Abstract.—Leasing timberlands is one part of the total forest management program in East Texas. The seven major forest industry firms in Texas deer lease 65% of their total 3.5 million acre East Texas land ownership for an average annual fee of $1.14 per acre. The leases provide the firms with a significant, continuing revenue for the land and a means for protecting the land interests through long term bonds with local residents.

INTRODUCTION

Hunting presents a dichotomy to our American culture. The public owns the wildlife until a person kills it. But, the land which supports that wildlife can be owned by either the public, a firm or an individual. The wildlife hunted is a public possession, while the land often is a private one. Further, the owner of the land has a "basic and legal right" to determine who will use the land and what will be taken from it (Allen 1954). These two perspectives on wildlife give rise to the societal problem of hunting access.

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Texas has a total land base of 167 million acres, 12.5 million of which are considered commercial forest land (Miller 1979). Seven major forest industry companies own 3.5 million acres of this land. Virtually all of this forest land is located in the eastern half of the state. East Texas includes 15.6% of the state's deer range and it supports 7.4% of the state's total deer herd (Gore 1983).

This paper provides a discussion of the economics of leasing timberlands for deer hunting in Texas. Monetary and non-monetary benefits are included. The scope is limited to that timberland owned by the seven major forest industry companies in the state. Deer leasing has been a practice for 60 years in the state and for 30 years on forest industry land in the state. The forest industry experience provides a perspective on the issues related to deer leasing for organizations in other states currently considering implementations of their own.

In order to document the monetary and non-monetary benefits from leasing and compare them with the benefits from land left open to the public, representatives responsible for lease programs from each of the seven companies were interviewed in person or by phone. All seven companies participated in the study, supplying the needed information about their
company's leasing practices. The interviewees provided information on their company's leasing history and its present-day practices. The data provided was for the most current year, 1983. The information collected was summarized and presented in such a way as to avoid the disclosure of company identity.

BACKGROUND

A hunting lease is defined as "an arrangement whereby the landowner transfers the right of ingress on his property to the hunter for the purpose of hunting in exchange for a fee" (Ramsey). The species hunted in this East Texas region is the white-tailed deer (Odocoileus virginianus).

The four most common types of leases are associated primarily with the time period of the lease. The first type is the year-round lease which entitles the lessee to hunt legal game on a given tract for the year. The landowner simply collects a specified fee each year. Many of these are renewable with the lease relationship lasting many years. A second type is the season lease which entitles the lessee to hunt game for either a whole season or a specified portion of that season. A third type is the day lease. Such a lease entitles the lessee to hunt on a specified
portion of land for a single day. This type of lease generates a large amount of revenue but is very management intensive, since a large number of fees needs to be collected and processed. The fourth type is the guided hunt. The landowner outfits hunting parties to some specified degree and acts as a host for the hunt. Of course, many variations of these basic types can be found throughout the state.

THE FOREST INDUSTRY DEER LEASING

Deer leasing in Texas is believed to have been started on the Edwards Plateau in the early 1920's (Teer and Forest 1968). The practice has tended to spread from the west portion of the state to the eastern. The practice of deer leasing forest industry timberland began in the early 1950's in Texas. Typically, it started with timberland which had been previously leased exclusively for grazing, where a company expanded the terms of some of its grazing leases to include deer hunting. One company interviewed raised the annual lease cost for grazing from $0.01 to $0.25 per acre for grazing and hunting when it began the practice.

Present-day deer leasing of timberland by forest industry firms is regarded as a revenue generating by-product. The companies interviewed pointed out that
timber was the primary product for which the land was managed. But, leasing provided a continual annual revenue over the rotation period.

The year-round deer lease was the type selected exclusively by all but one of the seven companies interviewed. It requires the lowest level of management and is most effective in encouraging long term relationships between the company and the leasee. This type of lease is typically renewed annually, strengthening the bond between the company and the leasee over a long time period.

Further, in East Texas, the companies preferred to lease to organized clubs rather than to individuals. In this way, more persons are given access, and the level of hunting organization is higher.

At present, the seven companies lease a total of 2,270,000 acres of their total 3,503,640 acre ownership, a little over 64% (Table 1). The average annual charge per acre for leases is $1.14. The total lease revenue from these leased lands to all the companies is $2,590,600. The average annual revenue per company per year is thus a little over $370,000 per year. Each interviewee pointed out that his company regarded its lease revenue as significant.

While year-round leasing is easiest of the four types
to manage, it generates the least revenue. The one company which does "day lease" provides a comparison. That company allows 65 persons to day-lease in a 3500 acre area for $12.00 per person per day, for a total revenue of $780 per day. On a yearly basis, assuming a $1.14 per acre annual lease rate, that same land would generate $3,990. Thus, the land would need to be day-leased a little over five days to generate the same revenue generated on an annual basis. But, day leasing requires more management -- collection and processing of fees, etc. That same company also provides season permits on 51,500 acres. The fee for this use depends on the type of game hunted and time frame of the lease. The base seasonal rate is $50 per season.

In addition to leasing land, four of the companies leave open for public hunting a total of 599,000 acres, 17% of the total ownership (Table 1). This practice is part of their public relations effort. Assuming $1.14 per acre per year price, the revenue forgone is about $683,000 per year. Many of the open land locations are published annually by the Texas Forestry Association. The publication identifies a total of 269,505 acres of timberland open for public hunting in Texas. In addition to the good will this practice generates for a firm, it provides the companies' biologists with a basis for comparing the benefits of open and leased hunting policies.
The seven companies provided several advantages to leasing the timberland for deer hunting over leaving it open. These are summarized in the following paragraphs.

Deer leasing generates significant revenue for a relatively small investment. Three companies interviewed employed a full time wildlife biologist. All seven employed the record keeping necessary to manage the fee structure. As indicated above, the average annual income per company per year is a little less than $370,000. Each manager indicated that his company regarded the revenue as significant. In addition, deer leasing was viewed by one manager as a means for generating revenue from low productivity land. The revenue provides the company's wildlife manager with a tool for encouraging further investment by the company in game management of leased lands. One manager indicated that his company limited the use of company funds for game management to those areas which generated lease revenue.

Long term deer leases result in improved wildlife populations over time. The average deer density in the state is one deer per 19.7 acres of deer range (Gore 1983). The average in East Texas is one per 41.3 acres (1/43). One
manager indicated that an average density of one deer per 16 acres is ideal in East Texas. The consensus was that open land resulted in a depletion of the deer population over time due to heavy hunting pressure, both legal and illegal. The estimate of deer density of open land ranged from one deer to 300 acres up to one to 150. One manager indicated that no density could be measured with normal spotlight surveys on some open land the company owned. All interviewees indicated that the population increased over several years to normal, once open land was leased. One manager indicated the population expansion to huntable lands requires between three and four years.

Deer leasing provides protection for the timberland through the development of a "surrogate ownership" attitude by the lessee. One manager indicated that his company regarded deer leasing as an insurance policy for the timber. All the companies gave leasing priority to local persons and hunting clubs. In addition, the lease fee was most often substantially lower than the non-industry land in the same general area. These local persons were in a better position to police their lease and report violations and problems, such as fires, to the company. Several specific items of protection were indicated.
First, the leasee helps protect the title by helping to maintain the boundaries and by helping to establish the ownership of the land by the company. Further, he helps to prevent timber theft by his frequent presence on the timber tract. Other protection included prevention of trash dumping, four-wheel drive vehicle abuse, nails in timber trees, and illegal firewood gathering. Further, the companies pointed out that when a problem such as trash dumping occurs on the land, the leasee is among the first sources of information for the company.

PROBLEMS WITH DEER LEASING

There were problems associated with deer leasing, but all companies were quick to point out that the benefits from leasing outweighed the problems.

Most of the problems were those associated with abuse of the property by the leasee: road damage, littering, open gates, etc.

All companies allowed leasees to construct facilities which could be removed quickly when the tract was to be logged. One problem cited was with the leasee constructing permanent facilities.
All the companies maintained the right to log the leased land. Such logging, of course would limit hunter success during the period. Most of the companies indicated that attempts were made not to log relatively small leased tracts during the deer season. But, one company did indicated the leasing did present interference problems associated with logging.

Finally, one company indicated that the only problem it had had with leasees was a "turf" problem. A leasee would want to lease a particular tract of land which was leased to someone else or was unavailable for some other reason.

SUMMARY AND CONCLUSIONS

Deer leasing commercial forest land provides a means for generating additional annual revenue from timberland during the rotation. In addition, leasing provides a means for protecting company interests through the forming of cooperative bonds with local residents.

But, entry into leasing programs can meet with resistance. Deer leasing in Texas is accepted by the public. The Texas practice dates back to the 1920's. In many other states, however, local residents resent paying fees to hunt on land on which they and their families have
hunted for no fee, for generations. However, as leasing increases across the South, these attitudes are changing.

Durwood Allen presented an eloquent argument for the intelligent use of our wildlife legacy. Deer leasing is one method to manage timberlands for its primary product, timber, while, at the same time, to manage the same land for wildlife.
LITERATURE CITED


Table 1. The Economic Returns of Timberland Leased for Deer Hunting by Forest Industry Firms in Texas in 1983

<table>
<thead>
<tr>
<th>Company</th>
<th>Percent of Land Leased</th>
<th>Average Price per ac per yr</th>
<th>Percent of Land Left Open</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>59.0</td>
<td>$1.50</td>
<td>7.4</td>
</tr>
<tr>
<td>2</td>
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<td>1.50</td>
<td>11.8</td>
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<td>0</td>
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<tr>
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</tr>
<tr>
<td>7</td>
<td>76.5</td>
<td>1.22</td>
<td>0</td>
</tr>
<tr>
<td>Overall</td>
<td>64.8&lt;sup&gt;a&lt;/sup&gt;</td>
<td>1.14&lt;sup&gt;c&lt;/sup&gt;</td>
<td>17.1&lt;sup&gt;d&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

<sup>a</sup> Overall figures were calculated using the totals of individual firm data. This individual data is not provided in tables in order to avoid disclosure problems.

<sup>b</sup> Calculated by dividing the total acreage leased (2,270,000) by the total acreage owned (3,504,640).

<sup>c</sup> Calculated by dividing the total lease revenue collected ($2,590,600) by the total acreage leased (2,270,000).

<sup>d</sup> Calculated by dividing the total acreage left open (599,000) by the total acreage owned (3,504,640). LITERATURE CITED