

Does Forest Land Posted Against Trespass Really Mean No Hunter Access?

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Hunters report diminishing access to private forest land in the United States due to increasing numbers of landowners posting their land against trespass. While many hunters assume posting is synonymous with prohibited access, the relationship between the two is not clear. To address this issue, we predicted the likelihood a family forest landowner who posts their property will, in fact, allow hunter access. Factors that influence this likelihood were identified. We found that the probability of a landowner who posts allowing access was approximately 47%, with all explanatory variables evaluated at their means. Factors decreasing the likelihood of access included a perception that allowing access would interfere with their own hunting or result in property damage. Factors increasing the likelihood of allowing access included increasing parcel size, a perception of excellent hunting opportunity on their parcel, and a high percentage of the surrounding area that is open to public hunting.

Keywords hunting, access, recreation, posting, family forests

Introduction

Hunters in the United States rely on private land for access to recreational opportunities. Nearly three-fourths of all hunting effort in the United States occurs on private lands, much of which is forested (NSFWAR, 2001). Increases in the number of landowners posting their land against trespass are anecdotally thought to result in reductions in recreational access to these lands.

Landowners post their property to notify the public that access to their property is restricted. This is typically accomplished by placing signs at the property boundaries. Most states require that landowners post their forest land if they wish to exclude hunters and define specific procedures for doing so (Sigmon, 2004). The number of private landowners in the United States who post their land is substantial and increasing (Brown, Decker, & Kelley, 1984; Adkins & Irby, 1994; Benson, 2001; Wright, Kaiser, & Emerald, 2001; Haggerty & Travis, 2006). The National Private Land Owners Study estimated that 42% of landowners in the northern states and 41% in the southern states posted their

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property (Gentle, Bergstrom, Cordell, & Teasley, 1999). It is more difficult, however, to determine access policies of private landowners because this information is not systematically reported or readily discernable as is the case with posting practices. For these reasons, posting practices are often used as a proxy for access provision on private lands. In this article we explore the validity of this assumption.

An increase in posting frequency has important implications for hunters seeking access, as well as for wildlife managers trying to control the population levels of certain species. Effective game management for species such as white-tailed deer depends, in part, on hunter access to private lands to help control population levels (Brown et al., 1984; Adkins & Irby, 1994; Brown et al., 2000). Adkins and Irby (1994) found that land with restricted hunter access is more likely to experience game depredation problems than land that is more accessible by the public for hunting. State wildlife administrators have also reported declining hunting license sales in recent years that could, in part, be attributable to diminished hunting access to private lands (Wright et al., 2001).

A distinction needs to be made, however, between a landowner's posting practices and their willingness to allow hunter access. It could be the case that if land is posted, hunter access will not be allowed under any circumstances. Some research, however, has suggested that posting is not necessarily synonymous with a complete prohibition of access. Owners who post may be willing to provide some degree of hunter access if asked or under certain circumstances (Birch & Dennis, 1980; Kingsley & Birch, 1980; Brown et al., 1984; Lauber & Brown, 2000). These findings suggest that for some landowners posting may be a means to selectively control rather than to prevent access entirely. Hunters who are unaware of this distinction consequently often do not attempt to secure permission from private forest landowners (Decker & Brown, 1979). This misperception may, in turn, lead to greater access constraints than actually exist.

The connection between posted lands and hunter access remains largely unexplored. No empirical research has been conducted to estimate the likelihood of owners who post their land against trespass granting hunter access. Moreover, no research has been undertaken to identify the factors that might influence a landowner's decision to allow hunter access even when the property is posted. This is where our work makes a contribution. We hypothesize that posting is not an indication of total prohibition of hunter access to forest land and develop a predictive model to test this hypothesis. To our knowledge, this is the first research to empirically explore this question. We also test hypotheses about factors which may influence a landowner's decision to provide access on posted land, including concerns about interference with a landowner's own use and management of the land, demographics associated with the owner, and parcel characteristics. Addressing this research question provides information useful to hunters seeking to identify forest owners to approach regarding access opportunities, as well as wildlife managers seeking opportunities to more effectively control wildlife populations.

Literature Review

Studies have identified factors that influence a landowner's posting practices (Brown et al., 1984; Gramann, Albrecht, Bonnicksen, & Kurtz, 1985; Jagnow et al., 2006; Snyder, Kilgore, Taff, & Schertz, 2008) and hunter access policies by private landowners (e.g., Brown et al., 1984; Gramann et al., 1985; Hunt, 2002; Ruff & Isaac, 1987; Wright, Kaiser, & Fletcher, 1988; Wright & Fesenmaier, 1988, 1990). While posting and access practices have been studied separately, many of the same motivating factors and explanatory variables apply to both.

Several studies have found that hunter access policies on family forest land are influenced by landowner characteristics; landowner attitudes with respect to hunter behavior; liability, safety, and damage concerns; land ownership objectives; and parcel attributes (e.g., Wright & Fesenmaier, 1988; Wright et al., 1988). Many of these same factors have also been found to be influential in private landowners' decision to post their land against trespass (e.g., Brown et al., 1984; Jagnow et al., 2006; Snyder et al., 2008). These variables and their influence on landowner posting and hunter access practices are described in the sections that follow.

Landowner Characteristics

The explanatory power of landowner age has been mixed in both the posting and hunter access literatures. In the access literature, Wright and Fesenmaier (1988) and Wright et al. (1988) found that older owners were more likely to restrict access to their land. Jagnow et al. (2006), however, found that longer ownership, which may be viewed as a proxy for landowner age, was associated with a decreased likelihood of posting. Similarly, Snyder et al. (2008) found that older owners were less likely to post their land. Taken together, these findings could suggest that while older owners are interested in limiting access to their land, they may prefer to signal this intent through means other than posting their property boundaries.

Attitudes Toward Hunters

Results from studies have found that there is not a widespread anti-hunting sentiment among private landowners (e.g., Brown, 1974; Wright & Fesenmaier, 1990; Wright et al., 2001). This suggests that negative attitudes toward hunting by private landowners are not likely a primary determinant of either posting or access policies. Brown (1974) surmised, however, that owners with an urban upbringing may be more likely to harbor anti-hunting sentiments and, in turn, more likely to post their land. Several authors have suggested that it is a landowner's concern over hunter behavior or past negative experiences with hunters on their land rather than an anti-hunting sentiment that appears to be a primary driver of both posting (e.g., Brown, 1974; Gramann et al., 1985; Jagnow et al., 2006; Snyder et al., 2008) and access (e.g., Ruff & Isaac, 1987; Wright et al., 1988; Wright & Fesenmaier, 1988; Swenson & Knight, 2001) practices. This includes incidents or concerns over noise, litter, safety, and/or damage to property and livestock. Some authors have suggested that a negative past experience with hunters or other recreators is the primary determinant of a landowner's decision to post (e.g., Brown et al., 1984; Jagnow et al., 2006).

Liability and Damage Concern

Concerns over liability and lawsuits are an important issue to many landowners and have been found to be a contributing factor in access (Wright et al., 1998; Wright, Kaiser, & Nicholls, 2002) and posting decisions (Jagnow et al., 2006). It appears, however, that landowners are frequently ill-informed about actual protection from liability risks, and their perceptions of liability are not commensurate with the reality of legal risks associated with allowing public access (Mozumder, Starbuck, Berrens, & Alexander, 2007; Wright et al., 2002). To encourage landowners to make lands available for public recreation use, all states in the United States have enacted recreation use statutes that are meant to protect landowners by restricting their liability when free recreational access is provided (Sigmon,

2004). These statutes grant landowners broad immunity from liability for personal injuries or property damage suffered by users pursuing recreational activities on their land. Most landowners are not aware or do not fully understand their rights and responsibilities under these statutes (Wright et al., 2002). Thus, liability remains a concern among many landowners and a barrier to public access despite state efforts to afford landowners liability protection.

Land Ownership Objectives

Reasons for land ownership and land management activities the owner pursues are important factors in both access and posting decisions. An important determinant of posting or access is whether landowners recreate or hunt on their properties. For example, Gramann et al. (1985) found that landowners who recreate on their property were more likely to post. Snyder et al. (2008) found that landowners whose primary reason for ownership is to secure a place to hunt were also more likely to post and that owners who believe that allowing other hunters on their property will interfere with their own hunting were three times more likely to post than those who did not share this concern. In the access literature, Wright and Fesenmaier (1988) found that owners who hunt on their land, and further, who wanted to maintain exclusive hunting rights for their personal use, were more likely to limit hunting access to others on their land (Wright & Fesenmaier, 1988).

Brown et al. (1984) found that owners involved in at least one forest management activity on their land were more likely to post. Similarly, Snyder et al. (2008) found that family forest owners who had a management plan for their property, a proxy for a landowner's interest to actively manage their forest land, were more likely to post. These findings suggest that landowners may view forest management and hunting as incompatible activities on their land. However, it appears that landowners may view farming and hunting as compatible activities on their land. Hunt (2002) analyzed the willingness of nonindustrial private forest landowners to allow hunting on their property and found that owners who farmed at least a portion of their property were more likely to allow hunting. Similarly, Jagnow et al. (2006) found that the odds of owners posting their land decreased if their primary reason for ownership was for agricultural purposes.

The opportunity to generate revenue by providing hunter access has also been found to be a factor that landowners consider when deciding whether or not to provide access to their land (Wright et al., 1988, 2001; Zhang, Hussain, & Amrstrong, 2006; Mozumder et al., 2007).

Parcel Attributes and Proximity Variables

Parcel characteristics, parcel size, and value have an influence on whether an owner posts against public trespass with larger (Gramann et al., 1985; Snyder et al., 2008) and more valuable parcels (Snyder et al., 2008) more likely to be posted. Ownership of a greater total number of acres also had a positive impact on posting likelihood (Jagnow et al., 2006). In the access literature, however, ownership of a greater number of acres resulted in a higher likelihood of allowing public hunter access (Ruff & Isaac, 1987). Owners with good quality deer and squirrel habitat were more likely to allow hunting access to their lands (Wright & Fesenmaier, 1988). The availability of land for hunting in the immediate area surrounding an owner's property also may play a role in posting practices. Snyder et al. (2008) found those family forest owners whose land is surrounded by land that is more than 60% open to public hunting (on both public and private lands) were more likely

to post their property against trespass. This may suggest a desire to maintain exclusive hunting rights on their land for themselves and/or an attempt to prevent other hunters from purposefully or accidentally straying onto their land while hunting in adjacent land.

Methods

Survey

We administered a mail-back questionnaire to a sample of Minnesota family forest landowners. Eligible parcels were predominantly forested and at least 20 contiguous acres. Twenty acres was used as the minimum parcel size, as we believed anything smaller would not be large enough to support either forest management or significant hunting opportunities. Assessors' offices in Minnesota's 15 counties with the largest acreage of family forest land were contacted in 2006 to obtain information on forestland that met the eligibility criteria. We defined family forest land as forest land owned by individuals and single-family households. Forest land owned by non-forestry corporations, investment organizations, incorporated partnerships, and native Indian organizations was excluded from consideration in our study.

Once a database containing all family forest land parcels in the 15 counties was compiled, the database was screened to ensure only forested parcels owned by family forest owners who had not received any surveys administered by the University of Minnesota's Department of Forest Resources within the past five years. A random sample of 160 private forest landowners was drawn, with the sample weighted by the amount of family forest acreage in each county relative to the total acreage of family forest land in the 15 counties. For example, if County X contained 10% of the entire family forest acreage in the 15 counties, then 10% of our sample (by acreage) was from County X. This sample was used to pre-test the draft survey questionnaire to ensure all survey questions were clear and the response data useable. Slight modifications were made to the survey instrument based on the results of the survey pretest.

The final survey questionnaire was mailed to 1,024 family forest owners (again, with the sample weighted by the amount of family forest acreage in each county relative to the total acreage of family forest land in the 15 counties) who were randomly selected using the criteria and screening process previously described. Nine questionnaires were undeliverable due to an incorrect mailing address, resulting in 1,015 private forest owners actually being contacted. The survey was administered between October and December 2006 following methods described by Dillman (2000).

A total of 677 questionnaires were returned, resulting in an absolute response rate of 66%. Considering the nine undeliverable questionnaires, the survey's effective response rate was 67%. Thirty-seven of the questionnaires were returned blank, resulting in 640 completed questionnaires and a usable response rate of 62%. Analysis of respondents and non-respondents found no significant differences in key landowner metrics (e.g., acres of forest land owned, absentee versus resident owners, and forest land estimated market value) between the two groups, suggesting the data can be interpreted as representative of Minnesota's family forest landowners meeting the study selection criteria.

Model Variables

We requested information on reasons for forest land ownership, willingness to allow walk-in hunter access, quality of hunting provided on the land, attitudes and experiences with hunters, availability of forest land for use by the public in the immediate area, future

ownership plans, posting practices, and landowner characteristics (e.g., land ownership tenure, number of parcels and acres of forest land owned, location of residence in relation to forest land owned, age). We also asked owners about specific activities they have or plan to undertake in an effort to characterize their interest in forest management (e.g., have [or will develop] a forest management plan for their property, conducted [or plan to conduct] a commercial timber harvest, undertaken [or plan to undertake]) specific forest management practices such as thinning and reforestation.

Respondents who indicated they do not currently post their land were eliminated from analysis. This reduced our sample size to 402 respondents. To create our binary dependent variable, we combined the “yes” and “maybe” responses to a question that queried respondents whether they would be willing to grant permission to hunters to use their land if they asked permission first. A model was then developed to estimate the likelihood of an owner who currently posts their land allowing hunter access.

Selection of potential explanatory variables was guided by existing research on family forest owner attitudes and motivations relative to public trespass, posting and hunter access. Based on this research, we surmised that owners who bought their land for their own hunting enjoyment and/or who have concerns about potential damage or interference caused by other hunters might be unlikely to allow access to their posted land. We also tested whether owners view forest management and hunting as compatible uses of their land. We included a variable in our model indicating whether the owner planned to conduct a harvest, other than for firewood, in the next five years. We hypothesized that if owners viewed hunting and forest management as incompatible activities, they might be less likely to allow access to their land.¹ We also hypothesized that owners of higher valued land (per acre) might be less likely to allow access in an interest to protect their investment. Given that Snyder et al. (2008) found that good availability of land for hunting in the immediate area surrounding one’s property led to an increased likelihood of posting, we hypothesized that this attribute might be driver of reduced likelihood of access. Absentee ownership was included as a variable with an anticipated negative sign to address the anecdotal viewpoint that absentee owners are the cause of increasingly fewer areas accessible by the public for recreation. Finally, we hypothesized that older owners would be less likely to provide access as was found by earlier literature on drivers of access policies (e.g., Wright & Fesenmaier, 1988; Wright et al., 1988). In terms of positive influences on access provision, we hypothesized that the size of the parcel would have a positive influence on access provision, with owners of larger parcels more likely to allow access. Given that Wright and Fesenmaier (1988) found that owners with good quality deer and squirrel habitat were more likely to allow hunting access to their lands, we hypothesized that good hunting quality on the parcel would also have a positive influence on access in our model, even for posted lands. Tables 1 and 2 contain definitions and descriptive statistics of the explanatory variables developed from the survey.

Model

A logit model was used to estimate the likelihood that a landowner will allow hunter access on lands they post against trespass and to examine the contribution explanatory variables had on access policies. The general form of the logit model is:

$$\text{Logit}(Y) = \ln\left(\frac{\pi}{1-\pi}\right) = \alpha + \beta'x \quad (1)$$

Table 1

Description and hypothesized influence of the explanatory variables on a landowner's decision to allow hunter access to their land

Variable	Description	Hypothesized effect on access policy
Landowner characteristics		
OWNtoHUNT	A binary variable indicating that hunting is the most important reason for forest land ownership.	Negative
INTERFERE	A binary variable indicating if the owner agrees that allowing hunters on their property will interfere with their own hunting.	Negative
ABSENTEE	A binary variable indicating if the owner lives away from the forest land.	Negative
AGE	A continuous variable indicating the owner's age.	Negative
Management intention		
HARVEST	A binary variable indicating that the owner plans to conduct harvesting activities, other than for firewood, in the coming 5 years.	Negative
Hunter behavior		
DAMAGE	A binary variable indicating if the owner agrees damage and/or littering is an important concern associated with allowing public access.	Negative
Resource attributes		
ACRES	A continuous variable indicating the size (acres) of the forest land parcel.	Positive
VALUE	A continuous variable indicating the 2005 assessor's estimated market value per acre of the land (\$ per acre).	Negative
HUNT_QUALITY	A binary variable indicating if the owner considers the quality of hunting on the forest land to be very good or excellent.	Positive
HUNT_AVAILABILITY	A binary variable indicating if the availability of hunting land (public or private) within one mile of the forest land is substantial or very substantial.	Negative

Table 2
Descriptive statistics of the explanatory variables

Variable	Mean	Minimum	Maximum	Standard deviation
Landowner characteristics				
OWNtoHUNT	0.53	0.00	1.00	0.50
INTERFERE	0.85	0.00	1.00	0.36
ABSENTEE	0.90	0.00	1.00	0.30
AGE	55.39	23.00	84.00	11.18
Management intention				
HARVEST	0.35	0.00	1.00	0.48
Hunter behavior				
DAMAGE	0.77	0.00	1.00	0.42
Resource attributes				
ACRES	66.91	20.00	720.00	75.74
VALUE	1193.84	75.00	14873.08	1256.98
HUNT_QUALITY	0.64	0.00	1.00	0.48
HUNT_AVAILABILITY	0.27	0.00	1.00	0.44

where:

π = probability of an outcome of interest

α = intercept

β' = vector of regression coefficients

x = vector of predictor variables

Equation (1) can be written to estimate the probability of occurrence of a specified outcome as follows:

$$\pi(Y | x) = \frac{e^{\alpha + \beta'x}}{1 + e^{\alpha + \beta'x}} = \frac{1}{1 + e^{-[\alpha + \beta'x]}} \quad (2)$$

We estimated Equation (2), the likelihood that a landowner who posts will allow hunter access on land, using the maximum likelihood estimation method and the full model selection method available in SAS 9.1. Peng, Lee, and Ingersoll (2002) provide a thorough discussion of the logit model and logistic regression technique.

Results

Survey Results

The results pertain only to respondents who indicated that they post their land. Fifty-three percent responded they would not allow access. The average age of the survey respondents was 55 years and length of ownership was substantial, with 29% having owned their land more than 20 years. Respondents were asked to indicate their single most important reason for ownership. The highest response given as a reason for forest land ownership

was for a place to hunt (53%). Other responses included a place to enjoy solitude (14%), a place to build a residence (8%), a real estate investment (6%), a place to enjoy forms of recreation other than hunting (6%), a place to watch wildlife (3%), and a place to grow timber for income (2%). The vast majority of respondents (90%) were absentee owners.

With respect to the respondents' perspectives on hunting, 85% indicated they thought allowing hunters on their land would interfere with own hunting activities, whereas 72% expressed concern that hunters would interfere with other forms of non-hunting recreation on their land. Sixty-six percent of respondents were concerned about liability and being sued if they allowed public hunters access to their land. Seventy-seven percent were concerned about damage and litter, while 54% expressed concern about noise.² Only 4% of respondents were personally opposed to hunting as an activity. Most respondents thought the hunting quality on their land was very good to excellent (64%). Twenty-seven percent of respondents stated that the amount of forest land within a mile of their property open to public hunting was substantial or very substantial.

Twenty-two percent of the respondents reported they had obtained a management plan, which we viewed as an indicator of a landowner's interest to actively manage their forest land. Forty-three percent sought advice or were contacted by a professional forester, 45% of respondents harvested trees other than for firewood at some point on their land, 41% undertook specific forest management activities such as tree planting, and 9% participated in some type of forest landowner program. The vast majority of owners (77%) planned to pass it on as an inheritance rather than divide and/or sell it in the near future. Fewer respondents planned to conduct a commercial timber harvest (other than for firewood) in the future (30%) than had in the past, as did the percentage of owners who planned to conduct forest management activities on their land in the future (32%). A small percentage (2%) of respondents planned to lease their land for hunting.³ Ten percent planned to build a residence on their property in the near future.

Model Results

Table 3 summarizes the results of our model estimation, including the odds ratios and marginal effects. The probability of a landowner who posts allowing hunter access is estimated to be 47% from solution of Equation (2), utilizing the regression coefficients from Table 3 and mean values for all of the independent variables. Five of the 10 explanatory variables included in the model were significant predictors of family forest owner access policies on land they post. The odds ratios provide information on how each explanatory variable influences the odds of allowing access on posted land when the other variables are held constant. The marginal effects, when multiplied by 100, gives the percentage change in the probability of posting given either a one unit change in a continuous variable or a change from 1 to 0 for a binary variable when all other variables are evaluated at their means. For example, the odds of an owner who believes strongly that allowing hunters access to their lands will interfere with their own hunting (INTERFERE) is approximately four-tenths (0.427) times the odds of an owner who does not share this opinion. Stated differently, one owner will allow access for every 2.34 who do not (e.g., $1/(0.427)$). This represents a 21% percent decrease in the probability of allowing access for those concerned about hunting interference.⁴

The hunting quality and hunting availability coefficients are positive and significant at the 5% level. The quality variable was the most important predictor (measured by the magnitude of the odds ratio) of access in our model. For owners who perceived the hunting quality on their land as very good or excellent, the odds of allowing access increased by a factor of 1.753, or an increase in the probability of allowing access of approximately 14%.

Table 3
Logit analysis of the provision of hunter access on posted lands

Variable	Coefficient	Std. error	Odds ratio	Marginal effects
Landowner characteristics				
OWNtoHUNT	-0.1679	0.2472	0.845	-0.0418
INTERFERE	-0.8501***	0.3315	0.427	-0.2081
ABSENTEE	0.2626	0.3912	1.300	0.0646
AGE	-0.0112	0.0104	0.989	-0.0028
Management intention				
HARVEST	-0.1353	0.2406	0.873	-0.0336
Hunter behavior				
DAMAGE	-0.4380*	0.2692	0.645	-0.1091
Resource attributes				
ACRES	0.0028*	0.0017	1.003	0.0007
VALUE	0.0001	0.0001	1.000	0.00002
HUNT_QUALITY	0.5611**	0.2458	1.753	0.1378
HUNT_AVAILABILITY	0.5252**	0.2549	1.691	0.1305
Constant	0.6377	0.7755		
<i>n</i>	338			
-2 Log likelihood	442.137			
Log Likelihood Ratio	24.9977***			
Prediction success:				
% Concordant	64.8			
% Discordant	34.8			

* $p \leq 0.1$; ** $p \leq .05$; *** $p \leq .01$.

The availability of land for hunting in the immediate area surrounding the owner's property also played a significant role in the likelihood of access provision, but its sign was opposite of what we had hypothesized. The odds of an owner whose property is surrounded by land with good hunting availability providing access was approximately 1.7 times the odds of an owner of a forest parcel where hunting access in the immediate area was limited. This represents a 13% increase in the probability of allowing access by those who post their land.

The damage and the property size variables were significant at the 10% level. If an owner believed that allowing hunters on their land was likely to cause damage and/or litter, their odds of allowing access was 0.645 times that of an owner who did not hold this belief, representing an 11% decrease in the probability of permitting access. Finally, owners of larger forested parcels were more likely to allow access, which is reasonable because larger parcels may offer greater hunting opportunities. Each additional acre increased the odds of posting by approximately 0.3%, controlling for other variables in the model.

Discussion

Our findings supported our hypothesis that posting is not synonymous with a total lack of hunter access to family forest land. Rather, it appears that posting is used as a means to

control access rather than to prevent it entirely. As a consequence, we suggest that wildlife management agencies could enhance efforts to educate hunters about the relationship between posting and access and to encourage hunters to ask about access even when lands are posted.

Our findings suggested that landowners who feel strongly that allowing other hunters on their property will interfere with their own hunting or result in damage to their property were significantly more likely to prohibit access to their posted land under any circumstances. The implications of this on future hunter access to family forest land are mixed. If landowners desire exclusive hunting rights on their property, as the variable dealing with concerns over hunting interference might suggest, then little may be done to entice family forest landowners to open their land to hunters (Gramann et al., 1985). However, landowners' concern regarding damage associated with allowing hunter access may be addressed through increased efforts to educate hunters about the need to be respectful of private forest landowners' property. It is conceivable that if hunter behavior changes and landowner concerns about damage associated with hunters improve, opportunities for hunter access could increase.

Our results indicated that larger parcel size, good hunting availability in the surrounding landscape and high hunting quality on the parcel are indicators that a parcel is likely to be accessible even if posted. These factors may be useful to hunters in determining who to approach regarding hunting access. However, it is important to recognize that we did not query the landowner about the nature of the access offered, to whom they would be willing to provide access, or if they would require compensation to provide this access. These would be important factors to consider in future research when evaluating the connection between posting practices and access actually provided.

Our finding that high quality hunting on a posted parcel increased a landowner's likelihood of providing access is consistent with Wright and Fesenmaier (1988) who found that landowners who believe that the quality of deer or rabbit habitat on their property is excellent tend to increase access. This could indicate that a landowner is willing to grant hunting access as long as doing so is not perceived as compromising his or her likelihood of harvesting wildlife. Alternatively, it could be a reflection of a landowner's perception that land with good hunting quality could yield profits from leasing or fee-based hunting. Under this interpretation, we suggest that the owner's willingness to provide access might be limited to those who are willing to pay for this access. The positive influence of the HUNT_AVAILABILITY variable may indicate a difference in ownership objectives based on the availability of hunting opportunities in the immediate area. In areas where hunting access is limited, ownership may be the only way to secure exclusive hunting access rights. Consequently, these owners may covet this right much more so than if the surrounding land afforded greater hunting opportunities.

Our findings support the conclusions of other researchers that absentee ownership may not be a major influence on likelihood of either allowing hunter access (Hunt, 2002) or posting one's property (Snyder et al., 2008). These findings counter anecdotal evidence that absentee owners are the cause of increasingly fewer areas accessible by the public for recreation. However, even though absentee owners were no less likely to provide access to their land for hunting, the challenge associated with absentee ownership to hunters may be in identifying whom to contact to gain admittance to the property. Thus, absentee ownership may implicitly create access issues if hunters can not identify these owners, even if the owners themselves state they are no less likely to prohibit access.

While landowner age has been an important explanatory factor in other posting and access studies, we did not find that to be the case here. Landowner intention to harvest

timber was also not statistically significant in our model, suggesting that landowners who pursue forest management activities are no more (or less) likely to prohibit hunter access. This may be because family forest landowners do not see a strong incompatibility between forest management and hunter access.

Research is needed to further explore the nature of the hunter access a landowner would be willing to grant on lands they post. In our analysis, access was treated as a dichotomous decision. As Wright et al. (1988) and Wright and Fesenmaier (1988) have suggested, a landowner's access policies are likely to vary depending on who is asking for access. For instance, Wright and Fesenmaier (1988) found a 66% chance that landowners would allow family and acquaintances onto their land to hunt, while the probability of more liberal access to the general public dropped to 5%.⁵ Thus, future work that explores degree of access granted by those who post could further help hunters in distinguishing who to approach for access.

Notes

1. The HARVEST variable, which reflects a landowner's intention to harvest in the next 5 years, is a proxy meant to identify landowners with forest management objectives. As one of the reviewers pointed out, however, this variable may not adequately capture the full spectrum of forest management and hunting access concerns. That is, a landowner could be years away from a commercial harvest, but still conducting forest management activities such as planting. These owners might have concerns about compatibility between forest management and hunting access, but they would not be reflected in our proxy forest management variable.
2. Although we included questions in the survey regarding damage, noise disturbance, and liability issues associated with allowing hunter access, correlation between these variables precluded us from including all three in the predictive model.
3. Although we anticipated that plans to lease one's land for hunting might influence whether or not to allow access to posted land, the small percentage of respondents who indicated this intention was too small to make useful its inclusion as an explanatory variable in our model. The small affirmative response rate to this leasing question may reflect in part the limited hunting lease opportunities in Minnesota and hence limited landowner experience with such activities, rather than the landowners' complete lack of interest.
4. Each significant variable in Table 3 imparts a change in the probability that a landowner who posts will allow access. The change in probability is derived by multiplying the marginal effects in Table 3 by 100. Marginal effects with a positive coefficient imply an increased probability associated with that variable, and those with a negative coefficient a decreased likelihood. For example, those owners with a concern that allowing hunters access will interfere with their own hunting enjoyment (INTERFERE), are 21% less likely to allow access than those who do not share this concern. Interpreting marginal effects for a continuous variable is slightly different; for example, every additional acre in the size of the parcel (ACRE) increases the probability of allowing access by 0.07%.
5. Note, however, their analysis did not prescreen by those who already post their land.

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