

## RECREATIONAL LEASING OF INDUSTRIAL FORESTLANDS IN NEW YORK STATE

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**Abstract:** An exploratory and descriptive study of recreational leasing of industrial forestlands in the state of New York was conducted to better understand lease programs and the lessees involved in these programs. During the summer of 1999, thirteen companies were sent mail surveys and 9 responded (response rate of 69%). Based on information provided by the companies, 540 industrial forestland leaseholders were sent mail surveys and 362 leaseholders responded (deliverable response rate of 68%). Leased forestlands for outdoor recreation accounted for nearly 75% of the total forestland area owned and managed by the companies who responded to the survey. General industrial forest company and leaseholder characteristics were described and specific relationships were tested. Industrial forest managers can use this type of information to better manage their lands for producing quality outdoor recreation experiences in addition to traditional commercial forest products.

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### Introduction

In the State of New York, 93% of all forestlands are privately owned. Non-industrial private forestland owners account for the majority of these lands. Industrial forest companies own only 8% of private forestlands in New York, approximately 1.2 million acres (Germain 1999). While this may seem like a small amount, it is important as large industrial owners provide the public with more contiguous acres of forestland than non-industrial owners (Owen 1990, Patterson and Patterson 1989). Most of these lands are open to the public either through free access or recreational leases. Nearly 70% of industrial forestlands are currently leased for recreation (Germain 1999).

A recreational lease is a legal contract transferring use of all or a portion of an industrial forest company's property to a leaseholder for outdoor recreation purposes during a specific period of time at an agreed upon fee. Both the company and the leaseholder have specific rights and responsibilities regarding the maintenance of the land and what types of activities are allowed. Industrial forest companies generate income from recreational lease programs typically to pay for the annual operational costs of owning and managing forestlands, but also benefit from having better control of access to their lands and from some labor assistance from lessees who can act as stewards of the

land. While lessees must pay for access to the land, they benefit from increased recreational opportunities and often exclusive use of the land, with less crowded experiences than at many public recreation areas.

Most research dealing with recreational leasing of industrial forestlands has focused on hunting and wildlife management and not on other aspects of the lease programs (Busch and Guynn 1988, Leopold 1930, Pope et al. 1984). This is due to the fact that hunting has traditionally been the primary activity on leased industrial forestlands (Decker and Brown 1979, Johnson 1995). In New York, hunting continues to be the primary recreation activity (Capozzi et al. 1999, Germain 1999). There is an increasing demand for more non-consumptive activities such as hiking, camping, observing wildlife, and general family use. Due to these emerging demands, there is the potential for increased outdoor recreational use of industrial forestlands.

While industrial forestlands have a high potential for outdoor recreation, little is known about the actual amount, types, and recreational use on these lands. Also, there is a lack of information regarding the leaseholders involved in recreational lease programs. The purpose of this exploratory and descriptive study is to develop an understanding of industrial forest company recreational lease programs and the participants in these programs. This type of information is extremely important to managing a successful lease program, as success is based on meeting the needs and wants of current and potential leaseholders while managing for commercial forest products.

### Methods

Industrial forestland recreational leasing programs in the State of New York were studied in 1999 to better understand specific aspects of these programs. Both industrial forestland managers and leaseholders were surveyed through the use of a mail questionnaire. A modified Dillman mail survey technique was used with up to two reminders being sent to nonrespondents of the first mailing to ensure a high return rate (Salant and Dillman 1994). Thirteen companies were identified from previous research (Germain 1999) as having recreational lease programs and mailed an industrial forest manager survey. Nine companies responded, resulting in a response rate of 69%. Responding companies were requested to provide lists of their leaseholders in order to survey their use of industrial forestlands.

Due to the varying number of lessees involved with each company, some industrial forestland companies provided a census of their lessees while others provided simple random samples of lessees. In total, 540 lessees were mailed surveys and 362 responded, resulting in a deliverable response rate of 68%. Dolsen and Machlis (1991) have indicated that when surveying a relatively homogeneous population, a 65% respond rate should be adequate to rule out any substantial response bias. Brown and Wilkins (1978) have pointed out that even when surveying a specific audience in a specific resource area about specific issues, while the non-response bias may be

lower with a high response rate, it nonetheless can still exist.

In order to assess the possibility of a non-response bias in the leaseholder survey, four variables (age, education, income, and overall satisfaction) were tested. Nonresponse bias was tested by comparing the means of four variables during the three response periods (after the first mailing, after the first reminder, after the second reminder). It should not be assumed that late respondents, those responding to reminder letters, are representative of actual nonrespondents and some response bias may still exist using this method (Brown et al. 1981). However, given a specific recreation activity and location, a homogeneous population can be assumed if the response period means for specific key variables are similar. If a homogeneous population is assumed, then non-response bias can also be assumed to be low (Becker et al. 1987, Becker and Iliff 1983).

Data was entered and all statistical tests were conducted using the Statistical Package for the Social Sciences (SPSS version 10.0 for Windows). Analysis procedures included chi-square, correlation, and independent sample t-tests. Additionally, an exploratory factor analysis using orthogonal varimax rotation was conducted on the lessee motivation statements to reduce the motivation statements

into meaningful factors. The criteria established for inclusion in a factor were: (1) motivation statement factor loadings had to be 0.40 or greater to be included and (2) Eigenvalues had to be 1.0 or greater to retain a factor (factors were not forced). The internal reliability of each factor was tested and retained if its Cronbach's alpha was 0.60 or greater because each factor should explain at least 60% of the total variance.

### Results and Discussion

#### Nonresponse Bias

Using a Chi-square test, no significant differences were found between return period and age, income, and overall satisfaction (Table 1). There was a statistical difference between return period and education. Past studies have theorized that respondents with higher educations were more likely to respond to surveys (Wellman et al. 1980). A Spearman's rho correlation coefficient of  $-0.13$  (significant at  $p < 0.01$ ) was found between return period and education indicating a weak linear relationship between these two variables. Due to the weak nature of this correlation and the lack of statistically significant differences in the other three variables, it will be assumed that the respondents are a generally homogeneous population and nonresponse bias will not be considered significant for this study.

**Table 1. Chi-square tests comparing mail survey return period with age, education, income, and overall satisfaction of respondents.**

Variable over Return Period Comparison	Pearson's Chi-Square Value	N	Degrees of Freedom	P
Age	3.56	337	4	0.469
Education	12.78	335	6	0.047 <sup>a</sup>
Income	9.87	304	12	0.627
Overall Satisfaction	6.65	339	4	0.156

<sup>a</sup> Chi-square statistic significant at  $p < 0.05$ .

#### Industrial Forestland Company Survey

The total number of industrial forest acres involved in the study was 646,672. Of the total acres, recreational leases cover 558,048 acres, 65,573 acres are open to the public without fee, and 18,101 are opened by easements. Additionally, 45,975 acres of the total acreage in the study are completely closed to public access (Table 2). These

amounts exceed the 646,672 total acres because some companies have land that is both leased non-exclusively and is also open to the public for no fee. In general, companies have 75% of their land in recreational leases, 27% open to the public without fee, 14% completely closed to public use, and 5% covered by easements (Table 2).

**Table 2. Total acres per access category<sup>a</sup>, mean acres per company per access category<sup>a</sup>, and mean percentage per industrial forest company.**

Access Category	Total Acres in Study	Mean Acres per Company	Mean Percentage per Company
Recreational Lease	558,048	62,005	75%
Open without Fee	65,573	7,286	27%
Easement	18,101	2,011	5%
Closed	45,975	5,108	14%
Total Acres	646,672	71,852	-

<sup>a</sup> Categories add to more than total acres due to acres being classified as non-exclusive leases and open without fee.

The relationship between total acres owned by a company and the number of acres that are recreationally leased (Pearson correlation coefficient of 0.991, significant at  $p < 0.01$ ) was a strong positive linear relationship. While not as strong, the relationships between total acres and acres

open without fee and total acres and acres closed to public access were also found to have positive linear relationships (Pearson correlation coefficients of 0.752 and 0.751 respectively, significant at  $p < 0.01$ ). In all three cases, acres in each recreational access category (recreational lease,

open without fee, and closed) increased as the number of acres owned by the company increased. The only access category in which this was not the case was with easements.

A 6-point Likert-type scale was used to question companies about their perception of problems and the actual frequency of problems associated with recreational leasing. The response categories ranged from 0 = "not a problem" to 5 = "very serious problem" for the perception scale and from 0

= "never" to 5 = "very frequently" for the frequency scale. The average perception ratings for illegal construction, trespassing, and road damage were highest (1.67, 1.44, and 1.11). The average frequency ratings for trespassing, lessee interference with logging activities, and illegal construction were highest (1.89, 1.44, and 1.44). None of the 12 variables scored very high perception or frequency ratings indicating that traditional problems associated with public use of private lands may not be issues of contention in recreational lease programs (Table 3).

**Table 3. The average perceived problem ratings, frequency of problem ratings, and multiplied ratings for industrial forestland manager perceived and frequency responses.**

Variable	Perceived Problem Rating Mean (P)	Frequency of Problem Rating Mean (F)	Multiplied Mean (P * F)
Litter	.78	1.33	1.04 <sup>b</sup>
Illegal Firewood Cutting	.56	.89	0.50 <sup>a</sup>
Road Damage	1.11	1.22	1.35 <sup>a</sup>
Forest or Brush Fires	.00	.11	0.00
Timber Damage	.44	.78	0.34 <sup>b</sup>
Trespassing	1.44	1.89	2.72 <sup>b</sup>
Lessee Interference with Logging Activities	.78	1.44	1.12 <sup>a</sup>
Timber Theft	.11	.44	0.05
Illegal Construction	1.67	1.44	2.40 <sup>b</sup>
Personal Liability	1.00	.67	0.67 <sup>b</sup>
Equipment Damage	.44	.56	0.25 <sup>b</sup>
Vandalism	1.00	1.22	1.22 <sup>a</sup>

<sup>a</sup> Correlation is significant at  $p < 0.05$  level (2-tailed).

<sup>b</sup> Correlation is significant at  $p < 0.01$  level (2-tailed).

Due to the small sample size of companies participating in the study ( $n=9$ ), determining if there was a correlation between a company's perception and the actual frequency of the problem was difficult. Spearman's rho correlation coefficients were determined based on the categorical nature of the data and most variables were found to have positive linear associations with varying degrees of strength. Perceived problem means and problem frequency means were also multiplied to provide an exponential scale in which the magnitude of problems could be compared. Multiplied means could range from 0 to 25 (Table 3). Trespassing, illegal construction, and road damage had the highest multiplied mean ratings (2.72, 2.40, and 1.35). These mean ratings are relatively low considering the results could range from 0 to 25, but do indicate that of the related problems, these three are considered possible points of contention for recreational lease programs. Forest or brush fires, timber theft, and equipment damage had the smallest multiplied mean ratings (Table 3). The low mean ratings indicate these problems may not be issues companies must deal with in their recreational lease programs. It appears that the traditional problems associated with public recreational use of private lands are

not large problems in the recreational lease programs involved in this study.

In regard to problems associated with public use of private lands, industrial forest managers were asked about their satisfaction with New York State private property rights legislation. Most industrial forestland companies were not satisfied with current state legislation. The five response categories and response percentages were as follows: very satisfied (0%), satisfied (11%), neutral (33%), dissatisfied (45%), and very dissatisfied (11%). When asked specifically what area of state legislation needed the most improvement, 45% of industrial forestland managers responded landowner liability laws. Twenty-two percent of respondents felt that trespass laws needed improvement and another 22% felt that property tax laws needed improvement. While these are concerns for industrial forestland owners, they do not seem to hinder the recreational lease programs involved in this study, but the situation could prove problematic in the future if company concern increases.

When questioned about the future of public use of private lands, all companies believe public recreational use of

industrial forestlands in New York will increase. Over 55% of responding companies felt that family use of leased lands would increase in the future. In terms of public access to industrial forestlands, 67% believe there will be an increase in the number of easements and 56% think recreational leasing will increase (Table 4). The fairly large percentage of companies who believe there will be an increase in easements may stem in part from specific events that have happened in New York (e.g., recent easements purchased by the state from industrial forest landowners). Over half of the responding companies indicated that they believe free access will decrease in the future. This is especially important when considering the segment of society that cannot afford a recreational lease. A decrease in the amount of available land for free access will translate to a loss in recreational opportunities for those people who

cannot afford leasing and may further the economic argument that recreational leasing only makes land available for those who can afford the lease costs, not the public in general (Heberlein and Davis 1987).

Industrial forestland companies were asked to identify the number of organizations (e.g., hunt and other outdoor recreation clubs) and individuals holding leases on their lands. A total of 470 organizations and 336 individuals were indicated to be recreational leaseholders. This is consistent with the literature that states more industrial forest leaseholders are clubs as opposed to individuals (Busch and Guynn 1988, Jordan and Workman 1989). This is due, in part, to club members, as opposed to individual leaseholders, being able to share the cost of the lease.

**Table 4. Percentage of companies surveyed who indicated an increase, decrease, or no change for recreational leases, easements, and free access in the future on industrial forestland in NYS.**

Access Category	Decrease	Remain the Same	Increase
Recreational leases	0%	44%	56%
Easements	0%	33%	67%
Free Access	56%	22%	22%

#### *Industrial Forest Leaseholder Survey*

Due to the possibility that lessees surveyed could either lease land as an individual or as a club representative, lessees were asked to indicate which they were. Of the 362 lessee respondents, 94 responded as individuals, 254 responded as a club representative, and 4 lessees did not answer the question. Independent sample t-tests were performed to test for any differences between lessees responding as individuals and as clubs. There were no statistically significant differences when the means for age, income, education, and overall lease satisfaction were compared. Additionally, when responding as a club representative, lessees were asked to indicate the number of members in their club. Clubs ranged in size from 2 to 220 members, with a mean membership of 18 members, and a study total of 4,623 members.

Based on responses to demographic questions, a typical lessee is male, between the ages of 34-64, with at least a high school diploma, employed, and earning over \$40,000 per year. By far, the majority of respondents were men (99%) and most fit into one of three age categories, 34-44 (24%), 45-54 (35%), and 55-64 (21%). Approximately 40% of respondents had completed high school, 19% had some college experience, and an additional 22% were college graduates. Seventy-seven percent of lessees are employed, another 21% are retired, and roughly 75% of respondents make over \$40,000 per year. This type of demographic information is useful to managers to better understand lessee populations and to tailor marketing strategies to elicit new leaseholders.

Lessees involved in this study were primarily from New York (94%) and most came from communities of less than 25,000 people. More importantly, the majority of lessees

live under 150 miles from the land they lease. Only about 13% of respondents live more than 150 miles from the land they lease. This supports the claim in the literature that industrial forestland leasing is considered a local phenomenon, with local being defined as approximately 2 hours driving time from the leased land (Busch and Guynn 1988, Yoho 1981). Additionally, a Spearman's rho correlation coefficient of  $-0.253$  was found between lessee distance from leased land and days spent on leased land. While not very strong, the negative linear relationship is nonetheless significant at the  $p < 0.01$  level, indicating use of leased lands decreases as distance from the leased lands increases.

Due to different policies by the companies involved in this study, the duration of a typical lease of industrial forestland ranged from a 1 to 6 month lease (1%) to multiple year leases (99%). The most common leases were of a duration of 1 year (18%), 3 years (40%), and 5 years (23%). The majority of respondents had been involved in industrial forestland recreational leasing for more than 2 to 5 years (Table 5). Overall lease satisfaction ratings varied across the number of years involved in recreational leasing category, with the largest percentage of very satisfied lessees in the 2 to 5 year category (Table 5). Interestingly, a weak negative relationship was found between years involved in leasing and overall lease satisfaction (Spearman's rho correlation coefficient of  $-0.198$ , significant at  $p < 0.01$ ). In general, overall lessee satisfaction was high with over 49% of lessees indicating they were satisfied and an additional 36% indicating they were very satisfied with recreational leasing of industrial forestlands. Due to the very low percentage of respondents who indicated they were very dissatisfied (3%), dissatisfied (4%), and neutral (8%), these three response categories

were lumped together into one category to facilitate statistical analysis.

**Table 5. Reported satisfaction by lessees in 1999 and number of years involved in recreational leasing on industrial forestlands.**

Satisfaction Rating <sup>a</sup>	Years Involved in Leasing					
	1 Year or Less (n = 22)	2-5 Years (n = 107)	6-10 Years (n = 68)	11-15 Years (n = 38)	16-19 Years (n = 18)	20 Years or More (n = 81)
0	1.5%	3.0%	2.4%	3.0%	0.9%	3.6%
1	2.1%	12.0%	12.6%	5.4%	2.4%	15.0%
2	3.0%	17.1%	5.4%	3.0%	2.1%	5.7%

<sup>a</sup> The combined satisfaction rating categories were: 0 = very dissatisfied to neutral, 1 = satisfied, 2 = very satisfied.

The high percentage of respondents who were generally satisfied with their recreational lease of industrial forestlands in 1999 may be due, in part, to the management programs of these lands. Given the fact that many of their leaseholders were hunters, many industrial forest companies implemented wildlife management programs. Of the companies surveyed, 78% responded that they not only have a wildlife management program, but also employ a wildlife biologist either full or part time. Furthermore, 78% of responding companies indicated that they employ a recreation specialist on a full or part time basis. This type of attention to the recreational needs of their users may partially explain why most industrial forestland lessees are satisfied with their leasing experiences.

Lessees were asked to describe their main reasons for recreating on leased forestlands to determine if there was something that specifically distinguished industrial forestlands from other lands. The top three reasons and response percentages were "It is a good place to do the outdoor activities I enjoy" (84%), "I enjoy the exclusive use of this land" (77%), and "I enjoy the place itself" (75%). While enjoying the place itself does not specifically distinguish leased lands from free public lands, exclusive use of the land and being a good place to enjoy outdoor activities are distinguishing features of leased lands. Exclusive use is different from public lands that must be shared. Certain outdoor activities are not allowed or are limited to certain areas of public outdoor recreation destinations, also making leasing of commercial forestlands more attractive.

Recreational leaseholders were asked to rank 14 motivational statements based on their importance for

recreating on leased forestland. A 6-point scale was used, ranging from 0 = not important to 5 = extremely important. When ranked according to their mean importance, the three most important items are related to enjoyment and relaxation (Table 6). For enjoyment (4.47), to get away from daily routines (4.12), and for relaxation and rest (4.09) are the top three items while for physical challenge (1.95), to use recreational equipment (2.41), and to improve outdoor activity skills (2.46) were the lowest rated items. The factor analysis of the 14 motivation items produced four factors (Table 6). A lack of other studies surveying recreational leaseholder motivations did not allow for comparisons, but knowing the reason why people participate in specific types of recreation gives outdoor recreation managers an understanding of what people want from recreation and insight into how they can provide recreational opportunities that might benefit these people (Manfredo et al. 1996).

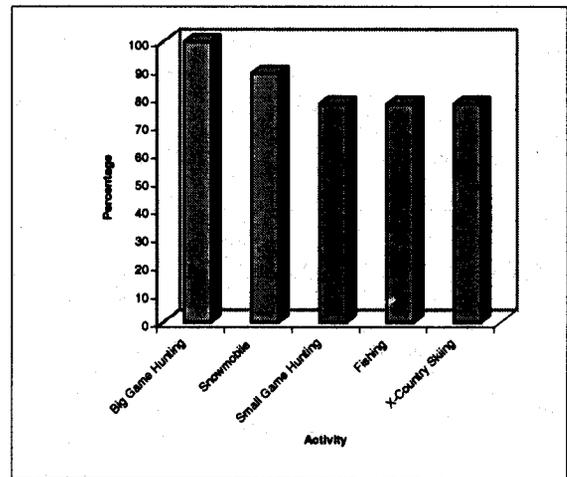
The Enjoyment and Relaxation factor includes six items, including the three highest ranked items (Table 6). The items in this factor indicate that industrial forest lessees seek enjoyable, relaxing, and even introspective outdoor experiences while on their leased lands. The Social factor, the second highest factor, was comprised of three items, and indicates that lessees derive enjoyment from sharing their experiences on leased forestlands with friends and family. These two factors suggest that having the leased land to recreate on and sharing social time with family and friends is as or more important to lessees than the actual activities participated in on leased forestlands. This is supported by the lower factor means for both the Stimulation/Physical Fitness and Equipment/Skill factors.

**Table 6. Means and factor analysis for motivations of recreational leaseholders in 1999.**

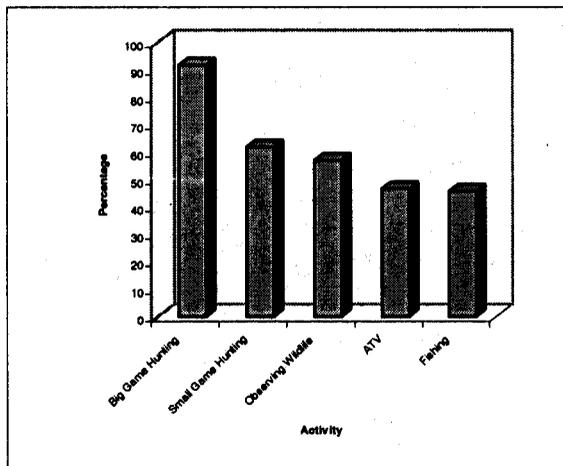
Factors and Motivation Items	Factor Loadings	Mean Ratings	Factor Mean	Factor (Cronbach's) Alpha Value
<b>Enjoyment and Relaxation</b>				
For enjoyment	0.55	4.47	3.87	0.83
For relaxation and rest	0.82	4.09		
To get away from daily routines	0.83	4.12		
To experience peace and quiet	0.78	3.98		
To reflect	0.54	2.59		
To spend time in a natural environment	0.56	3.98		
<b>Social</b>				
To be with family	0.65	3.25	3.67	0.72
To be with friends	0.68	3.56		
To be with people with similar values	0.50	3.29		
<b>Stimulation/Physical Fitness</b>				
For excitement	0.46	2.60	2.52	0.69
For exercise	0.82	2.97		
For physical challenge	0.80	1.95		
<b>Equipment/Skills</b>				
To use recreational equipment	0.81	2.41	2.44	0.59
To improve outdoor activity skills	0.59	2.46		

**Activities as Indicated by Companies and Leaseholders**

Both industrial forestland companies and lessees were asked to rank the most frequently occurring outdoor recreation activities on leased lands. Managers of industrial forestlands ranked big game hunting and snowmobiling as the top two activities and small game hunting, fishing, and cross-country skiing tied as the third most often occurring activities on leased forestlands (Figure 1). Lessees ranked big game hunting, small game hunting, observing wildlife, ATV use, and fishing as the top five activities (Figure 2). Hunting, snowmobiling, and fishing were in the top five activities reported in past studies on recreational use of industrial forestlands in the state of New York (Capozzi et al.1999, Germain 1999). By far, big game hunting eclipsed all other activities as the number one activity on leased forestlands. One hundred percent of managers and 62% of lessees indicated big game hunting as the primary activity. An additional 32% of lessees indicated they participated in big game hunting on leased forestlands, but it was not their primary activity. Accordingly, over 65% of lessee use of leased lands occurs during the fall. While the literature suggests recreational use of industrial forestlands may be shifting towards non-consumptive activities (Capozzi et al.1999, Germain 1999, Patterson and Patterson 1989), these results indicate that the traditional consumptive activities of hunting and fishing still play a major role in the recreational use of these lands.



**Figure 1. Top five occurring recreational activities according to industrial forestland managers.**



**Figure 2.** Top five occurring recreational activities according to industrial forestland lessees.

### Conclusions

This study was undertaken to provide an understanding of industrial forest company lease programs, the lessees involved in these programs, and the overall satisfaction leaseholders derive from their experience on leased forestlands in New York State. Prior to this research, many recreational lease studies focused entirely on industrial forestlands in the southeastern United States, making generalizations to the Northeast difficult because of the different silvicultural practices in these areas. Additionally, past studies concentrated only on the company side of the lease programs. By adding the leaseholder perspective, this study broadened the base of information available for industrial forest managers to use when developing and managing existing recreational lease programs.

The industrial forest companies involved in this study lease approximately 75% of their total land for recreation, similar to past study results (Marsinko et al. 1997, Stuckey et al. 1992). While recreational access problems (i.e., road damage and illegal timber cutting) can often hinder public use of industrial lands, the analysis of problems associated with recreational leasing, as reported by managers, indicates public use problems do not seem to deter the companies involved in this study from providing recreational leases. Liability is a major concern for industrial forest companies as evident by nearly half of the respondents indicating their dissatisfaction with current landowner liability laws. This concern is similar to that voiced in other studies of recreational leasing of industrial forestlands (Kaiser and Wright 1985, Owen 1990).

While the number of leaseholders varied by company, in general, industrial forest companies in New York tend to lease to a higher percentage of clubs than individual leaseholders and this is consistent with past research (Marsinko et al. 1997, Stuckey et al. 1992). Hunting clubs traditionally were and still are the primary leaseholders of industrial forestlands.

Most leaseholders live less than 150 miles from their leased land, which is similar to past research that has indicated recreational leasing is a local phenomenon (Busch and Guynn 1988, Yoho 1981). The negative linear correlation between distance from lessee's residence to leased land and total days spent on the land, while weak, indicates that as distance from the leased land increases, the number of days the lessee spends on the land decreases. This is an important consideration for possible lessees as their decision to lease land may be predicated on their distance from the leased land and, correspondingly, the time they are able to spend there.

Similar to past research involving recreational leasing of industrial forestlands, the companies and leaseholders involved in this study indicated that big game hunting was the primary activity occurring on leased forestlands (Capozzi et al. 1999, Germain 1999). While non-consumptive activities may be becoming more important on leased lands, hunting is still the main activity, as industrial forestlands provide safe, relatively un-crowded areas to hunt. The similar recreation activity rankings of managers and lessees indicates that industrial forest managers have a good understanding of the activities their lessees are participating in while on their lands.

Leaseholder satisfaction was generally high for the overall lease experience. While this is consistent with past studies that found satisfaction levels for public amenities (i.e., parks) and recreational activities receive high performance ratings (Hollenhorst and Gardner 1994, Manning 1999), it was nonetheless not expected to be as high in this study. A fee must be paid for recreational leasing, whereas other outdoor amenities and activities are generally free or low cost. Considering the cost associated with leasing, it was expected that industrial forest leaseholders would be more critical in their satisfaction ratings and correspondingly satisfaction would be lower than in past studies. The high level of satisfaction was a very positive finding and an indication that industrial forest managers are producing the opportunity for satisfying outdoor recreational experiences on their lands. However, while satisfaction levels were generally high, this could be partially attributed to the fact that highly dissatisfied lessees may have been displaced and not captured in this study (i.e., only satisfied leaseholders continue to lease).

Current management strategies regarding leasing on industrial forestlands seem to be successful. Lessees are primarily satisfied with their experience, possibly due to the fact that many companies specifically employ wildlife and recreation specialists to direct management decisions. Contact with lessees and monitoring their changing preferences and needs should be a priority to companies who want to ensure that lessees of industrial forestlands remain satisfied with their experience.

### Further Management Considerations

While recreational leasing appears to be a mutually beneficial venture for both industrial forest companies and leaseholders, two issues provide possible areas for future research. First, given the fact that a fee must be paid when

leasing land, recreational leasing of industrial forestlands is only an option for those people who can afford to pay the fee (Libby 1998, Messmer et al. 1998). A person's ability to pay recreational lease fees is associated with their socioeconomic status (Heberlein and Davis 1987). Given these facts, lease programs make land available for the segment of society that can afford the lease fees. If lease fees increase further, more people will be unable to afford the cost, forcing those who cannot pay to seek a more affordable lease or to use public lands.

A second issue surrounding recreational leasing of industrial forestlands is the willingness of the public to pay recreational lease fees. In general, given the fact that hunters and anglers are accustomed to paying fees for their activities, they have shown a willingness to pay for access to forestlands. Non-consumptive recreationists, on the other hand, have generally not shown this same willingness to pay (Heberlein and Davis 1987). This is especially pertinent to industrial forest lease programs as there has been an overall decrease in the number of people participating in consumptive outdoor activities and an increase in those participating in non-consumptive activities in the U.S. (Cordell et al. 1998). As the number of lessees involved in non-consumptive outdoor recreation increases, industrial forest companies may have to re-evaluate their lease programs and marketing strategies in order to satisfy current lessees and attract new ones.

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