (72.1%), raccoon (67.6%), quail (66.5%), duck (35.8%), geese (31.8%), and grouse (30.7%).

The OLS regression result ($N = 127$, $R^2 = 0.36$) was:

$$\ln(\text{total price}) = 5.98^* + 0.0008 \times (\text{acres})^{***} - 0.0065 \times (N \text{ hunters}) + 0.4963 \times (\text{accommodations})^* + 0.4486 \times (\text{waterfowl})^{**} - 0.1794 \times (\text{quail})$$

The dependent variable was the natural log of the total paid for the lease. Accommodations, waterfowl, and quail were all measured as 0–1 dummy variables, where the value 1 indicated presence on the lease, and 0 if not present. The superscripts "***," "**," and "*" indicate variable significance at the 1%, 5%, and 10% levels, respectively. The model explained 36% of the total variation in lease cost.

Lease costs were positively related to the size of the parcel in acres ($P = 0.00$), a result consistent with Livengood (1983) and Pope and Stoll (1985). The number of hunters sharing the lease was not statistically related to total lease cost ($P = 0.55$). The model presented above was somewhat different from that of Livengood (1983), who found that the price paid by each hunter declined as the number of hunters increased.

Table 1. A comparison of per acre hunting lease prices in the Southeastern United States.

State	Source[a]	Survey participants	Survey year	Price ($/acre)	Real 1997 price
Alabama	L	Timber industry	1983	1.61	2.59
	BG	Timber industry	1984	1.47	2.27
	SGMS	Timber industry	1989	2.58	3.34
	CT	Forestry consultants	1990	2.42	2.97
	RMG	Timber industry	1994	3.11	3.37
	CT	Forestry consultants	1995	3.62	3.81
Arkansas	BG	Timber industry	1984	1.39	2.15
	SGMS	Timber industry	1989	1.69	2.19
	RMG	Timber industry	1995	2.15	2.33
Florida	L	Timber industry	1983	0.92	1.48
	BG	Timber industry	1984	1.40	2.16
	M	Private landowners	1984	2.29	3.54
	SGMS	Timber industry	1989	2.40	3.11
	RMG	Timber industry	1994	3.11	3.37
Georgia	L	Timber industry	1983	1.17	1.89
	BG	Timber industry	1984	1.90	2.94
	SGMS	Timber industry	1989	2.15	2.78
	CT	Forest consultants	1990	4.64	5.70
	RMG	Timber industry	1994	3.01	3.26
	CT	Forestry consultants	1995	5.68	5.98
Louisiana	BG	Timber industry	1984	1.45	2.24
	SGMS	Timber industry	1989	1.79	2.32
	RMG	Timber industry	1994	2.76	2.99
Mississippi	BG	Timber industry	1984	1.56	2.41
	SGMS	Timber industry	1989	2.20	2.85
	RMG	Timber industry	1995	1.69	1.83
North Carolina	BG	Timber industry	1984	1.30	2.01
	SGMS	Timber industry	1989	1.68	2.17
	CT	Forestry consultants	1990	0.52	0.64
	RMG	Timber industry	1994	2.29	2.48
	CT	Forestry consultants	1995	1.92	2.02
South Carolina	BG	Timber industry	1984	1.34	2.07
	SGMS	Timber industry	1989	2.43	3.15
	CT	Forestry consultants	1990	4.40	5.40
	RMG	Timber industry	1994	3.28	3.55
	CT	Forestry consultants	1995	4.27	4.50
Tennessee	L	Timber industry	1983	1.19	1.92
	BG	Timber industry	1984	1.43	2.21
	RMG	Timber industry	1994	2.03	2.20
	JFSB	Hunters	1997	3.55	3.55
Texas	B	Private landowners	1978	1.03	2.54
	S	Private landowners	1986	3.22	4.72
	B	Private landowners	1988	1.78	2.41
	SGMS	Timber industry	1989	2.29	2.96
	RMG	Timber industry	1994	2.47	2.68
Virginia	BG	Timber industry	1984	1.08	1.67
	SGMS	Timber industry	1989	1.17	1.51
	RMG	Timber industry	1995	2.01	2.18
Southeastern states	BG	Timber industry	1984	1.34	2.07
	SGMS	Timber industry	1989	2.15	2.78
	CT	Forestry consultants	1990	3.64	4.47
	RMG	Timber industry	1994	2.76	2.99
	CT	Forestry consultants	1995	3.82	4.02

a. B = Butler (1991), BG = Busch and Guynn (1988), CT = Caufield and Thomas (1996), JFSB = Jakus et al. (this study), L = Lassiter (1985), M = Marion (1989), RMG = Roach, Marsinko, and Guynn (1996), S = Steinbach (1988), SGMS = Stuckey et al. (1992).
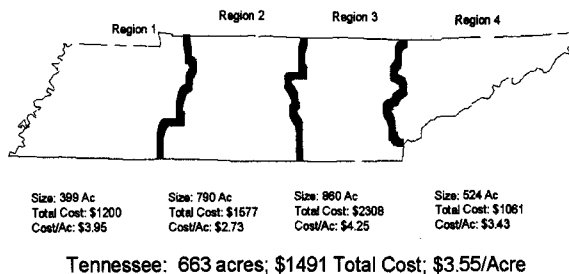
Table 2. Leasing size and costs by State (Tennessee) and Tennessee
Wildlife Resources Agency Management Region[a].

	N	Mean	Median	95% Confidence interval[a]
Acres leased				
State	125	631	255	468–822
Region 1	43	393	200	273–540
Region 2	33	790	300	479–1151
Region 3	25	861	250	361–1597
Region 4	22	524	250	260–882
Total paid ($)				
State	125	1,500	613	1,035–2,143
Region 1	43	1,211	527	730–1,840
Region 2	33	1,577	650	962–2,277
Region 3	25	2,308	866	750–5,071
Region 4	22	1,062	527	634–1,602
Cost per Acre ($)				
State	125	3.56	2.33	2.78–4.57
Region 1	43	4.01	2.57	2.63–6.30
Region 2	33	2.73	2.17	1.93–3.84
Region 3	25	4.25	3.03	2.29–7.19
Region 4	22	3.43	2.98	2.53–4.48

a. Confidence intervals determined by bootstrap method (Efron and Tibshirani 1993).

Some 14.6% of the lessees indicated that "accommodations" were available on the lease, but this could be anything from a comfortable cabin with nice amenities to a primitive structure in which one could toss a sleeping bag. Holding constant all other factors which might influence the price paid, OLS regression analysis indicated that the presence of accommodations on a lease raised the price of the lease by approximately $411 ($P = 0.08$). Pope and Stoll (1985) also found a positive effect on lease price, where the presence of a cabin added value to the lease.

The OLS regression results indicated a significant relationship between the presence of waterfowl (ducks and geese) and the lease price ($P = 0.03$). The opportunity to hunt waterfowl adds $327 to the value of the lease, all other factors held constant. This is in contrast to the results of Pope and Stoll (1985) who found a negative relationship between lease price and waterfowl. About 9.1% of lessees said that the

Region 1   Region 2   Region 3   Region 4

Size: 399 Ac   Size: 790 Ac   Size: 860 Ac   Size: 524 Ac
Total Cost: $1200 Total Cost: $1577 Total Cost: $2308 Total Cost: $1061
Cost/Ac: $3.95   Cost/Ac: $2.73   Cost/Ac: $4.25   Cost/Ac: $3.43

Tennessee: 663 acres; $1491 Total Cost; $3.55/Acre

Figure 1. TWRA Management Regions and Lease Characteristics.

landowner provided liability insurance, but no OLS regression specification ever showed a statistically significant relationship. Thus, it cannot be concluded that land-owners can charge higher prices for providing liability insurance.

Characteristics of Hunters Who Lease

Of the 2,418 hunters in the sample, 179 (7.4%) reported leasing land in the 12 months previous to the interview. A small number (9) of leaseholders do not pay for the lease, however. Adjusting the estimates to reflect only those who pay for a lease, the proportion of hunters leasing was 7.0%. Given the 1996 Fishing, Hunt-ing, and Wildlife-Associated Recreation survey estimate that 362,000 Tennesseans over the age of 16 hunt, this translated into about 25,350 resident hunters holding leases for which they had to pay some positive amount. About 10.2% of hunters from TWRA Region 1 (Fig. 1) paid to lease land for hunting, whereas in each of the remaining regions of Tennessee the percentage was smaller; 6.2% in Region 2, 6.7% in Region 3, and 4.7% in Region 4. None of the regional differences were sta-tistically significant. The vast majority of hunters leasing land (89.4%) first heard about the opportunity via "word-of-mouth." Much smaller percentages contracted their lease via cold contact (5.6%) or from an advertisement in a newspaper or magazine (3.8%).

The probit model indicated support for the hypothesis that leasing by hunters was positively related to a hunter's income ($P = 0.00$): hunters with greater incomes were more likely to lease than hunters with smaller incomes (Table 3, Model #1). In-deed, the mean income of hunters who leased was over $10,000 greater than the mean income of those who did not lease. Whether or not the hunter was a farmer (i.e., had any agricultural income) was statistically unrelated to the decision to lease ($P = 0.93$). Similarly, the proportion of publicly owned land in the hunter's home county was also unrelated to the leasing decision ($P = 0.16$). This was a surprise in that it was hypothesized that hunters with greater access to "free" hunting would be less likely to lease. Neither age ($P = 0.11$ for both age variables) nor educational achieve-ment ($P = 0.85$) were statistically related to the leasing decision.

Hunters who said they were dissatisfied with the way in which TWRA managed wildlife in Tennessee were more likely to lease than those who said they were satis-fied with wildlife management by TWRA, or who said they were "neither satisfied nor dissatisfied" ($P = 0.07$). This result highlights the role that the management agency has in the decision to lease land for hunting. Hunters who lease are in effect choosing to hunt on privately managed land—which, in addition to alleviating con-gestion problems, may provide hunters an opportunity to influence habitat manage-ment on the lease. The number of hunters who indicated dissatisfaction with wildlife management was relatively small (about 15%), but their comments are illuminating. One of the most frequently listed management complaints of these hunters (about 20% of all verbatim responses) was that the wildlife agency focuses too much on deer and turkey management to the exclusion of small game such as waterfowl, quail, and rabbits. Regardless of the validity of this perception, it appears to have been an important factor in the decision to lease private land.

Table 3. Probability models explaining leasing and interest in leasing by hunters

	Model 1: Probability a hunter leased land	Model 2: Probability a hunter is very interested in leasing land[a]
Intercept	−2.081*** (−6.54)[b]	−2.879*** (−6.57)
Income ($1,000)	0.005*** (3.78)	0.003** (1.95)
Dissatisfied with TWRA Wildlife Management (1 = yes, 0 = no)	0.182* (1.85)	0.226** (2.02)
Farmer (1 = yes, 0 = no)	−0.009 (−0.09)	−0.214* (−1.80)
Proportion of county of residence publicly owned	−0.706 (−1.42)	0.462 (0.93)
Age (years)	0.027 (1.61)	0.072** (3.01)
Age squared	−0.0003 (−1.60)	−0.001** (−3.18)
College graduate (1 = yes, 0 = no)	0.021 (0.19)	−0.102 (−0.76)
Lives in metropolitan statistical area (1 = yes, 0 = no)	−0.151* (−1.74)	0.141 (1.42)
Chi-square	31.09***	29.05***
N Observations	1,984	1.599

a. Hunters not currently leasing.

b. Asymptotic t-statistic in parentheses.

*** Statistically significant at 99% confidence level.

** Statistically significant at 95% confidence level.

* Statistically significant at 90% confidence level.

Living in a metropolitan statistical area impacts the leasing decision ($P = 0.09$): hunters who lived outside Metropolitan Statistical Areas were more likely to lease land for hunting than those who lived inside these areas. While this may appear counterintuitive at first, the result is consistent with data indicating that 90% of leases were first heard about by word-of-mouth. Thus, it seems plausible that those who live in rural areas should be the first to hear about opportunities and agree to leasing contracts. Finally, the chi-square statistic was highly significant, suggesting that the model as a whole was statistically significant ($P = 0.00$).

Characteristics of Hunters Who Are "Very Interested" in Leasing

About 6.3% of hunters not currently leasing said they were "very interested" in leasing, while another 14.2% said they were "somewhat interested." The remaining 79.5% expressed no interest in leasing. Among hunters who were not currently leasing, those with greater incomes were statistically more likely to say they were very interested in leasing relative to other hunters ($P = 0.06$, Table 3, Model #2). Further, those hunters who said they were dissatisfied with TWRA wildlife management were also more likely to say they were very interested in leasing ($P = 0.05$). Hunters with agricultural income were less likely to say they were interested in leasing ($P = 0.08$).

The age of the hunter did statistically influence the hunter's interest in leasing: the nonlinear relationship with age showed that interest in leasing rose the older the hunter, peaking near age 45, and declined thereafter ($P = 0.01$ for both age variables). Finally the proportion of the county in public land ($P = 0.36$), educational achievement ($P = 0.45$), and whether the hunter lived in a metropolitan statistical area ($P = 0.16$) did not affect interest in leasing. The chi-square statistic testing the null hypothesis that the explanatory variables were jointly equal to zero was highly significant, so the hypothesis was rejected ($P = 0.00$).

Conclusions

With the average lease earning the landowner about $1,500, it is clear that landlords do not "get rich" from leasing. Instead, landowners in Tennessee probably view leasing as a supplemental income source, something to help cover the costs of land ownership such as taxes or yearly maintenance. The average lease earned about $3.56 per acre, which was commensurate with what has been received in other Southeastern states. All else equal, accommodations add about $411 to leasing costs, whereas access to waterfowl hunting adds about $327. Roach et al. (1996) found that many landowners determine lease prices by the fees received on surrounding land, so basic lease information is useful to landowners and to policymakers who provide information to landowners.

This paper also analyzed leasing from the "demand" side, looking at the characteristics of hunters who had leased land and hunters who were very interested in leasing. These 2 groups share some common characteristics: they tended to have greater incomes than hunters not interested in leasing and they are more likely to be dissatisfied with wildlife management by the state agency. Analysis of hunter comments revealed a perception by dissatisfied hunters that the management agency does not give appropriate emphasis to small game management. Thus, the opportunity for lessees to manage land for wildlife may be a key motivating factor in the leasing decision.

Literature Cited

Busch, F. A. and D. C. Guynn. 1988. Forest industry hunt-lease programs in the Southern United States. Proc. Annu. Conf. Southeast. Assoc. Fish and Wildl. Agencies 42:404–410.

Butler, L. D. 1991. White-tailed deer hunting leases: Hunting costs and rancher revenues. Rangelands 13:20–22.

Caulfield, J. P. and M. Thomas. 1996. Hunting leases on institutional timberland. Pages 77–82 *in* R. Johnson, ed. A symposium on the economics of wildlife resources on private lands. Auburn. Univ., Auburn, Ala.

Efron, B. and R. J. Tibshirani. 1993. An introduction to the bootstrap. Chapman and Hall, New York, N.Y. 436pp.

Greene, W. H. 1990. Econometric analysis. Macmillan Publ. Co., New York, N.Y. 783pp.

Lassiter, R. L. 1985. Access to and management of the wildlife resources on large private timberland holdings in the Southeastern United States. As cited in D. R. Roach, A. Marsinko,

and D. C. Guynn. 1996. Forest industry hunt-lease programs in the Southern United States: 1994. Pages 71–76 *in* R. Johnson, ed. A symposium on the economics of wildlife resources on private lands. Auburn Univ., Auburn, Ala.

Livengood, K. R. 1983. Value of big game from markets for hunting leases: The hedonic approach. Land Econ. 59:287–291.

Luzar, E. J., C. Gan, B. Kanjilal, and M. Messonnier. 1992. Quality as a latent variable in recreational access analysis. South. J. Agric. Econ. 24:105–112.

Marion, W. R. 1989. Recreational access to private lands in Florida. Trans. North Am. Wildl. and Nat. Resour. Conf. 54:202–209.

Pope, C. A. and J. R. Stoll. 1985. The market value of ingress rights for white-tailed deer hunting in Texas. South. J. Agric. Econ. 17:177–182.

Roach, D. R., A. Marsinko, and D. C. Guynn. 1996. Forest industry hunt-lease programs in the Southern United States: 1994. Pages 71–76 *in* R. Johnson, ed. A symposium on the economics of wildlife resources on private lands. Auburn Univ., Auburn, Ala.

Steinbach, D. W., M. K. Glover, J. R. Conner, and J. M. Inglis, as cited in M. K. Glover and J. R. Conner. 1988. A model for selecting optimal combinations of livestock and deer lease-hunting enterprises. Wildl. Soc. Bull. 16:158–163.

Stuckey, G. L., D. C. Guynn, A. P. Marsinko, and W. M. Smathers. 1992. Forest industry hunt-lease programs in the Southern United States: 1989. Proc. Annu. Conf. Southeast. Assoc. Fish and Wildl. Agencies 46:404–410.

U.S. Fish and Wildlife Service. 1993. 1991 National survey of fishing, hunting, and wildlife-associated recreation: Tennessee. 41pp.

U.S. Fish and Wildlife Service. 1997. 1996 National survey of fishing, hunting, and wildlife-associated recreation: State overview (preliminary findings). 47pp.