

Characteristics and Opinions of Texas Hunters

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Abstract: A telephone survey of 3,081 Texas hunters was conducted after the 1981–1982 hunting season. The typical hunter was white, urban, middle aged (\bar{x} = 40, SD = 15 years), male, was a college graduate, had an average income of \$28,150 (SD = \$6,100), and held a white-collar job. The average age of hunting initiation was 14 (SD = 8) years. Respondents hunted an average of 22 (SD = 14) years and learned about hunting mostly from experiences in Texas. Mixed bag hunting was the norm, but 75% hunted white-tailed deer (*Odocoileus virginianus*). The recreation and sport associated with the hunt rather than the harvest was the reason why 70% of the respondents hunted. High lease cost (23%) was the main factor which would contribute to desertion from hunting. Respondents who hunted without leases (62%) used land owned or leased by friends or relatives. Non-lease hunting expenditures averaged \$445 (SD = \$935) per hunter and white-tailed deer leases averaged \$395 (SD = \$547) per leasee. Most respondents (82%) favored giving the Texas Parks and Wildlife Department full regulatory authority over all wildlife and eliminating the veto power of county commissioners courts (68%). Less than 1% of the hunters surveyed belonged to wildlife conservation organizations compared to 22% who belonged to the National Rifle Association. Respondents said the single most reliable source of information about wildlife and hunting in Texas was printed media (50%) consisting primarily of sporting magazines (80%).

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Past studies have determined game preferences, harvest statistics, expenditures, and selected demographic characteristics of Texas hunters (Attebury 1975, Berger 1974, Cook 1973, Forrest 1968, Frazier 1973, Mazzaccaro 1980, McCain 1970, Nelson 1973, Ramsey 1965, Robertson 1978, and Sargent et al. 1958). This paper describes the level and type of hunting activity in Texas during the 1981–1982 season, assesses the opinion of licensed Texas

hunters on selected wildlife regulations and practices within the state, and determines the sources of reliable and useful wildlife and hunting information used by licensed Texas hunters.

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Methods

A telephone survey of Texas hunters was conducted from February to May, 1982. The names and addresses of 8,715 hunters, licensed during the 1980–1981 hunting season, were randomly selected from a TPWD list of 41,179. Sample sizes were proportional to the actual population estimates of the 4 administrative districts of the TPWD. Telephone numbers were obtained for 5,727 (66%) of the 8,715 selected hunters. Of the 3,473 hunters contacted, 3,081 (88.7%) participated in the survey. Interviews were conducted Monday through Friday from 5:30 to 8:30 p.m. and lasted an average of 23 minutes, within a range of 10 minutes to an hour. Respondents answered survey questions on their hunting history, game animals hunted, reasons for continuing and discontinuing hunting, licensing alternatives, selected wildlife management, regulatory, and environmental issues, sources of wildlife information, and demographic characteristics. All surveys were conducted in the agricultural survey research center operated by the Department of Rural Sociology at Texas A&M University.

Results

Demographics

The average respondent was white (94%), urban (63%), middle-aged ($\bar{x} = 40$, $SD = 15$ years), and male (93%). More than 50% were college graduates compared to 33% in the general Texas population (U.S. Bureau of Census 1980). Almost half had white collar (50%) occupations compared to blue collar (30%) occupations. The average income of licensed Texas hunters was \$28,100 ($SD = \$6,100$). Nearly 49% of the hunters sampled, reported annual incomes $\geq \$30,000$, compared to 24% of the general Texas population who are in this income bracket. These characteristics were similar to those reported by Berger (1974). Even though there was a 41% increase in those hunters reporting annual incomes $\geq \$30,000$ in 1982 compared to 1972, the 1982 average income was not significantly different from the 1972 adjusted (based on consumer price index) average income.

Hunting History

Hunters were initiated into hunting in their early teens ($\bar{x} = 14$, $SD = 8$ years) mostly by parents (59%), but also by relatives (14%), and friends (13%). Our study indicated a mean lifetime hunting duration of 22 ($SD = 14$) years compared to 26 years reported by Berger (1974). The 4-year difference might be attributed to hunter retirement during the 10-year period followed by low recruitment. Only 23% of the hunters sampled indicated that they had recruited others into hunting and 52% indicated they were hunting less now compared to other seasons.

Texas hunters were products of the Texas hunting system. The difference between the mean values for lifetime ($\bar{x} = 22$, $SD = 14$ years) and Texas hunting ($\bar{x} = 20$, $SD = 14$ years), was not statistically significant. Hunters reported living in Texas an average of 35 ($SD = 17$) years and in their counties an average of 23 ($SD = 17$) years. Most (89%) of the hunters sampled indicated that they learned about hunting mostly from friends and experiences in Texas. A small group (11%) identified 43 other states, and 4 countries, Africa, Turkey, Canada, and Mexico.

Game Animals Hunted

The kinds of game animals preferred by Texas hunters demonstrated a consistent pattern over the last 10 years (Table 1). The largest increases in hunting frequency were for white-tailed deer (8%), rabbits (7%), and waterfowl (10%) from 1972 to 1982. However, decreases in the frequency of mourning dove (8%) and quail (4%) hunting were also noted.

Single categories of game animal preferences were not evident among the hunters sampled. The frequency distribution of the categories of those who

Table 1. Game animal preferences from a sample of 1982 and 1972 Texas hunters.

Population	Percent of hunters sampled seeking species	
	1982, $N = 2,306$	1972, $N = 1,581^a$
Game species		
White-tailed deer (<i>Odocoileus virginianus</i>)	75	67
Mule deer (<i>O. hemionus</i>)	5	4
Javelina (<i>Dicotyles tajacu</i>)	13	11
Squirrel (<i>Sciurus niger</i> and <i>S. carolinensis</i>)	36	34
Rabbit (<i>Sylvilagus floridanus</i> , <i>S. aquaticus</i> , and <i>Lepus californicus</i>)	35	28
Turkey (<i>Meleagris gallopavo</i>)	25	21
Mourning dove (<i>Zenaidura macroura</i>)	54	62
Quail (<i>Colinus virginianus</i> and <i>Callipepla squamata</i>)	43	47
Ring-necked pheasant (<i>Phasianus colchicus</i>)	7	No data
Waterfowl	31 ^b	21

^a Berger (1974).

^b Ducks (21%), Geese (10%).

hunted single game were: white-tailed deer (15%), mule deer (7%), javelina (<1%), squirrels (2%), rabbits (<1%), turkey (<1%), mourning dove (6%), quail (4%), pheasant (8%), duck (2%) and geese (<1%).

Reasons for Hunting

Respondents ranked recreation and sport (70%) as their most important reason for hunting, followed by meat or food (52%), being close to nature (32%) and being with friends (30%). Only 7% said that they hunted for trophies. These results are consistent with the conclusion of More (1973) that for most hunters, the pleasure of hunting stems from the process rather than the product.

Reasons for Discontinuing Hunting

Hunters were asked why they would discontinue hunting in Texas. Lease cost (22%) was the reason most often given followed by scarcity of game (18%), and no place to hunt (14%). However, 23% of the hunters indicated a firm commitment to hunting by stating that nothing could influence them to stop hunting.

Nearly 20% ($N = 605$) of the hunters cited "other" reasons that would cause them to discontinue hunting in Texas. Most of these hunters ($N = 145$) gave age as the reason they would terminate hunting followed by access restrictions or over-regulations ($N = 115$), health ($N = 100$), and personal reasons ($N = 97$). Other reasons given included danger, higher license costs, gun control, relocation to another state, hunting becoming too commercial, poachers, lack of enforcement, displeasure with landowners, low wildlife populations, and cold, wet weather.

Lease vs. Non-lease Hunting

Less than 3% of the land in Texas is owned by federal and state agencies. Public access to hunting areas is therefore greatly restricted relative to other states. For example, large proportions of Alaska (85%), California (47%) and Utah (64%) excluding state parks and wildlife management areas are in the public domain (U.S. Bureau of Land Management 1981).

Sixty percent of the Texas hunters surveyed did not feel that public hunting areas in Texas were widely available. However, of the 2,304 respondents who hunted during the 1981–1982 season, 62% did so without purchasing a lease. Among the hunters ($N = 876$) who had leased land, 84% purchased 1 lease. The rest purchased from 2–12 leases.

Leasing was not the primary access strategy used by respondents. The non-lease strategies most often identified for all game species were land owned by friends or relatives (53%), land owned by the hunter (21%), and land leased by friend or relative (20%). The other public land category was used most often (19%) by waterfowl hunters. Pheasant hunters identified private unleased land more often (25%) than those who hunted other game

species. The infrequent use of TPWD wildlife management areas (4%) was attributed to their low availability (258,332 acres) when compared to private land holdings.

If the purchase of a license to hunt carried with it an obligation by the issuing authority to provide a place to exercise that activity, then state agencies should be prepared to satisfy this obligation (Stoddard et al. 1969). Hunters (69%) favored a hypothetical strategy by which the TPWD would provide greater access to private land for public hunting by paying a \$20/day/hunter use fee to hunt on lands leased by the TPWD. This proposal was supported by another survey item for which over 75% of those sampled favored spending existing state wildlife funds to purchase more areas for public use.

Hunting Expenses

Hunting expenditures varied greatly among individual hunters (Table 2). The number of Texas residents who purchased all types of resident hunting licenses during the 1981–1982 season was 1,154,982. Approximately 5% to 10% of all Texas hunters were estimated to hunt without a license, while 2% were out-of-state residents. The estimated total licensed white-tailed deer hunters was 533,130 (*pers. commun.* Glenn Boydston, TPWD).

Overall, a total non-lease hunting expense for all licensed Texas hunters was estimated to be \$514,159,518 and \$78,183,034 for white-tailed deer leases. The income of Texas communities from hunters and hunting is considerable. The mean expenditure for non-lease hunting expenses was \$445 (SD = \$935) per hunter and \$395 (SD = \$547) per hunter for white-tailed deer lease expenditures.

Table 2. Non-lease and lease (white-tailed deer) hunting expenditures reported by Texas hunters during the 1981–1982 season.

Expenditures (\$)	Non-lease expenditures (\$)			Lease expenditures (\$)		
	<i>N</i> respondents	%	Mean expenditure/ respondent	<i>N</i> respondents	%	Mean expenditure/ respondent
0	576	19	0	1,052	63	0
1– 100	696	23	59	111	7	73
101– 200	426	14	183	162	10	166
201– 300	271	9	284	144	9	272
301– 400	169	6	389	57	3	366
401– 500	295	10	495	42	2	484
501–1,000	339	11	836	61	4	728
1,001–2,000	152	5	1,676	32	2	1,486
2,001 (+)	92	3	4,313	12	1	3,158
Totals	3,016	100	445	1,673	101	395

Regulatory Authority

The Uniform Wildlife Code in Texas was an assemblage of county by county attempts at wildlife regulation. The first (1925) state law was the standard adopted by 13 counties then designated as non-regulatory. In 30 counties, commissioners' courts had the authority to veto the wildlife regulations adopted by the TPWD, provided they revert back to the proclamation of the prior year or the general law. Another 63 counties mixed wildlife regulatory policies based on TPWD recommendations and the statewide enactments of the legislature. The remaining 148 Texas counties gave the TPWD full regulatory authority over all wildlife.

In our survey, hunters were asked whom they preferred having regulatory authority. Most (82%) of the hunters indicated the TPWD should have this authority while 15% said otherwise. A majority (68%) of those surveyed felt that a county commissioners' court should not have veto power over TPWD regulations, 27% felt they should and 5% were undecided. The Wildlife Conservation Act of 1983 gave the TPWD full regulatory authority over all wildlife in Texas. Landowners still retain their right to limit hunter ingress thus controlling wildlife harvest.

Sources of Information

Less than 1% of the hunters surveyed belonged to the Sierra Club, Izaak Walton League, Wilderness Society, National Audubon Society, Friends of Animals, Defenders of Wildlife, or the Humane Society. About 1% belonged to the National Wildlife Federation. Membership in Ducks Unlimited was reported by 5% of the hunters surveyed. National Rifle Association membership was reported by 22% of the respondents. Memberships in state or local sportsmen, rifle, wildlife, and hunting organizations was indicated by 6% of the respondents.

Nearly 50% of the respondents identified the printed media as their single most reliable source of information about wildlife and hunting in Texas. Personal hunting experience was considered by 17% to be their primary source of information. Less than 5% indicated other sources such as electronic media, wildlife organizations, county extension programs and literature, wildlife biologists, or game warden. Nineteen percent indicated other information sources, primarily friends and relatives through word of mouth (59%), and TPWD pamphlets (36%). Game wardens were used as informational sources by 5% of those surveyed, compared to 4% who used the county extension programs and <1% use of game biologists. These differences could be attributed to probabilities of contact in the field.

Nearly 80% indicated they read general sporting magazines either sometimes or frequently, 65% read *Texas Parks and Wildlife*, 55% read *National Geographic*, 33% read *Southern Outdoors*, and 24% read *National Wildlife*. Less than 10% of the respondents read *Audubon*, *Defenders of Wildlife*, *Living Wilderness*, *Sierra*, or *Natural History* either sometimes or frequently.

Specific types of information desired by respondents included hunting locations within the state (39%), policies and regulations (19%), hunting techniques for particular game species (9%), wildlife management programs and land leasing (7%). Less than 3% of all hunters desired information on hunting safety, habitat destruction, Texas' endangered species, the value of hunting as a conservation technique, and selling and donating of land to TPWD. Other kinds of information categories desired by 17% of the respondents included primarily wildlife habitat and behavior, TPWD activities, research, and kill statistics.

Discussion

The development of a trend of licensed hunters being from the generally higher socio-economic strata of Texas residents was suggested by Berger (1974) and supported in this study. If such a trend exists, the expected future impacts on hunting in Texas may be (1) priority use of quality hunting leases by a select group of the total Texas hunter population and (2) continued high seasonal income to those counties designated as quality hunting areas for selected game species. Even though white-tailed deer was the game animal preferred by 75% of the sampled hunters, few (15%) hunted the animal exclusively. A desire for game animal diversity reinforced the position that future wildlife habitat management policies and procedures should not be exclusively for white-tailed deer. Furthermore, the game animal preferences of nonlicensed hunters remains unknown and an important consideration in wildlife habitat management decisions.

Burger and Teer (1981) claimed that lease prices were forcing some hunters out of the sport and that the economics of the leasing system promotes some inequality in the distribution of hunting opportunity. The hunters we surveyed supported the above assumptions by stating that lease cost would be the primary factor causing them to abandon hunting as a recreational opportunity in Texas. Lease costs have continually risen since the 1960s (Burger and Teer 1981). Studies which define the "break point" between hunter income and lease cost are required. Free hunting is a viable alternative only through friends or relatives who are Texas landowners. Therefore, nonresident and immigrant hunters and those who have lost leases may be excluded from these sources of land access. If the Texas hunting system is heading in the direction of selection for upscale socio-economic subsets of residents and kinship networks then a determination of the future political impact from those deprived of hunting access should be considered (Swenson 1983).

The low hunter use of county extension programs and professional wildlife organizations and personnel to obtain wildlife information highlighted the need for these groups to improve or design alternative information dissemination strategies. The type of media used and information desired by hunters was identified. The greater use of game wardens as sources of wildlife infor-

mation indicates that a portion of warden preservice training should include aspects of wildlife ecology and management.

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