LANDOWNER CONSTRAINTS ON OKLAHOMA HUNTING OPPORTUNITIES

By

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Bachelor of Arts

Moorhead State University

Moorhead, Minnesota

1977

Submitted to the Faculty of the Graduate College
of the Oklahoma State University
in partial fulfillment of the requirements
for the Degreee of
MASTER OF SCIENCE
July, 1979

LANDOWNER CONSTRAINTS ON OKLAHOMA

HUNTING OPPORTUNITIES

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ACKNOWLEDGMENTS

I wish to express my appreciation to my friends and advisers Dr. Richard Hecock, Dr. Richard Dodder, and Dr. Paul Vohs. Their encouragement and assistance went above and beyond the call of duty. A note of thanks also to the ASCS County Executive Directors and their associates who were most interested and helpful. Special thanks go to Leslie Livingston for her invaluable assistance in conducting telephone interviews and providing moral support.

It would be impossible to list here all the friends who have contributed to this project. The laughter, music and dancing have made the task much easier, and made my stay in this fine state a most memorable experience.

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Introduction

The growth of urban areas experienced in the United States during the past two decades and an intensified interest in outdoor activity by the general public have led to an increased demand for public access to land and water for recreation (Braun, 1965; Howell, 1978; Sargent, et al., 1958). Acquisition of lands by public agencies is a slow and expensive process, and the growth rate of public land holdings in Oklahoma is low. The gap between public demand for recreational access and the supply of public lands available is bridged by the availability of private lands to provide recreation.

Hunting licenses provide an index to hunter demand, and because demand for hunting space far exceeds the supply of public hunting areas, a large portion of hunting is done on private lands in Oklahoma. Kimball (1963) reported that 80 percent of the game bagged in the United States came from private lands. In recent years land development and an increasing human population that produced more people wanting to hunt have intensified problems related to landowner-hunter relationships. The number of hunting licenses sold in the United States increased by almost four million during the 10-year period from 1960-1970, and increased another three million from 1970-1976 (Table I).

TABLE I

HUNTING LICENSES SOLD AND ACTIVITY DAYS*
IN HUNTING, UNITED STATES

	1955	1965	1970	1975
Licenses (millions)	14.2**	19.4	22.2	25.9
Days in hunting (millions)	169	186	210	

* 1970 Survey of Outdoor Recreation Statistics, U.S. Dept. of Interior.
** Does not include Alaska and Hawaii.

Actual and perceived damages to private property have encouraged many landowners across the country to close their lands to hunting. Oklahoma Department of Wildlife Conservation officials estimate that as much as 90 percent of huntable land is posted in some counties. Posting does not always preclude hunting, but in some cases serves to notify hunters that the landowner requires that hunters request permission to use private land. In addition, posting symbolizes the tendency toward increased landowner resistance to unrestricted access of hunters to private lands. In truth, "No person may hunt upon the land of another without the consent of the owner, lessee or occupant of such land" (Wildlife Laws of the State of Oklahoma, 1975; Title 29, Section 513; Article 5, Section 202A). Areas exempt from this provision are "Lands not occupied by a resident thereon, unless notice

of objection is conspicuously posted on the premises by the owner or his agent," and "Land of the state which is not leased and occupied by a resident" (Wildlife Laws of the State of Oklahoma, 1975; Title 29, Section 513; Article 5, Section 202B). It appears that landowners have a legal right to prohibit persons from hunting on their property of residence. This right is rarely questioned; however, there is a complicating issue. Private property rights do not extend to wild game. Wildlife species are regarded as public property and managed by a public agency. As citizens, hunters have the right to enjoy and harvest game animals, but the extent to which the private landowner denies access to the game creates both an important issue and a practical problem.

This project was designed to meet several specific objectives which address the above mentioned problems:

(1) to assess the current status of landowner opinion concerning hunter access to private lands;

(2) to estimate the amount of land that is not open because of landowner refusal to allow hunting;

(3) to estimate the frequency and types of hunting lease arrangements in the state;

(4) to monitor changes in landowner attitudes toward hunters and hunting;

(5) to make recommendations to the ODWD that are designed to increase the amount of private land open to hunting in Oklahoma.

The Landowner's Concern

A review of the relevant literature yields information concerning

several aspects of the landowner-hunter dilemma. Landowners may limit hunter access to their lands for one or more of several stated reasons;

(1) Hunters shoot near buildings (Calkins, 1963; Powers, 1960; Stoddard and Day, 1969; Waldbauer 1966);

(2) Landowners experience damage to fences, livestock, and other property (Calkins, 1963; Powers, 1960; Stoddard and Day, 1969; Waldbauer, 1966);

(3) Landowners anticipate damage and are concerned for personal safety (Bowers, 1960; Calkins, 1963; Kimball, 1963; McIntosh, 1966; Waldbauer, 1966);

(4) Landowners believe they may be liable for accidents that occur on their property (Stoddard and Day, 1969);

(5) Landowners seek protection from large groups of hunters (Waldbauer, 1966);

(6) Landowners have a desire to reserve the game for personal use (Bowers, 1960; Calkins, 1963; Waldbauer, 1966).

Suggestions have been made that a landowner's first concern is economic return for the use of his land (Bowers, 1960; Bullock, 1964; Uhlig, 1960), but most surveys indicate a reduction in amount of damage suffered due to hunter activity and prevention of future damages are the most frequently articulated concerns of landowners (Calkins, 1963; Kimball, 1963; Stoddard and Day, 1969; Waldbauer, 1966). Some investigators (Berryman, 1961; Braun, 1967; Durell, 1967) indicate the need to expand the amount of privately held land available for hunter use. Landowners, in general, do not share the concern and express little sympathy with the idea that hunting on private lands is a right rather than a privilege (Bowers, 1960;

Braun, 1967).

Public officials, hunters, and landowners do not agree on possible solutions to the landowner-hunter access problem. However, several factors seem essential to any reasonably successful arrangement:

(1) The landowner must participate voluntarily;

(2) Provision must be made for the landowner to control access to his property;

(3) Relief from liability must be provided to the landowner for accidents that occur on his property;

(4) The hunter must be held responsible for any damages incurred;

(5) There should be a provision for revenue to the landowner for the use of his land (Calkins, 1963; Dziedzic, 1966; Kimball, 1963; Stoddard and Day, 1969).

Some authors suggest the creation of a public safety information program (Calkins, 1963; Kimball, 1963), construction of a policing and enforcing unit (Calkins, 1963; Dziedzic, 1966; Kimball, 1963), or the use of an information program concerning wildlife management (Bullock, 1964; Johnson 1966; Stoddard and Day, 1966).

Cooperative Hunting Arrangements

Several specific types of landowner-hunter cooperative hunting arrangements have been implemented and tested, and each has its advantages and disadvantages. Private clubs may be formed in which members gain access for hunting through club ownership or control of lands. Leases, both individual and group, can be used to provide hunter access to game. Such leases may involve one or several landowners and/or

hunters. An alternative solution to the landowner-hunter problem that does not directly involve the private landowner is state control of lands used for public hunting. Each of these types of landowner-hunter cooperative hunting arrangements will be compared and contrasted against the conventional practice whereby hunters simply seek individual permission from landowners to hunt on their property (Table II).

TABLE II

LANDOWNER-HUNTER COOPERATIVE HUNTING AGREEMENTS

Program type	Advantages	Disadvantages	References
Individual permission	Landowner can control access, can limit number of hunters on his land.	Assumes private control of public game, limits hunting space, time-consuming for hunter and landowner.	Braun, 1967 Bowers, 1960 Calkins, 1963
Private clubs	Club can control, manage and police area, decreased management effort by landowners, members need not obtain individual permission.	Dows not provide for hunters who are not club members, membership is limited and selective.	Swift, 1964 Stoddard and Day, 1969
Individual leases	Landowner has control of number and type of hunters, receives compensation for the use of his land.	Policing and posting are time-consuming, landowner may be liable for accidents, fee collection may be difficult.	Calkins, 1963 Sargent, 1952
Group leases	Allow for more land on which to hunt, less time-consuming for both land owners and hunters, allow for group posting and policing.	Landowner does not always know who is on his land, too many people may be hunting at the same time, landowners may have to pay to hunt on their own land.	Calkins, 1963 Dziedzic, 1966; Stoddard and Day, 1969

TABLE II (Continued)

Program type	Advantages	Disadvantages	References
State-controlled access to private lands	Landowner does not have the expense of posting and policing, hunter does not have to contact private landowners, funds can be spent on management, lands can be incorporated in a multiple use program.	Areas are not always well-policed, landowner may have to purchase a permit to hunt on his own land, number of permits sold may exceed good management policy.	Bullock, 1964 Johnson, 1966 Powers, 1960 Stoddard and Day, 1969

CHAPTER II

METHODOLOGY

Sampling Strategy

Questionnaires were administered to landowners in 12 Oklahoma counties to provide information concerning landowner attitudes and opinions toward hunters, hunting, and leasing arrangements. Counties were chosen from each of the 12 major land resource regions in the state to represent the assorted hunting opportunities (Figure 1).

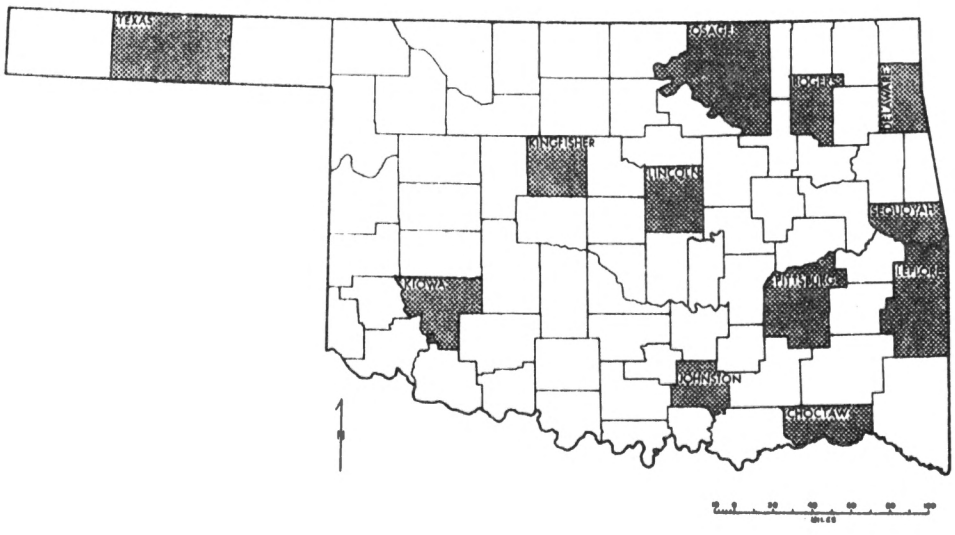

Figure 1. Counties Chosen from Each of the 12 Major Land Resource Regions in Oklahoma

Percentage of land devoted to agriculture, land used as cropland, average size of farms or ranches, and distance from major urban areas (Table III) are factors that will affect hunting opportunities.

The relative merits of various questionnaire delivery systems were reviewed, and an instrument was designed to be used for both mail-out and telephone interviews. Advantages of both systems include ease of distribution and administration and the broad geographical coverage available using the combination of methods (Falthzik, 1972; Field, 1973). The major problem associated with mail-out questionnaires is non-response. Information received may be incomplete and/or biased due to lack of response (Field, 1973; Oakes, 1954). Telephone interviews must be placed at times when interviewees are likely to be found at home and willing to visit on the telephone. Telephone interviewers must be trained to administer the questionnaire for the instrument to be worthwhile and effective (Falthzik, 1972; Field, 1973; Payne, 1956).

Lincoln County was chosen for a pilot test of the questionnaire and delivery systems. Permission was obtained from John W. Goodwin, State Executive Director of the Agricultural Stabilization and Conservation Service (ASCS), to use local ASCS office files. Files at Chandler, Lincoln County seat, were inspected. Two samples were drawn systematically from the listings of landowners, one of 70 and one of 30. The larger sample was used to test the mail-out instrument and the smaller to test the telephone survey.

TABLE III

CHARACTERISTICS OF SAMPLED COUNTIES

County	Number of farms or ranches[a]	Average farm size (acres)[a]	Population density (#/ square mile)[a]	Land in farms (% of total land)[b]
Texas	1126	1117	7.9	95
Kiowa	1225	543	12.2	99
Kingfisher	1374	440	14.2	99
Osage	1184	1035	13.1	84
Lincoln	1698	278	20.0	76
Johnston	602	528	12.3	78
Rogers	1203	266	41.25	73
Pittsburg	1307	420	30.2	69
Choctaw	960	326	19.5	63
Delaware	1165	223	25.1	58
Sequoyah	907	245	33.6	50
LeFlore	1423	293	20.6	42
The state	83,037	434	37.2	82

[a]County and City Data Book, 1972. U.S. Bureau of the Census.
[b]Census of Agriculture, 1974. U.S. Bureau of the Census.

Questionnaire Design and Administration

The questionnaire was brief and concise in order not to exceed the attention span of the telephone interviewees, and to increase the likelihood of obtaining a high response rate from mail respondents. The interviewees were asked to supply information concerning the amount of land owned or controlled, their attitudes toward hunting, and their practices related to permitting hunters on their land. The post-paid, mail-back questionnaires were sent to the Lincoln County sample of landowners with an accompanying cover letter on 27 March 1978 (Appendix A). Of the 70 instruments mailed, 18 were completed and returned.

Telephone interviews in Lincoln County were conducted during the same period. The instrument used was the same as that used in the mail-out survey. Of the 30 names drawn, 19 had telephone listings, and of those 19, 12 useable interviews were obtained.

The evaluation of the questionnaire returns involved a review of both the content of the instrument and the questionnaire delivery systems. The instrument was evaluated with respect to clarity of questions, useability of information received, and willingness on the part of the landowner to answer questions that may be considered to be of a delicate or personal nature.

Landowners in Lincoln County had no problems with clarity of the questions. However, questions concerning posting and allowance of the general public on one's land were important to landowners whether they did or did not allow access for hunting. Hence, it was decided that those questions would be asked of both response groups in the remainder of the survey. The question concerning types of hunting allowed was

revised. The question as initially stated did not obtain the desired range of responses. Landowners were more willing to answer the personal questions concerning amount of land owned and land posted if those questions were asked near the end of the interview and after the landowner had time to acquaint himself with the idea of being interviewed and had identified the purposes of the study.

The two delivery methods were compared and contrasted for completeness of response, costs, and time involved in preparation and delivery. In terms of completeness of response, the two systems were comparable and data were complete in both cases. However, the telephone method did allow clarification of any confusion concerning the intent of the questions. The telephone survey was more expensive than the mail-out method. The expense involved in the use of trained interviewers and the cost of the phone calls exceeded the printing and mailing costs of the questionnaire forms. The telephone survey was more efficient in terms of expenditure of time. Returns on the mail-out questionnaire were received during a period of 42 days. A comparable amount of information received from a telephone survey was collected during a 2-3 day period (Table IV).

Telephone surveys were used to obtain information from the remaining counties in the study because of the high response rate, completeness of response, and reduction in time expended.

TABLE IV

COMPARISON OF SURVEY METHODS USED IN PILOT TEST

	Mail-out	Telephone
Returns		
Sample size	70	30
Number contacted	70	19
Number responding	18	12
Percent response	26	63
Cost estimates		
Printing	$5.00	$1.00
Postage	$31.67	
Telephone calls		$50.00
Labor (hours)	2	3

Names of landowners to be interviewed in the remaining 11 counties were drawn systematically from the alphabetical listings of landowners in the ASCS offices in the respective county seats. These files contained names and addresses of all rural landowners and operators in the county, along with information concerning size and location of landholdings and amount of land in crops. An attempt was made to obtain 30 useable interviews from each county. It is generally

accepted that a sample n of 30 will prove a statistically viable unit for analysis and will preclude the usage of special tests and considerations necessary for smaller samples (Mendenhall, 1964). Forty names were drawn for each county, in the hope that problems caused by death of landowner and/or sale of landholdings would be covered by the additional 10 listings. It was believed that landholdings of 10 acres or less could not be considered viable hunting units. Therefore, during the sampling procedure, if the name of a landowner or operator holding less than 10 acres was drawn, the name was replaced by the next one in the files. Thus, the population from which the samples for this study were drawn included all rural landowners and operators holding 10 or more acres and having telephone listings.

The procedure for obtaining names for interviews was inefficient. Each visit to a county seat entailed several hours of traveling time in addition to the hours spent collecting the sample names. In some cases, telephone listings were difficult to obtain, due to out-of-date directories and file listings and differences between locations of mailing addresses and telephone listings. The ASCS County Executive Directors and their associates were extremely cooperative, interested and well-informed. With their help, names were drawn and telephone interviews were begun on 5 June 1978. Two interviewers were employed and the method of contacting landowners was satisfactory. Change of ownership status and absentee landowners did not significantly affect the efficiency of the survey method. Return calls were necessary in some cases to obtain useable interviews. Interviewees unwilling to discuss their attitudes and policies concerning hunting were so rare that it is believed that they did not affect the information-gathering process.

Thirty usable interviews were obtained for each of the 12 counties. Responses obtained in the survey were encoded and analyzed with the aid of the Oklahoma State University computer services and facilities.

Survey to Obtain Lessor Data

In an attempt to identify landowners known to lease lands for hunting purposes, questionnaire post cards were sent to Game Rangers and other Department of Wildlife Conservation (ODWC) personnel. The questionnaire, accompanied by two cover letters, one from the director of the ODWC asking for cooperation in the study, and another that explained the project, asked the recipient to supply names and addresses of landowners known to be involved in leasing arrangements (Appendix B). These questionnaires were mailed on 27 March 1978. As of 31 August 1978, 76 of 128 post cards had been returned. Of these, 28 supplied names of landowners to be contacted concerning leasing. In total, 35 names were obtained, and 22 of these were found to have telephone listings. An attempt was made to contact and interview each of these landowners. However, inability to reach lessors at home, and a general unwillingness to discuss their leasing arrangements including information concerning amount of land involved in the leasing arrangement, number of landowners and hunters participating, type of arrangement, and leasing fee amounts among those contacted resulted in interviews with only 10 leasing landowners.

CHAPTER III

LANDOWNER RESPONSES

Landowner Policies

Landowners may be divided into "permittors" (those who allow others to hunt on their property) and "restrictors" (those who do not allow others to hunt on their land). Seventy-five percent of the permittors were found to allow friends and neighbors to hunt on their land while 45 percent stated that they allowed anyone who asked permission to hunt on their land. None of the landowners contacted in the landowner survey participated in any leasing of hunting privileges. Mention was made of informal arrangements with hunter groups to hunt on private land, but no charge was reported in those cases (Table V).*

By comparison, in nearby Texas, many ranchers with large landholdings received a greater portion of their income from hunting leases than from cattle and other farming operations (Sargent et al., 1958). Leasing arrangements may exist in Oklahoma, but landowners contacted in this survey

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*Included in Tables V, VI, VIII, and X are confidence intervals at the 95 percent level. The purpose of placing confidence limits about an estimate is to indicate the accuracy of that estimate for the population that was sampled. For the data presented in these tables, 95 percent of the samples drawn would be expected to show percentages within the intervals presented in these tables. The sizes of the confidence intervals were calculated using the following formula:

$$p \pm 1.96 \frac{(p)\ (q)}{N}.$$

had no knowledge concerning them. If such programs are to be found in the state, their existence is limited, and knowledge concerning them is not widespread.

TABLE V

TYPES OF HUNTING ARRANGEMENTS
FOUND IN LANDOWNER SURVEY

Arrangement	N	Percent	N 95 Percent Confidence Interval
Allow friends to hunt	209	75	75 ± 4.5
Allow anyone who asks	112	40	40 ± 5.1
Leasing arrangements	0	0	0
Other	5	2	2 ± 1.5
Did not allow hunting	112	40	40 ± 5.1
Total	360	**	

**Sums to more than 100 because categories are not discrete.

Size of Landholdings and Restrictions Placed on Hunters

* In general, landowners having landholdings greater than 75 acres were more willing to allow others to hunt on their land than were those holding smaller parcels of land (Appendix C, Table XIV). Permittors

also tended to be those landowners located farther away from towns and cities. Landowners living closer to urban areas may have been exposed to greater pressure from individuals desiring to hunt. In most cases, permittors allowed hunting on nearly all of their property. Some did ask that hunters refrain from hunting near buildings and in planted fields during the growing season, to respect fences, and to close gates (Table VI).

TABLE VI

PERMITTOR RESTRICTIONS ON HUNTERS

Restriction	Percent Placing Restriction*	N 95 Percent Confidence Interval
Watch for livestock	35	35 ± 6
Close gates	17	17 ± 4.7
Respect fences	14	14 ± 4.3
Don't shoot near buildings	5	5 ± 2.7
Don't disturb crops	5	5 ± 2.7
Other	17	17 ± 4.7
None	29	29 ± 5.7

*N = 247

In general, landowners that allowed others to hunt on their land were hunters or had family members who hunted (Table VII).

TABLE VII

NUMBER OF PERMITTORS AND RESTRICTORS FOUND TO HAVE HUNTING AND NON-HUNTING FAMILIES

	Permittors	Restrictors
Hunters in family	180	42
No hunters in family	67	70

$X^2 = 40.2$ df = 1 probability = 0.001

A study in Vermont indicated that landholdings of permittors were generally larger than landholdings of restrictors (Gilbert and Samek, 1976). Results from a study in Utah suggested that hunting restrictions become less severe as the amount of acreage controlled increased (Kitts, 1976). Gilbert and Samek (1976) also found that landowners in Vermont who hunted were more willing to allow others to use their land for hunting than were non-hunters.

Variation in Attitudes and Opinions

Attitudes and opinions expressed by landowners varied between counties. In counties situated in western Oklahoma, landowners expressed fairly favorable attitudes toward hunters and hunter use of their land. Positive attitudes toward hunting were also found among the landowners interviewed in the counties located in the southeastern corner of Oklahoma* (Figure 2). The positive attitudes may reflect an abundance of available hunting land coupled with fairly sparse settlement and limited demand for hunitng.

Attitudes with respect to allowing others to hunt differed markedly between the central and northeastern counties and the southeastern and western counties. A more negative attitude was found among landowners in the centrally located counties. In Rogers County, for example, none of the landowners interviewed expressed willingness to allow the general public on their land. These centrally located counties lie in areas that offer limited public hunting opportunities, are fairly near the larger cities in Oklahoma, and may receive greater hunting pressure per unit of land (Figure 2).

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*Results from a recent survey of special permit deer hunters in Oklahoma support these findings. Hunters attempting to gain access in the southeastern counties (McCurtain, LeFlore, and Atoka) reported relatively little difficulty in finding a place to hunt (Hecock, 1979).

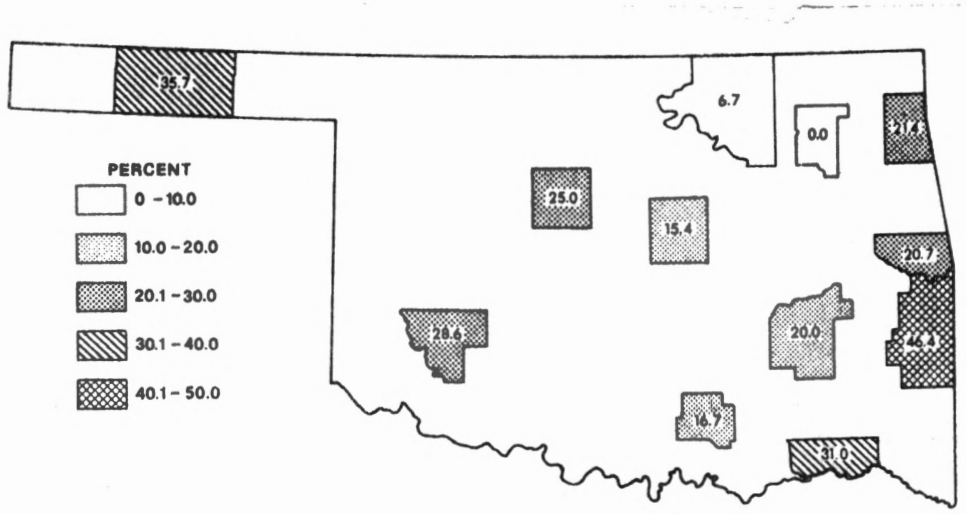

Figure 2. Willingness to Allow Public to Hunt on Land

Landowners in the central and northeastern portions of the state reported more actual experience of damage due to hunter activity than did those in either the southeastern or western portions of the state (Figure 3).

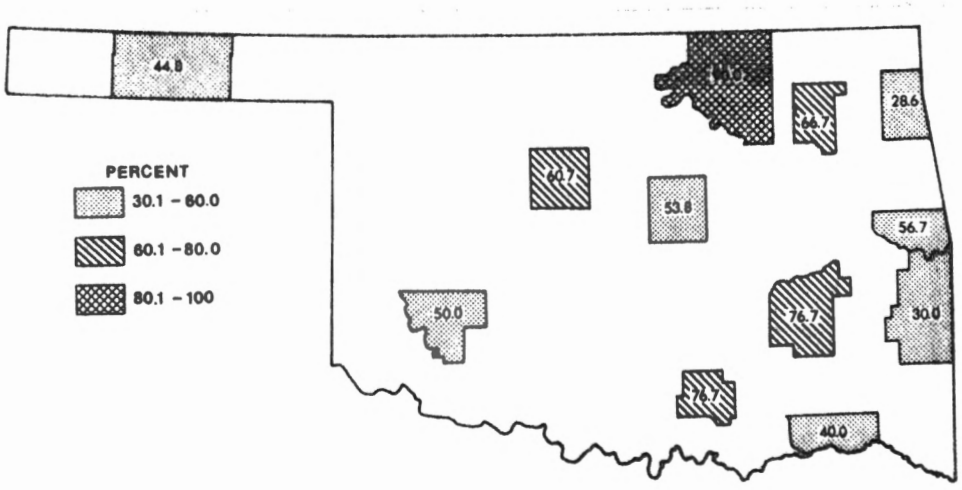

Figure 3. Percentage of Respondents Having Experienced Hunter-Related Damage

Reasons for Restriction of Hunting

Landowners that did not allow hunting on their land articulated several reasons for prohibition. Forty-three percent stated that they had experienced damage to their property due to hunter activity and did not wish to risk having it happen again. Other reasons for closure of lands to hunters included a desire to have game for personal use and a desire for privacy that may be lost by allowance of the public on one's land (Table VIII).

TABLE VIII

LANDOWNER REASONS FOR RESTRICTING HUNTING

Reason	Percentage citing*	N 95 Percent Confidence Interval
Experienced damage	43	$43^{\pm}$ 9.2
Anticipate damage	63	$63^{\pm}$ 8.6
Want game for personal use	4	$4^{\pm}$ 3.7
Other	26	$26^{\pm}$ 8.2

N = 111

The first articulated concern of the majority of landowners was the anticipation of damage or discomfort rather than the experience itself. Approximately one-half of the restrictors experienced damage

to their property due to hunter activity. Although information concerning past procedures was not solicited, several landowners volunteered that it has only been in the last few years that they have begun prohibiting hunting on their property. They felt that the increase in pressure from hunters in the last 10 years has led to an increase in damages due to those hunters, and acted to restrict hunting on that belief. Damages experienced included shooting of cattle, tearing down fences, leaving gates open, shooting near buildings, and littering. Several landowners expressed concern over recent increases in the occurrence of damage and about a perceived decrease in respect for landowner rights on the part of the hunter.

Landowners were not questioned as to game populations in their areas; however, the protection of wildlife was a concern that interviewees often volunteered as a reason for closure of land to hunting. Thus, a concern for the quail population was expressed by landowners in several counties. Such concern for wildlife may reflect a desire on the part of the landowner to retain game for personal sporting use or aesthetic purposes. However, a number of landowners feared for the future of wild game in the state, and that the continuation of "unrestricted" hunting would reduce some populations to a level that would prohibit regeneration.

Similar findings concerning reasons for restriction of hunting on private lands have been reported in other studies. Waldbauer (1966) stated that a desire for privacy and protection from damages, and a desire to have game for personal usage were primary reasons why owners closed their lands to hunting. Bowers (1960) suggested that hunter abuse of landowner property and privacy rights causes closure of lands

to hunting. Gilbert and Samek (1976) and Brown and Thompson (1973) agreed that protection from damages was the landowner's first concern.

Posting

Forty-three percent of the landowners interviewed posted their lands against hunting. Nevertheless, half of these "posters" allowed some others to hunt on their land, and half did not (Table IX).

TABLE IX

FREQUENCY OF POSTING LANDOWNER SURVEY

	Permittors N = 247	Restrictors N = 113
Percent posting	32.0	72.6
Average amount posted (acres)	627.6	188.5

A greater percentage of respondents posted their lands in Osage, Johnston, and Delaware counties. Landowners living in Rogers and LeFlore tended to post their lands less frequently than the average of all counties (Table X).

Although not questioned concerning trespass and posting trends, a number of landowners expressed the idea that, although they did not

legally have to post their land to warn off trespassers, hunters would respect the private landowner's rights only if they were reminded of them by prominently displayed signs, and that, in many cases, signs did not guarantee privacy. Some owners observed that the trend toward posting of private lands has grown. Brown and Thompson (1973) conducted surveys in New York State, and found an increase from 25 percent in 1963 to 42 percent in 1972 in rural acreage posted, Gilbert and Samek (1976) found among the landowners interviewed in Vermont, a trend toward posting, particularly among owners that experienced damage to property.

TABLE X

FREQUENCY OF POSTING, BY COUNTY:
LANDOWNER SURVEY

County	Percentage of Landowners Found to Post Their Land	N 95 Percent Confidence Interval
Texas	46.6	46.6 ± 17.9
Kowa	36.7	36.7 ± 17.3
Kingfisher	44.4	44.4 ± 17.8
Osage	80.0	80.0 ± 14.3
Johnston	53.3	53.3 ± 17.9
Rogers	30.0	30.0 ± 16.4
Pittsburg	33.3	33.3 ± 16.9
Choctaw	36.7	36.7 ± 17.3
Delaware	53.6	53.6 ± 17.9
Sequoyah	38.0	38.0 ± 17.4
LeFlore	20.0	20.0 ± 14.3

*N = 30 X = 42.3 Standard deviation = 4.76

Attitudes Toward Public Hunting on Private Land

Positive responses to questions concerning the allowance of the general public to hunt on private land ranged from 14-22 percent among the Oklahoma landowners interviewed in this study (Table XI).

TABLE XI

ATTITUDES TOWARD ALTERNATIVE MANAGEMENT SCENARIOS

	N	Yes (%)	No (%)	Possibly (%)
Would allow general public to hunt on land	327	22	77	1
Would allow general public to hunt on land if the state paid them for it	322	14	84	2
Would allow general public to hunt on land if the state monitored hunter behavior	320	24	74	2

Landowners agreed that control of hunter behavior was difficult, if not impossible to achieve, and that state control of hunting would not effect this end. This pessimistic opinion is based on experiences involving illegal hunting practices, rather than sincere attempts to

establish lasting landowner-hunter cooperative arrangements. Some investigators believe cooperative hunting arrangements with the state to be feasible and desirable (Berryman, 1961; Johnson, 1966; Stoddard and Day, 1969).

The overall attitude toward hunting itself was positive among landowners interviewed. Respondents indicated, on several occasions, that they themselves were hunters and/or felt hunting to be a viable wildlife management practice. However, attitudes toward the hunters themselves were not so favorable. Even among landowners expressing willingness to participate in landowner-hunter cooperative arrangements, doubts were expressed concerning control of hunter behavior and freedom from damages to private property.

Posting Estimates from Game Officials Survey

Sixty-three percent of Game Rangers and other Department of Wildlife Conservation personnel contacted supplied estimates of posting (Figure 4). The absence of returns from 37 percent and confounding of information that rendered it impossible to separate posted lands from lands unavailable for hunting but not posted, and lands posted but still huntable in the returns, may account for the variability in estimates received. For example, in Adair County, the estimates from three individuals were five percent, 60 percent, and 90 percent. We asked for the respondent's impression and did not request a survey on his part. However, we cannot make conclusive observations concerning posting patterns in the state from the responses. We evaluate the information but recognize the implicit weaknesses.

Estimates of posting were higher near the larger cities and were

consistent with results from the landowner survey. Estimates were also high in the counties that comprise the Oklahoma panhandle. Officials in the southeastern portion of the state reported fairly low estimates, which compares favorably with landowner responses.

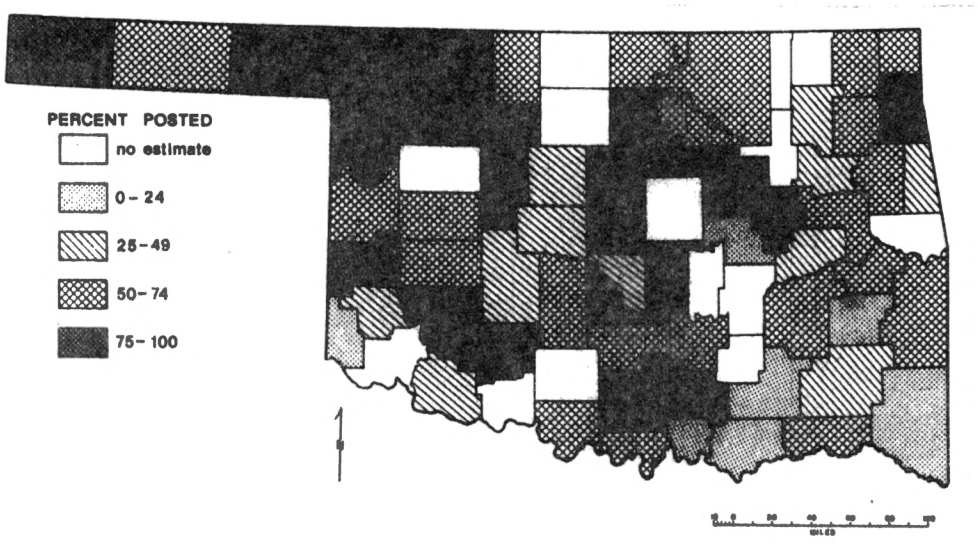

Figure 4. Posting Estimates

Lessor Survey

Thirty-five names of landowners known to lease land for hunting purposes were supplied by game officials across the state (Figure 5). Information was obtained from only 10 of the landowners leasing lands for hunting. Landowners were questioned concerning the amount of land included in the leasing arrangement, the number of hunters and landowners involved, hunter and landowner obligations in the arrangement, and the

fee charged for the use of the land. Two of the lessors were obligated by the lease to keep the land posted against other hunters, and two agreed to keep the area free from hazards such as fallen trees and trash piles. Three of the lessors stated that the hunters in question were not to litter on the land, and another lessor stipulated that there was to be no hunting near buildings. No mention was made, during the discussions concerning landowner or hunter obligations, of wildlife management procedures to improve habitat. None of the lessors interviewed indicated that other landowners were involved in their leasing arrangements. Two of the landowners indicated that they sould like to see more leasing of land for hunting purposes in Oklahoma. Four of the lessors stated that they were satisfied with their own lease arrangement (Table XII).

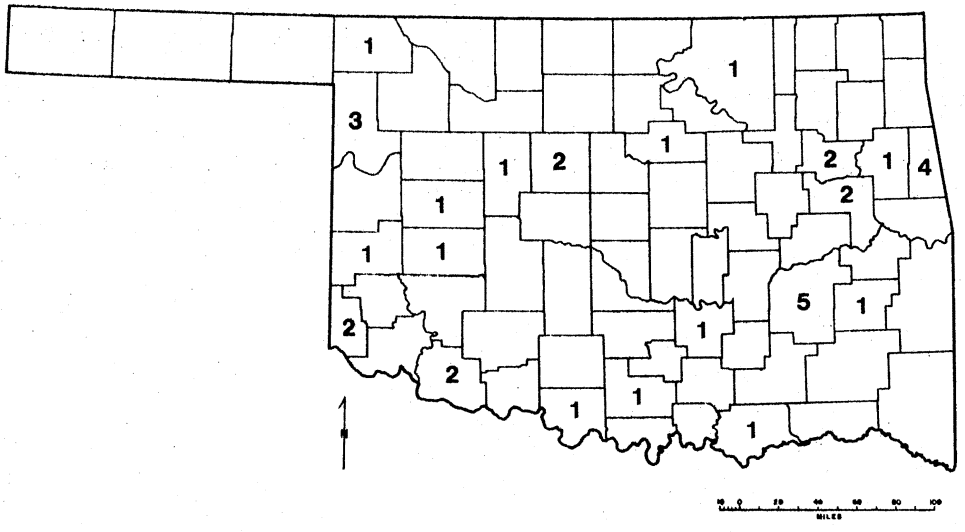

Figure 5. Location of Lessors

TABLE XII

LESSOR DATA

Observation	Location	Acres Leased	Number of Hunters	Fees Charged
1	Hennessey	140	3	*
2	Hennessey	100	2	50¢/acre hunter/season
3	Quinton	60	1	*
4	Arnett	80	1	$20/season
5	Wilburton	200	5	*
6	Wagoner	80	1	*
7	Wagoner	120	3	$10/hunter /day
8	Ada	80	2	*
9	Muskogee	95	2	$5/hunter /day
10	Durant	65	1	$10/season

*Signifies no comment

The number of landowners contacted concerning leasing arrangements totals less than one-third of the number of names supplied by game officials, and we cannot assume that the information obtained is representative of all lessors in Oklahoma. The majority of the lessors contacted did not wish to discuss the leasing arrangement, and several of those who did discuss it did not wish to divulge the fees charged. Leasing of

land for hunting purposes is not common in Oklahoma and those landowners who did indicate the amount of fees charged for the use of their land indicated moderate figures. Leasing, then, would not appear to be big business in Oklahoma, when contrasted to Texas.

CHAPTER IV

CONCLUSIONS AND RECOMMENDATIONS

Project Objectives

This project was designed to meet several specific objectives (Table XIII).

If a questionnaire designed to monitor changes in attitudes and opinions is to be administered by telephone in the future, a simpler method of obtaining landowner names should be devised. The method used in this study was time-consuming and would not be practical for use in an on-going survey. Perhaps a list of all rural landowners in the state could be drawn. An alternative would be to use the landowners interviewed in this survey as further contacts, and question them periodically concerning changes in their attitudes and opinions.

If the practice of allowing public hunting on private lands is to have a future in Oklahoma, several specific points must be considered in the formation of management plans. Perhaps the most important of these points is that, in general, landowners feel that they are under no obligation, legal or moral, to allow others to hunt on their land. They are concerned for the safety of their property, do not relish the thought of relinquishing their privacy, and do not care to be bothered by such chores as repair of hunter-inflicted damages, clean-up of litter, or posting and policing their land during the

TABLE XIII

SUMMARY OF STUDY OBJECTIVES, FINDINGS AND RECOMMENDATIONS

Objective	Findings	Recommendations
1) to assess the current status of landowner opinion concerning hunter access to private lands	a) attitudes toward hunting are positive b) trend toward negative opinions of hunters c) concern about hunter-inflicted damages	a) present hunters with information concerning safety rules and regulations b) increase enforcement of trespass laws, and stiffen penalties
2) to estimate the amount of land that is not open because of landowner refusal to allow hunting	a) much huntable land in the state is posted b) trend is toward more posting c) posting does not necessarily preclude hunting	a) continue to encourage hunters to maintain personal contact with landowners b) offer incentives to landowners to open the land; i.e., assistance with management, farm labor, money c) certification of hunter by hunter organizations

TABLE XIII (Continued)

Objective	Findings	Recommendations
3) to estimate the frequency and types of hunting lease arrangements in the state	a) none of the landowners contacted had participated in any leasing arrangements b) several lessors were identified by game officials, but few were willing to discuss their leases	a) continue to maintain direct contact with game officials b) use county ASCS offices as information sources c) question hunters about leasing arrangements
4) to monitor changes in landowner attitudes toward hunters and hunting	a) trend is toward closure of land to hunting b) landowners are willing to discuss their problems c) concern about damages is the major problem	a) administer questionnaire periodically either to a new sample group or to the landowners contacted in this study b) maintain contact with the ASCS County Executive Directors as they are familiar with problems

TABLE XIII (Continued)

Objective	Findings	Recommendations
5) to make recommendations to the ODWC that are designed to increase the amount of private land open to hunting in Oklahoma	a) landowners are closing their land to hunting due to damages and trespass problems b) landowners did not respond favorably to the idea of state control of hunting arrangements	a) change landowner image of hunters through increased hunter appreciation of rules and regulations b) offer incentives to landowners to open their lands to hunting c) increase the amount of public land available for hunting to remove some pressure from private lands

hunting season. There is little to motivate the landowner to open his land to public hunting. Indeed, the incentives appear to strongly favor increasing restrictions on hunter access to private lands. Changes in existing wildlife resource management policy and/or programs designed to resolve the Oklahoma landowner-hunter dilemma must take into consideration the landowner viewpoints mentioned above, and build upon them. The following section contains management recommendations and suggestions concerning policy options that, it is believed, would be helpful in reducing the problem in this state.

Incentives for Landowners

The landowners seem to be, in most cases, striving to protect their property and their privacy. Their reluctance or refusal to furnish hunters with access to their land may appear unreasonable to the hunter, but their motives are generally clear and easily understood.

If the amount of private land available for hunting is to be maintained or increased, steps should be taken to change the image "hunters" have projected of themselves. A lack of consideration for landowner property on the part of only a few members of the hunting group can radically affect chances of hunters obtaining more hunting opportunities.

> The problem of access to private land is getting worse instead of better. More land is posted against hunting and trespass every day. There is no easy answer to this problem, but the situation will not improve until hunters and campers set an example that will change landowner's negative attitudes toward sportsmen (Howell, 1978, p. 10).

Hunters may be warned that "If you have difficulty finding a friendly landowner, you may be in need of a new image." (Outdoor Oklahoma, February, 1977, p. 21)

The Oklahoma Department of Wildlife Conservation, or a private organization such as the Oklahoma Wildlife Federation, could initiate an educational program for hunters and other interested persons that would include instruction in gun safety, hunting rules and regulations, and biology of game management. Information concerning trespass laws, privacy rights, safety rules, and farming procedures such as irrigation, planting, and harvesting times could be presented to participants in order to make them aware of landowner problems connected with hunter activity. Participants would then receive certification to be shown to landowners. However, it is recognized that education will not always alter behavioral patterns.

In addition to an attempt to improve the image that hunters project of themselves, it seems likely that some incentive could be provided to the landowner to open his land for hunting to those who have received the educational training. Responses obtained in this survey concerning possible payment for the use of private property for hunting purposes were, for the most part, negative or non-commital, and few landowners admitted that monetary payment is, for them, a major concern. Nevertheless, payment has been used in other areas for public use of private lands, and the arrangements have been acceptable (Dziedzic, 1966; Stoddard and Day, 1969). Though landowners do not articulate a desire for monetary compensation, if the opportunity to gain some return was presented, they might respond by making more land available to hunters. The practice of fee hunting is a growing phenomena.

> More hunters will have to pay for their hunting privileges. Pay hunting, which is foreign to most Oklahoma hunters, is already a costly reality in such places as Texas. Few people would like to see hunting return to the sport of kings, but the economics of supply and demand may make it so (Howell, 1978, p. 10).

Non-monetary compensation may be more successful in obtaining landowner cooperation in providing hunter access to private lands. Assistance with game management and wildlife habitat improvement, either from the ODWC itself, or from the hunters wishing to use the land, could serve to lighten the landowner's workload and encourage him to open his lands to hunting. Landowners may also be amenable to the idea of allowing those hunters to use their land who would be willing to help with farming operations such as fence repair, building maintenance, and crop harvesting. Such an argument would, in addition to providing the landowner with help in those operations, also allow the landowner to become acquainted with the hunters wishing to use the property, and thus feel more comfortable about allowing them on his land.

Moreover, because the landowner's major articulated concern in this and other studies, seems to be the safety of himself and his property, steps should be taken to assure both support and legal enforcement for his situation. Laws relating to damages and trespass should be strictly enforced, and penalties for such actions should be severe enough to discourage unlawful practices. The efficiency level of law enforcement capabilities should be sufficiently high so that both the landowner and the law abiding hunter will be assured of a safe experience.

The results of this study, coupled with opinions expressed in a recent survey of Oklahoma deer hunters (Hecock, 1978), indicate that hunter access is more difficult in some areas of Oklahoma than others. Rogers County is identified as a problem area from both the landowner and the hunter point of view. More than 46 percent of special permit deer hunters hunting in Rogers County indicated that they had

difficulty gaining access to hunting areas, and over 65 percent of the landowners interviewed in Rogers County indicated that they had experienced damage to their property due to hunter activity. None of the Rogers County landowners expressed willingness to allow the general public to hunt on their land. On the other hand, in LeFlore County, the problem is not as significant to either the landowner or the hunter. Less than 20 percent of the LeFlore hunters indicated that they had experienced difficulty gaining access to private lands in that county, and only 30 percent of the LeFlore landowners interviewed had experienced hunter-related damages to their property. In LeFlore County, approximately 46 percent of the landowners expressed willingness to allow the general public to hunt on their land.

The figures presented above serve to illustrate the differences in attitudes, opinions, and practices concerning hunter access to private lands found across the state. These variations indicate a need for management that is flexible and adaptable to local problems and situations. Local residents and officials, who would have knowledge concerning landowner-hunter problems specific to the area, might be employed as consultants or administrators for cooperative hunting arrangements. Persons interested in becoming such representatives could be contacted through area game officials and, as a result, landowners would be able to deal with persons with whom they are familiar, and could feel fairly secure concerning such matters as compensation for damages and enforcement of rules and regulations. Special attention could be paid to problems specific to the area, and policing and enforcing units could be easily contacted by landowners. Hunters could be provided with names of officials to contact in the area in which they

wish to hunt and be spared the inconvenience of attempting to contact individual landowners. Officials would inform hunters about any problem areas in the region, such as fields in crops and livestock pastures, and landowners would know where to turn if problems with hunters arose. Both landowners and hunters would be spared the inconvenience associated with private control of hunting arrangements and yet be assured of personal contact with the public agency in charge of management.

Expansion of Public Lands for Hunting

In the event that changes of the sort suggested above do not occur, it seems likely that the responsibility of provision of hunting opportunities will fall increasingly to the public sector. This could happen in the face of increasing hunter demand, even if landowner attitudes do not result in decreasing land available to hunters. Thus it appears that a reasonable strategy for the ODWC is to prepare for increased hunter pressure by the provision of additional public hunting areas.

Steps should be taken to make available more public land for hunting. At the present time, there are approximately 664,233 acres of public hunting land in Oklahoma (Oklahoma Hunting Atlas, 1976). Much land on which hunting is not allowed is included in public recreation areas. Oklahoma's state parks comprise 73,000 acres alone. Some of these areas are not suitable for hunting, however, all should be examined for their potential use as hunting areas, and policies should be developed whereby hunters may use the lands without causing disturbances among other recreationists. A clear understanding of exact locations of hunting zones and strict enforcement of rules and regulations would assist in providing for such multiple usage of public recreation lands.

Other public lands also occur in Oklahoma. School lands, for example, comprise nearly 750,000 acres in 53 counties (Figure 6).

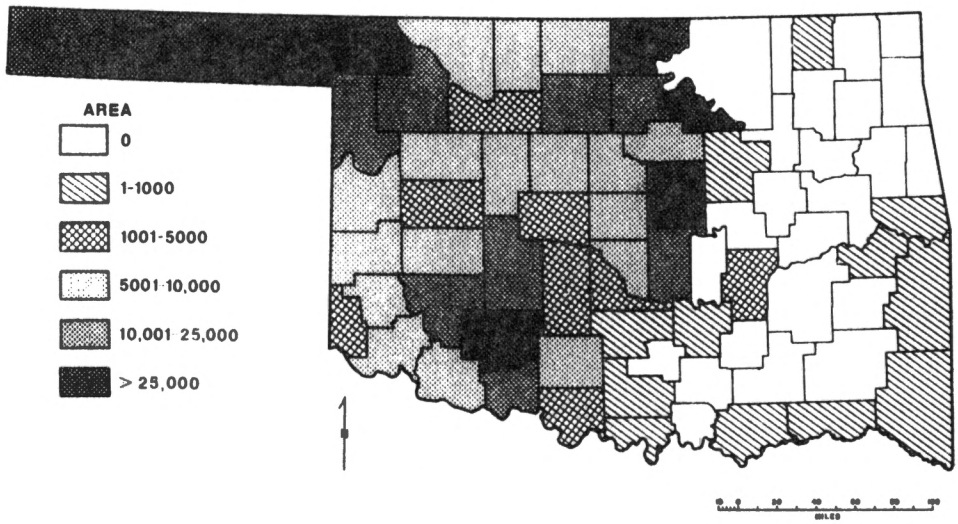

Figure 6. School Lands in Oklahoma

Most of these school lands lie in the western portion of the state and are leased to individuals. The lands are administered through the Records Division of the Land Commission Office in Oklahoma City. Present uses include agriculture, commercial use, mining, and oil and gas production. Lessee usage is constrained by several rules and regulations, including provision for maintenance of buildings and clearing of litter. A lessee "may permit individual hunting and fishing on (his) lease without written consent of the CLO," and "may retain fees for permitting such" (Oklahoma State Land Office, 1974). However, lessees are under no obligation to permit hunting on the land. Some of this land could prove

valuable for hunting, and all lands have the potential for increased wildlife management.

School lands should be inspected for potential as hunting areas, and future leases might contain the stipulation that hunters be allowed to use the land in some type of cooperative arrangement.

It is certain that no plan developed or policy adopted would prove totally satisfactory to all persons involved in landowner-hunter conflicts. However, if careful consideration is given to the attitudes and opinions of all parties involved, alternatives may be developed whereby participants are satisfied to a certain degree and working relationships may exist.

There is room for further research into the landowner-hunter problem in Oklahoma, The method of interviewing developed in this study can be used to monitor changes in landowner attitudes. These attitudes are of vital importance to the future of public hunting in Oklahoma. It is hoped that future research will include further investigation into leasing arrangements in the state, the extent to which posting against trespass has progressed in Oklahoma, and the extent to which hunting in Oklahoma is done on private lands in contrast to the amount done on public lands. The findings of such research, combined with the findings of this and other studies, will serve to provide the Department of Wildlife Conservation with information useful in approaching the Oklahoma landowner-hunter dilemma.

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APPENDICES

APPENDIX A

LANDOWNER QUESTIONNAIRE AND COVER LETTER

LANDOWNER QUESTIONNAIRE

How much land do you own in Oklahoma? ____acres. In what counties? _____.

How much land do you farm? ____acres. In what counties? _____.

What is the town nearest you? _____. How far is it from your house? ____miles.

Do you or your family hunt on your land? _____Yes. _____No.

Do you allow others to hunt on your land? _____Yes. _____No.

IF SO,

Please answer these questions:

On how much of your land do you allow hunting? _____acres.

What types of hunting do you allow?

___Deer/Elk ___Rabbits/Squirrels
___Turkey ___Waterfowl
___Other Birds ___Varmints
___Other _____

Is there anything you tell hunters not to do when they use your land?

_____
_____
_____

Do you, or have you ever participated in an arrangement which allows hunters to use your land?

___No. ___Yes(now). ___Yes(have).

If so, what type of arrangement?

___Allow friends to hunt.
___Charge a daily fee.
___Lease to sportsman group for season.
___Other (please explain) _____
_____
_____

IF NOT,

Please answer these questions:

Why do you prohibit hunting on your land?

_____
_____

Is any of your land posted against hunting?

___Yes. ___No.

If so, how much land? _____acres.
How many signs do you use? _____.
How far apart are the signs? _____.
How much of your posted land lies along roads? _____miles.

Would you be willing to allow the general public to hunt on your posted land if you could set the conditions?

___Yes. ___No.

If so, under what conditions? _____
_____
_____

Would you let people hunt on your land if the State paid for it?

___Yes. ___No.

Would you allow hunting if the State were to monitor hunter behavior?

___Yes. ___No.

What do you feel would be a fair return for the use of your land?
$____per hunter per day. $____per hunter per season. $____per acre per season.
Other types of payment: _____.

Have you ever experienced any damage to your property due to hunter activity?

___Yes. ___No.

Do you know of anyone who is involved in an arrangement which allows hunters to use their land? Name and Address? _____
_____

Do you have any suggestions to make concerning hunting opportunities in Oklahoma?

COVER LETTER ACCOMPANYING LANDOWNER QUESTIONNAIRE

Oklahoma State University

DEPARTMENT OF GEOGRAPHY

STILLWATER, OKLAHOMA 74074
HOME ECONOMICS EAST
(405) 624-6248

March 20, 1978

Dear Landowner:

I am presently working on a study concerning hunting opportunities in Oklahoma. We are interested in determining the present status of landowners' opinions toward hunting and hunters. We are contacting landowners across the state and are asking for information and recommendations concerning hunting in Oklahoma.

Please fill out the enclosed postage paid questionnaire and mail it back as soon as possible. Your help in this matter will be greatly appreciated.

Thank you for your cooperation.

Sincerely,

Nancy Thorwardson

Nancy Thorwardson
Research Assistant

APPENDIX B

GAME OFFICIALS QUESTIONNAIRE, LETTER, AND MEMO TO DEPARTMENT EMPLOYEES

GAME OFFICIALS QUESTIONNAIRE

Your name: _____

Your counties: _____

_____

Estimated percentage of posted land: _____

Names and addresses of landowners involved in leasing arrangements:

_____

_____

_____

_____

GAME WARDEN LETTER

Oklahoma State University

DEPARTMENT OF GEOGRAPHY

STILLWATER, OKLAHOMA 74074
HOME ECONOMICS EAST
(405) 624-6248

March 20, 1978

Dear Game Warden:

We are presently working on a study concerning hunting opportunities in Oklahoma. We are conducting a survey among a sample of landowners in Oklahoma in an attempt to determine attitudes toward hunters and hunting. We would appreciate your best estimate of the amount of land in your area which is posted against hunting. We are also interested in any leasing arrangements involving landowners and hunters in your county. If you know of any such arrangements, please include the names and addresses of the landowners involved.

Thank you for your time and cooperation.

Sincerely,

Nancy Thorwardson

Nancy Thorwardson
Research Assistant

MEMO TO DEPARTMENT EMPLOYEES

GEORGE B. WINT, DIRECTOR
GARLAND FLETCHER, ASSISTANT DIRECTOR
STEVEN ALAN LEWIS, ASSISTANT DIRECTOR

DEPARTMENT OF WILDLIFE CONSERVATION

1801 N. LINCOLN P.O. BOX 53465 OKLAHOMA CITY, OK 73105 PH. 521-3851

March 8, 1978

TO: Department Employees

FROM: Director

The enclosed survey is being conducted at our request and with our PR funds. I would appreciate your cooperation in providing this information.

George B. Wint
Director

APPENDIX C

QUESTIONNAIRE RESULTS

TABLE XIV

SAMPLE REPRESENTATIVENESS FOR THE COUNTIES

County	Ave. farm size-county (acres)	Ave. farm size-sample (acres)	Land farmed-% of land owned-county	Land farmed-% of land owned-sample
Texas	1117	894	95	80
Kiowa	543	1029	100	83
Kingfisher	440	360	100	88
Osage	1035	397	84	28
Lincoln	278	281	76	31
Johnston	528	194	78	49
Rogers	266	136	73	42
Pittsburg	420	306	69	27
Choctaw	326	192	63	88
Delaware	223	420	58	92
Sequoyah	245	145	50	48
LeFlore	293	200	42	39
The State	434	381	82	67

TABLE XV

PERMITTOR POLICIES TOWARD HUNTING (%)

County	N	Allow friends to hunt	Allow anyone who asks	Other
Texas	27	81	37	15
Kiowa	28	96	54	4
Kingfisher	22	95	41	0
Osage	16	100	31	0
Lincoln	17	100	0	0
Johnston	20	90	65	0
Rogers	23	70	48	0
Pittsburg	16	50	19	0
Choctaw	10	80	40	0
Delaware	17	100	59	0
Sequoyah	26	65	62	0
LeFlore	25	92	64	0
Total	247	85	45	2

TABLE XVI

LANDOWNER ATTITUDES TOWARD ALTERNATIVE MANAGEMENT SCENARIOS (%)

County	Would allow general public to hunt	Would allow hunting with state payment	Would allow hunting if state monitored hunter behavior
Texas	36	33	56
Kiowa	28	4	4
Kingfisher	25	10	10
Osage	7	7	20
Lincoln	15	8	8
Johnston	17	7	13
Rogers	0	0	20
Pittsburg	20	13	17
Choctaw	31	14	21
Delaware	21	7	22
Sequoyah	21	14	34
LeFlore	46	46	46
Total	22	15	23

TABLE XVII

VERBAL RESTRICTIONS ON HUNTERS (%)

County	N	Watch for livestock	Close gates	Respect fences	Don't shoot near buildings	Watch crops	Other or none
Texas	27	9	4	1	2	4	12
Kiowa	28	11	8	1	2	2	10
Kingfisher	22	13	8	0	2	0	7
Osage	16	3	4	1	1	0	6
Lincoln	17	6	4	7	2	1	6
Johnston	20	1	0	2	0	2	14
Rogers	23	1	4	3	0	1	11
Pittsburg	16	4	0	1	0	0	6
Choctaw	10	7	3	1	0	0	10
Delaware	17	14	1	11	3	1	5
Sequoyah	26	11	1	2	1	1	13
LeFlore	25	6	6	5	0	0	13
Total	247	86	43	35	13	12	113

TABLE XVIII

REASONS FOR PROHIBITING HUNTING (#)

County	N	Experienced damage	Anticipate damage	Want game for personal use	Other
Texas	3	1	1	0	0
Kiowa	2	0	0	1	0
Kingfisher	7	1	2	0	2
Osage	14	10	13	0	0
Lincoln	12	7	8	0	2
Johnston	10	7	8	0	1
Rogers	7	4	6	0	1
Pittsburg	14	7	8	2	1
Choctaw	20	6	14	1	12
Delaware	13	3	4	0	8
Sequoyah	4	1	2	0	0
LeFlore	5	0	2	0	2
Total	111	48	70	4	29

TABLE XIX

COMPARISON SIZE OF LANDHOLDINGS
FOR TOTAL SAMPLE AND PERMITTORS

County	Average land owned (acres)		Average land farmed (acres)	
	Total	Permittors	Total	Permittors
Texas	894	965	719	771
Kiowa	1029	1077	886	747
Kingfisher	360	388	327	326
Osage	397	489	135	311
Lincoln	281	317	144	274
Johnston	194	240	114	178
Rogers	136	145	95	136
Pittsburg	306	414	112	317
Choctaw	192	247	181	189
Delaware	420	640	502	202
Sequoyah	145	157	115	138
LeFlore	200	220	301	233
Total	380	442	303	319

TABLE XX

OCCURRENCE OF LANDOWNER FAMILY HUNTERS

County	Percentage of Hunters
Texas	63
Kiowa	73
Kingfisher	66
Osage	63
Lincoln	66
Johnston	67
Rogers	60
Pittsburg	67
Choctaw	40
Delaware	50
Sequoyah	67
Leflore	63
Total	62

TABLE XXI

ACTUAL EXPERIENCE OF DAMAGE DUE TO HUNTER ACTIVITY

County	Percentage of landowners having experienced damage
Texas	45
Kiowa	50
Kingfisher	61
Osage	90
Lincoln	54
Johnston	77
Rogers	67
Pittsburg	77
Choctaw	40
Delaware	29
Sequoyah	57
LeFlore	30
Total	56

TABLE XXII

RELATIONSHIP BETWEEN EXPERIENCE OF DAMAGE AND PERMITTING HUNTING*

	Permittors	Restrictors
Experienced damage	130	67
Haven't experienced damage	115	38

*N = 340 X^2 = 3.5 df = 1 probability = 0.0632

TABLE XXIII

RELATIONSHIP BETWEEN POSTING OF LAND AND EXPERIENCE OF DAMAGE

	Posted	Not posted
Experienced damage	109	84
Haven't experienced damage	38	102

*N = 333 X^2 = 28.3 df = 1 probability = 0.0001

TABLE XXIV

RELATIONSHIPS BETWEEN PERMITTING HUNTING AND ATTITUDES TOWARD ALTERNATIVE MANAGEMENT SCENARIOS

A) Would allow the general public to hunt.*

	Yes	No	Maybe	No response
Permittors	67	153	3	24
Restrictors	6	98	0	8
No response	0	1	0	0

*N = 327 X^2 = 26.2 df = 2 probability = 0.0001

B) Would allow hunting with state payment.*

	Yes	No	Maybe	No response
Permittors	40	172	5	29
Restrictors	4	100	0	8
No response	0	1	0	0

*N = 322 X^2 = 16.2 df = 2 probability = 0.0003

C) Would allow hunting if state monitored hunter behavior.*

	Yes	No	Maybe	No response
Permittors	73	139	5	30
Restrictors	5	98	0	9
No response	0	1	0	0

*N = 320 X^2 = 35.2 df = 2 probability = 0.0001

TABLE XXV

RELATIONSHIPS BETWEEN POSTING OF LAND AND ATTITUDES TOWARD ALTERNATIVE MANAGEMENT SCENARIOS

A) Presently allow others to hunt.*

	Permittors	Restrictors
Posted	74	77
Not posted	157	29
No response	16	6

*N = 337 X^2 = 49.1 df = 2 probability = 0.0001

B) Would allow the general public to hunt.*

	Yes	No	Maybe	No response
Posted	17	128	0	9
Not posted	33	138	5	10
No response	1	3	0	18

*N = 324 X^2 = 19.9 df = 2 probability = 0.0001

C) Would allow hunting with state payment.*

	Yes	No	Maybe	No response
Posted	10	132	1	9
Not posted	33	33	5	10
No response	1	3	0	18

*N = 319 X^2 = 11.8 df = 2 probability = 0.0027

TABLE XXV (Continued)

D) Would allow hunting if state monitored hunter behavior.*

	Yes	No	Maybe	No response
Posted	18	123	2	9
Not posted	60	112	3	11
No response	0	3	0	19

*N = 318 X^2 = 20.3 df = 2 probability = 0.0001

TABLE XXVI

RELATIONSHIPS BETWEEN SIZE OF LANDHOLDINGS AND FAMILY HUNTING

A) Amount of land owned or operated (acres).*

	Less than 75	75-159	160-499	500 and Over
Hunters	33	70	75	44
Non-hunters	43	41	38	15

*N = 359 X^2 = 16.0 df = 3 probability = 0.0011

B) Amount of land farmed (acres).*

	Less than 75	75-159	160-499	500 and Over
Hunters	87	57	60	18
Non-Hunters	77	25	24	11

*N = 359 X^2 = 10.7 df = 3 probability = 0.0135

C) Amount of land hunted (acres).*

	Less than 75	75-159	160-499	500 and Over
Hunters	82	49	66	25
Non-hunters	95	18	16	8

*N = 359 X^2 = 36.5 df = 3 probability = 0.0001

TABLE XXVII

RELATIONSHIPS BETWEEN SIZE OF LANDHOLDINGS AND PERMITTING HUNTING

A) Amount of land owned or operated (acres).*

	Less than 75	75-159	160-499	500 and Over
Permittors	34	74	86	53
Restrictors	42	37	27	6

*N = 359 X^2 = 35.7 df = 3 probability = 0.0001

B) Amount of land farmed (acres).*

	Less than 75	75-159	160-499	500 and Over
Permittors	103	49	67	28
Restrictors	61	33	17	1

*N = 359 X^2 = 30.0 df = 3 probability = 0.0001

C) Amount of land hunted (acres).*

	Less than 75	75-159	160-499	500 and Over
Permittors	65	67	82	33
Restrictors	112	0	0	0

*N = 359 X^2 = 167.4 df = 3 probability = 0.0001

TABLE XXVIII

RELATIONSHIPS BETWEEN SIZE OF LANDHOLDERS AND POSTING OF LAND

A) Amount of land owned or operated (acres).*

	Less than 75	75-159	160-499	500 and Over
Posted	33	36	52	31
Not posted	88	39	43	16

*N = 338 X^2 = 4.7 df = 3 probability = 0.1950

B) Amount of land farmed (acres).*

	Less than 75	75-159	160-499	500 and Over
Posted	65	36	38	13
Not posted	88	39	43	16

*N = 338 X^2 = 0.8 df = 3 probability = 0.8532

C) Amount of land hunted (acres).*

	Less than 75	75-159	160-499	500 and Over
Posted	94	13	28	17
Not posted	75	46	49	16

*N = 338 X^2 = 23.2 df = 3 probability = 0.0001

APPENDIX D

SCHOOL LANDS IN OKLAHOMA

SCHOOL LANDS IN OKLAHOMA

County	School lands (acres)	County	School lands (acres)
Alfalfa	9,120	Logan	9,750
Beckham	7,443	Love	240
Beaver	32,243	McClain	1,720
Blaine	7,360	McCurtain	400
Bryan	198	Major	1,920
Caddo	10,464	Noble	11,680
Canadian	3,961	Nowata	80
Carter	160	Oklahoma	7,320
Choctaw	640	Pawnee	26,240
Cleveland	5,600	Payne	6,240
Cimarron	251,520	Pontotoc	720
Comanche	30,840	Pottawatomie	20,080
Cotton	14,161	Roger Mills	6,720
Creek	400	Sequoyah	200
Custer	2,480	Stephens	7,840
Dewey	6,440	Texas	28,360
Ellis	24,560	Tillman	8,400
Garfield	10,400	Washita	6,880
Garvin	520	Woods	7,440
Grady	3,840	Woodward	21,720
Grant	6,240		
Greer	9,000	Total	749,920
Harmon	2,360		
Harper	26,080		
Haskell	320		
Hughes	1,360		
Jackson	5,760		
Jefferson	4,000		
Kay	36,360		
Kingfisher	6,720		
Kiowa	23,250		
LeFlore	640		
Lincoln	31,400		

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