Investigating the Potential of Fee-Based Recreation on Private Lands in the Lower Mississippi River Delta

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Selected Paper prepared for presentation at the
Southern Agricultural Economics Association Annual Meetings
Mobile, Alabama, February 3-6, 2007

Abstract
Private landowners may be willing to allow public access for fee-based wildlife-associated recreation. A survey and econometric techniques are proposed to determine what characteristics may influence the probability to decide to offer recreation, what organizational form landowners may prefer to manage and market fee-based recreation, and how liability concerns and other possible disincentives collectively influence landowners' access decisions.

Key Words: wildlife-associated recreation, liability perceptions

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Introduction and Background

The Lower Mississippi Valley or Delta, which encompasses parts of Arkansas, Louisiana, and Mississippi, has been dominated by agriculture over the better part of two centuries. However, there are a number of factors, such as increasing demand for environmental amenities and downward price pressure from growing world trade of agricultural commodities, which may entice agricultural landowners to consider other land uses for some acreage in the delta, particularly for marginal lands. Problems with agricultural profitability and increasing demand for recreational sites may encourage some landowners to consider alternative sources of income, such as commercially developing wildlife, fish and habitat resources, and charging for recreational access (Schenck et al., 1987; Thomas et al., 1989). Marginal agricultural land is land that will produce barely enough products to pay the cost of production (Ise, 1940). Removing marginal farm lands from agricultural applications has been encouraged by the U.S. Federal Government through incentive programs such as the Conservation Reserve Program, Grassland Reserve Program, and the Wetland Reserve Program (2002 Farm Bill). Many of these lands are not utilized in a productive capacity that would contribute to the local economy.

Recreational hunting, fishing, and wildlife watching opportunities on private land for public use may be a possible way to provide income to landowners and restore marginal lands as a contributor to the local economy. Additionally, such an enterprise can draw recreationists from outside the local economy benefiting local business. According to the 2001 National Survey of Fishing, Hunting, and Wildlife Associated

Recreation, expenditures on wildlife-associated recreation by state residents and nonresidents in Arkansas, Louisiana, and Mississippi amounted to$1.3 billion, $1.5 billion, and $974 million, respectively. Clearly, the ability to attract recreationists could benefit small local economies in the Delta region. The 2001 survey also revealed that the number of residents and nonresidents that fished, hunted, or watched wildlife was 1.4 million in Arkansas, nearly 1.6 million in Louisiana, and was more than 1 million in Mississippi. However, the amount of public land available for recreation is limited. There are approximately 746 million acres of public land in the United States; yet, the vast majority of the public land is in the western United States (Copeland, 1998) This is problematic for public outdoor recreation, particularly in the eastern United States where there is only 9 percent of the nation's public land and 78 percent of the population (Langer, 1989). It has long been recognized that the solution to the lack of public land for recreation is increasing access to private lands for public outdoor recreation (Copeland, 1998; Wright et al., 2002)

Given that the outlook for outdoor recreation is an ever increasing demand with no or limited change in the amount of public land, private land must become more available if the supply of recreational opportunities is to meet demand (Langer, 1989). Even though wildlife is held in trust by individual state governments, the access to enjoy wildlife is a clear right of control that is exercised by the landowner. Landowners control the wildlife habitat granting them *de facto* control over wildlife (Benson, 2001). Marion (1989) noted that there is a trend toward reduction in free public access to private lands for recreation and suggested that this was due to increasing urbanization, a growing number of recreationists, increasing property damage resulting from trespassers, and the

recognition on the part of landowners that providing access to private land for recreation can generate income. Leopold (1930) recommended that the private landowner should be encouraged to pursue potential profits from access fees since this would ultimately benefit wildlife by promoting wildlife habitat management on private land.

Given the demand for outdoor recreation and the limited availability of public land, the potential may exist for private landowners in rural areas to develop fee-based recreational access on private land. What form of wildlife based recreational enterprise would or do landowners prefer? There are several options. Landowners can operate individually, cooperatively with other landowners, or contract management to an outfitter that can serve as a broker between landowners and recreationists.

Objectives

The primary objective of this study is to understand the attitudes and perceptions of landowners in the Lower Mississippi River Delta regarding 1) fee-based wildlife-associated recreation, 2) to determine what management organizational form landowners prefer to manage and market fee-based recreation: independent, cooperative, or outfitter, and 3) how liability concerns and other possible disincentives collectively influence landowners' access decisions. Using a survey and econometric techniques, the study will seek to identify landowner characteristics that may have a positive effect on a landowner's probability of choosing to offer fee-based recreation and the choice of organizational form to manage and market fee-based recreation.

Fee-Based Recreation and Landowners

Landowners that prefer to manage fee-based recreation may choose to lease their lands to an individual hunter or group of hunters for a specified period of time such as

hunting season or year, or offer permit hunting where land access is granted for a day in exchange for a fee. Recreational leasing may not be practical for some landowners since wildlife habitat management on private land is often limited by tract size (Hrivnak, 1995).

Seymour (1985) discussed the concept of resource-controlled recreation cooperatives that develop and market recreational opportunities. Cooperation among local landowners allows for improved wildlife habitat management by increasing the manageable land area (Benson et al., 1999). This cooperation could also be extended to marketing and management of fee-based recreation. Using a cooperative management model would allow landowners to collectively engage in a fee-based recreational enterprise that could result in economies of both scale and scope. The concept of using landowner cooperatives for natural resource management and marketing over traditional forms of business organization of proprietorship, partnership, and corporations was advanced by Yarrow (1989). Advantages of landowner cooperatives for wildlife and timber include formation of a larger manageable land base, increased recreational opportunities for the public, increased income to landowners, greater awareness of the value of wildlife, and increased investment in wildlife habitat management on private lands. Disadvantages of landowner cooperatives are inability of landowners to agree on objectives and the efforts required for landowners to coordinate management activities. Yarrow (1989) concluded that the cooperative approach may not be applicable where there is insufficient interest, interest and objectives of landowners conflict, there is local resistance, and individual tracts of land are large enough for individual management.

A third option that landowners may prefer is the use of outfitters which can serve as intermediaries between recreationists and landowners. Sun et al. (2005) in a study of hunting outfitters operating in Mississippi found that nearly half of their land base was leased from other landowners. Payment to landowners by outfitters is generally either an annual fee or a percentage of the outfitter's gross revenue.

Landowner Liability

Generating additional income for landowners by allowing recreational activities brings with it the possibility of legal action as landowners may be sued if bodily injury results to a recreational user of the property (Copeland, 1998). If a recreationist is injured will on private property it is possible that a lawsuit may be filed by the injured party against the landowner. The level of duty owed by the landowner to the injured party depends on whether the person enters the premises as a trespasser, licensee, or invitee (Copeland, 1998). "An invitee is one who enters the premises upon business which concerns the occupier, and upon his invitation express or implied, the latter is under an affirmative duty to protect them, a licensee is one who has permission to enter upon the land of another, but comes for his own purposes rather than for any purpose or interest of the possessor of the land, and a trespasser is one who enters or remains upon land in the possession of another without a privilege to do so, created by the possessor's consent or otherwise." (Direnfeld-Michael, 1987). A recreationist that is allowed access to private property by the landowner for free is a license, but if a fee is charged by the landowner then the recreationist is considered to be an invitee (Copeland, 1998). A landowner who charges a fee for the recreational use of his or her property owes special legal duties to the invitee, since the invitee enters the land under the implied representation that

reasonable care has been taken by the landowner to make the property safe for recreational use (Copeland, 1998).

The need for greater access to private land for public recreation and the concern that private landowners have over liability was recognized by the Council of State Governments and addressed when they drafted a model Recreational Uses Statute in 1965 (Kozlowski and Wright, 1989). The idea behind the model act was if landowners were protected from liability more landowners would allow recreational use of their property which would reduce the need and expense to state governments to provide recreation areas to the public (Wright et al., 2002). State legislatures have passed recreational use statutes designed to encourage landowners to open up their lands to the public promising private landowners immunity from lawsuits over accidental injury to recreational users while on a landowner's property (Copeland, 1998). Most state recreational use statutes insulate landowners from liability if access is granted without a charge. However, there are an increasing number of states allowing landowners to charge a fee and retain the liability protection (Wright, 1989; Wright et al., 2002). Today all 50 states have adopted recreational use statutes that are intended to encourage landowners to make their lands available for public recreational use by providing greater liability protection to the landowner (Wright et al., 2002).

However, liability issues or at least perceived liability continue to be a major concern to landowners. Ruff and Isaac (1987) noted that one of the primary reasons why woodland owners in Wisconsin owning 20 acres or more do not lease their land for hunting was fear of personal injury lawsuit, and only 3 percent of Wisconsin's landowners actually leased land for hunting. This is interesting considering that

Wisconsin's recreational use statute (Wisc. Stat. § 895.52) allows property owners to collect fees for recreational activities not exceeding a total of $2,000 each year. This may indicate that landowners are not aware of the liability protections afforded to them by state recreational uses statutes. Marion (1989) noted that liability remains to be a major area of confusion on the part of landowners. Kaiser and Wright (1985) reported that recreational use statutes have been "splendidly ineffective" in increasing public access to private lands. Owen et al. (1885) surveyed private forest landowners in Arkansas owning more than 1,000 acres about public use policies. Owen et al. (1885) reported that hunting was the most common public use of private land; however, several of the survey respondents expressed concern about user liability. The authors pointed to a 1965 code amended in 1983 and noted that the state law provides liability protection. Owen et al. (1885) concluded that much of the remaining fear expressed by landowners may be more perceived than real. Heberlein and Davis (1987) in their study of hunter participation and fee access hunting recognized the importance and need for further research in the area of institutional issues associated with fee hunting that included legal liability for landowners.

Even with the extensive liability protection afforded to landowners by state recreational uses statutes, there remains a significant gap between landowners' perceptions regarding liability and the reality of liability (Wright et al., 2002). In their survey of recreation use statutes Wright et al. (2002) observed that researchers have clearly identified that landowners are concerned about liability but have only documented that it is perceived as a problem. Wright et al. (2002) indicated that a better understanding is needed of how liability and various other disincentives collectively

influence landowners' access decisions. Mozumder et al. (2004) suggested that the necessary institutions for hunters and landowners may not be in place to promote recreational leasing, and that institutional changes that facilitate more exchanges would shift the supply curve outward. The effects of institutional change on landowner leasing behavior can be explored by asking if landowners would allow recreational access and/or leasing if liability was limited by state law. Recreational uses statutes for Louisiana (La. R.S. § 9:2791) and Mississippi (Miss. Code Ann. § 89-2-1) do not extend liability protection if a fee is charged for access; however, Arkansas (A.C.A.§ 18-11-301) allows for the charging of an access fee as long as the fee is used to offset costs only. It would be interesting to see how landowner leasing policies would change by expanding the liability protection of recreational uses statutes to allow for the charging of a fee intended to generate a return to the landowner. Investigating the effect of such an institutional change can provided insight into landowner leasing behavior and possible effects on the supply of available recreational land.

Contingent Valuation of Lease and Fee Recreation

Landowners that are currently leasing land or allowing some form of permit based access can be surveyed to determine lease values directly. However, the level of incentives needed by landowners not leasing land can not be assessed by looking only at revealed preference (i.e., existing lease prices). Contingent valuation can be used to assess landowners' perceived values for recreational leasing. The contingent valuation method is a simple nonmarket valuation technique that was originally proposed by Ciriancy-Wantrup (1947), who suggested that the prevention of soil erosion generated an extra market benefit to the public that could be valued by eliciting individual's

willingness to pay. The first empirical use of contingent valuation was Davis (1963) in estimating willingness to pay of goose hunters. Contingent valuation method has since been used widely and for a variety of non-market applications (Venkatachalam, 2004).

The National Oceanic and Atmospheric Administration (NOAA) convened a panel of experts to access the reliability of the contingent valuation method following criticisms of the government's use of the method in the wake of the Exxon Valdez disaster. A summary of the NOAA panel report (Arrow et al., 1993) findings and recommendations can be found in Randall (1997) and in Bishop (1998). The panel concluded that continent valuation studies convey useful information for judicial and administrative decisions provided they are carefully designed and implanted (Loomis, 1999). The report conveyed to some that all contingent valuation studies need to adhere to the set of standards they proposed, which has had a negative impact on contingent valuation studies due to the higher cost of attaining these standards (Loomis, 1999; Carson, et al., 2001).

The four common elicitation techniques used in contingent valuation studies include the bidding game, payment card, open-ended, and dichotomous choice approach (Boyle et al., 1996; Venkatachalam, 2004). All of these approaches have certain drawbacks. The bidding game approach is often criticized for starting point bias that can influence the respondent's stated willingness to pay. The starting point initiates the bidding process, and a bias exists when the initial bid, as stated by the interviewer, affects the finial bid of the respondent (Bishop and Heberlein, 1990). The payment card approach, proposed by Mitchell and Carson (1981), presents a range of values for the respondent to choose their maximum willingness to pay, yet the approach may be

affected by range and centering bias. Range bias can occur when the payment card range is too large or too small affecting the willingness to pay mean and standard deviation, and centering bias results when respondents exhibit a tendency to pick the middle value (Gardner et al., 2003). An alternative that avoids the biases previously described is the open-ended approach where the respondent is asked for their maximum willingness to pay value. However, the open end approach is subject to protest bids and higher non-responses. Protest bids include both zero bids and positive bids that represent outliers in the distribution of responses (Jorgensen, et al., 1999). The dichotomous choice or referendum style presents the respondent with a single bid value that they can either accept or reject. The dichotomous choice approach has been modified to double bounded and multiple bounded elicitation formats (Welsh and Poe, 1998).

Open-ended contingent valuation questions can be appropriate if the respondent is familiar the good being valued and has a reasonable understanding of its value. Kealy and Turner (1993) found that there was no statistical difference between results derived from open-ended and dichotomous choice questions for a private good but there was a significant difference in the case of a public good. Mitchell and Carson (1989) found that open-ended questions work well in situations where respondents are familiar with paying for the good. Ultimately, the choice of elicitation technique in a contingent valuation study depends on the nature of the good being values, survey cost, statistical technique used, and the nature of the survey respondents (Venkatachalam, 2004).

The contingent valuation method has been used to assess the willingness to pay for hunting oppurtunities (Goodwin et al., 1993; Adams et al., 1989; Berrens and Adams, 1989; Fried et al., 1995; Hussain et al., 2004). Most studies of leasing of private lands for

public access focus only on observable leasing behavior (Ruff and Isaac, 1987; Marion, 1989; Schenck; 1987; Owen et al., 1985, Jones et al., 2005). Mozumder et al. (2004) lamented there was not yet enough empirical studies that estimate hunters' willingness to pay for private hunting lease or landowners' willingness to accept compensation to allowing hunting. Wright et al. (2002) recommended that contingent valuation methods be used to determine the level of incentives required by landowners to overcome disincentives to leasing land for public recreational access (Wright et al., 2002). Also, disincentives both perceived and real can be explored, which may indicate a need landowner education about liability and recreation that could improve public access to private lands. For example, if landowners were better informed about liability and the income potential of fee-based recreation the amount of private land available for public recreation may increase. This would benefit the public seeking recreational opportunities, private landowners seeking additional income, and local economies by the expenditures of out of area recreationists.

Using an open-ended style contingent valuation question to assess landowner valuation of leasing should produce acceptable results. However, in the case of absentee landowners or passive landowners the results may not be as acceptable since some landowners may be less familiar with the revenue generating potential of their land. Alternatively, farmers and other non-passive landowners should have a greater awareness of their land's ability to generate revenue. Given that some landowners may not be that familiar with land value or revenue generating potential of their land, a dichotomous choice or referendum style contingent valuation question may be more appropriate. The dichotomous choice technique randomly assigns each respondent a specific dollar amount

and asks them whether or not they would be willing to accept that amount (Bishop and Heberlein, 1990). The multiple bounded dichotomous choice approach developed by Welsh and Poe (1998) could be used to present a range of lease values per acre. Conway (2002) used a multiple bounded dichotomous choice approach to estimate forest landowners' willingness to accept value to enter the timber market. This approach presents willingness to accept values in a referendum style that allows the respondent to make a yes/no choice. Additionally, the decision certainty can be assed for each willingness to accept value as respondents are asked to indicate their certainty for accepting each value by indicating definitely no, probably no, not sure, probably yes, or definitely yes.

Data and Methods

A survey instrument will be used to elicit the attitudes and perceptions of Delta landowners regarding the potential for allowing fee-based recreational access. Through the survey instrument the landowners will be questioned on topics including: current land uses, knowledge and experience with cooperative management and recreation, experience with leasing land, liability concerns and awareness, and demographic information.

The basic decision model for landowners has two parts. The first part is whether the landowner is willing to offer fee-based recreation to the public. The second part seeks to determine if they prefer to offer recreation independently or in coordination with other landowners. A qualitative choice model can allow for an understanding of which landowner characteristics influence the probability to decide to offer recreation to the public and how landowners would prefer to offer it, either independently or cooperatively (Greene, 2003).

The two dependent variables in this model are both binary. The first dependent variable represents the decision to offer fee-based recreation (Y_1=1, 0 otherwise), and the second dependent variable represents the subsequent decision to use a recreational management association (Y_2=1, 0 otherwise). The second dependent variable is censored, which presents an additional complication for estimation. This can be addressed by using a bivariate probit model with sample selection that accounts for censoring and provides unbiased parameter estimates (Greene, 2003).

Survey response to the open-ended willingness to accept questions as a dependent variable will be modeled as a function of independent variables representing landowner attributes and land uses. This data will also be censored since some respondents may choose not to allow recreational access, so the regression analysis will utilize a Tobit censored regression model (Greene, 2003). Responses to the multiple bounded dichotomous choice willingness to accept question can be analyzed using multinomial logit models to examine the effect of relevant explanatory variables on each level of willingness to accept decision certainty. Also, a binomial logit model can be used to examine how the yes or no decision to allow public access is influenced by lease value as indicated by willingness to accept.

Expected Results

The regression results will be used to identify landowner characteristics that have a positive effect on a landowner's probability of choosing to offer fee-based recreation. Once model estimation is complete, the sign of various explanatory variables will indicate how land characteristics and landowner demographics may influence the probability to choose to offer wildlife-associated recreation and how to offer it:

independently, cooperatively, or through an outfitter. Also the effects of liability and liability perceptions on landowner access decisions and the possible effect of institutional change can be identified.

Discussion

The results of this study will provide insights into the willingness of landowners in the Lower Mississippi River Delta to 1) offer wildlife-associated recreation on otherwise unused or marginal farms lands, 2) to cooperate with other landowners to maximize wildlife habitat, 3) to use a coordinated management business model to manage and market fee-based recreation on private land, 4) identify possible opportunities for outfitters to lease land in the Delta, and 5) identify how liability concerns factor into landowner access decisions and how institutional change may facilitate public recreational access to private land.

References

Adams, R.M., O. Bergland, W.N. Musser, S.L. Johnson, and L.M. Musser. 1989. Use fee and equity issues in public hunting expenditures: the case of ring-necked pheasant in Oregon. Land Economics. 65(4):376-385.

Arrow, K., Solow, R., Portney, P., Leamer, E., Radner, R. and H. Schuman. 1993. Report of the NOAA Panel on Contingent Valuation. Federal Register. 58(10):4601-4614.

Berrens, R.P. and R.M. Adams. 1989. Applying contingent valuation in the design of fee hunting programs; pheasant hunting in Oregon revisited. Human Dimensions of Wildlife. 3(3):11-25.

Benson, D.E., R. Shelton, and D.W. Steinbach. 1999. Wildlife stewardship and recreation on private lands, J.F. Winn, editor. College Station, Texas, Texas A&M University. 170p.

Benson, D.E. 2001. Wildlife and recreation management on private lands in the United States. Wildlife Society Bulletin. 29(1):359-371.

Bishop, R.C. and T.A. Heberlein. 1990. The contingent valuation method. In: Economic Valuation of Natural Resources: Issues, Theory, and Applications, R.L. Johnson and G.V. Johnson. editors. Boulder: Westview. pp.81-104.

Bishop, R.C., P.A. Champ, and D. J. Mullarkey. 1995. Contingent Valuation. In: Handbook of Environmental Economics. editor. Daniel W. Bromly. Cambridge: Blackwell Publishing. pp. 631-654.

Carson, R.T., N.E. Flores, and N.F. Meade. 2001. Contingent Valuation: Controversies and Evidence. Environmental and Resource Economics 19: 173–210.

Copeland, J.D. 1998. Recreational access to private lands: liability problems and solutions. Second edition. National Center for Agricultural Law Research and Information. Robert A. Leflar Law Center. University of Arkansas: Fayetteville. 212p.

Ciriancy-Wantrup, S.V. 1947. Capital returns from soil conservation practices. Journal of Farm Economics. 27:1181-1196.

Conway C. 2002. Targeting Nonindustrial Private Landowner Groups for Timber Market Entry. Ph.D. Dissertation, Virginia Polytechnic Institute and State University.

Davis, R. 1963. The Value of Outdoor Recreation: An Economic Study of the Marine Woods. Ph.D. Dissertation, Harvard University.

Direnfeld-Michael, B.1987. Legal liabilities facing operators of shooting ranges. In: Transactions of the Fifty-second North American Wildlife and Natural Resource Conference. Wildlife Management Institute. Washington D.C. pp.143-160.

Fried, B.M., R.M. Adams, R.P. Berrens, and O. Bergland. 1995. Willingness to pay for a change in elk hunting quality. Wildlife Society Bulletin. 23(4):680-686.

Gardner, J.G., D. B. Eastwood, J.R. Brooker, and W.E. Klingeman. 2003. Consumers' valuation of disease-resistant nursery stock: a case study of dogwoods. Journal of Agribusiness 21(1):103-116.

Goodwin, B.K., L.A. Offenback, T.T. Cable, and P.S. Cook. 1993. Discrete continuous valuation of private hunting access in Kansas. Journal of Environmental Management. 39(1):1.12.

Greene, W. 2003. Econometric Analysis, 5th edition. Upper Saddle River, New Jersey: Prentice Hall. 1026p.

Heberlein, T.A. and R.K. Davis. 1987. Hunter participation in fee access hunting. In: Transactions of the Fifty-second North American Wildlife and Natural Resource Conference. Wildlife Management Institute. Washington D.C. pp.475-482.

Hrivnak, D. 1995. Fee hunting and fishing on private land. Rural Information Center Publication Series, no. 44 Revised Edition. Beltsville: U.S.D.A. National Agricultural Library. 32p.

Hussain, A. D. Zhang, and J.B. Armstrong. 2004. Willingness to pay for hunting leases in Alabama. Southern Journal of Applied Forestry. 28(1):21-27.

Ise, J. 1940. Monopoly elements in rent. The American Economic Review. Vol. 30 No.1. Part 1. pp. 33-45.

Jones, W.D., J.C. Jones, I.A. Munn, S.C. Grado. 2005. Wildlife Enterprises on Mississippi Private Lands. In: Proceedings of the 58th Annual Conference of the Southeastern Association of Fish and Wildlife Agencies 58:344-355.

Jorgensen, B.S., G.J. Syme, B.J. Bishop, B.E. Nancarrow. 1999. Protest responses in contingent valuation. Environmental and Resource Economics. 14: 131–150.

Kealy M.J. and R.W. Turner. 1993. A test of the equality of closed-ended and open-ended contingent valuations. American Journal of Agricultural Economics. 75:321-331.

Langer, L.L. 1989. Demand for outdoor recreation in the United States: Implications for private landowners in the eastern U.S. In: Income Opportunities for the Private Landowner through Management of Natural Resources and Recreational Access. W.N. Grafton, A. Ferrise, D. Colyer, D.K. Smith, and J.E. Miller, editor. Morgantown, West Virginia. West Virginia University Extension Service.

Leopold, A. 1930. Report to the American Game Conference on American game policy. In: Transactions of the American Game Conference. 17:284-308.

Loomis, J.B. 1999. Contingent valuation methodology and the US institutional framework. In: Valuing Environmental Preferences. eds. I.J. Bateman and K.G. Willis. Oxford University Press, Oxford.

Marion, W. R. 1989. Recreational access to private lands in Florida. In: Transaction of the Fifty-fourth North American Wildlife and Natural Resource Conference, Pp. 202-209, Wildlife Management Institute, Washington, DC.

Mitchell, R.C. and R.T. Carson. 1981. An experiment in determining willingness to pay for national water quality improvements. Report to the U.S. Environmental Protection Agency. Washington, D.C. June.

Mitchell R.C. and R.T. Carson. 1989. Using surveys to value public goods: the contingent valuation method. Washington, D.C.: Resources for the Future.

Mozumder P., M. Starbuck, R.P. Berrens, and S. Alexander. 2004. Lease and Fee Hunting on Private Lands in the U.S.: A Review and Synthesis of the Issues, With Annotated Bibliography. Final Report. USDA Forest Service. Corvallis, Oregon. 125p.

Owen, C.N., T.B. Wigley, and D.L. Adams. 1985. Public use of large private forests in Arkansas. In: Transactions of the Fiftieth North American Wildlife and Natural Resource Conference. Wildlife Management Institute. Washington D.C. pp.232-241.

Randall, A. 1997. The NOAA Panel Report: A New Beginning or the End of an Era? American Journal of Agricultural Economics. 79(5): 1489-1494

Ruff, R.L. and T.A. Isaac. 1987. Public access and fee hunting on private nonindustrial forests in Wisconsin. In: Transactions of the Fifty-second North American Wildlife and Natural Resource Conference. Wildlife Management Institute. Washington D.C. pp.483-495.

Schenck, E.W., W. Arnold, E.K. Brown and D.J. Witter. 1987. Commercial hunting and fishing in Missouri: Management implications of Fish and Wildlife markets. In: Transactions of the Fifty-second North American Wildlife and Natural Resource Conference. Wildlife Management Institute. Washington D.C. pp.516-524.

Seymour, W.R. 1985. Cooperative approach to outdoor recreation. In: Proceeding of the National Outdoor Recreation Trends Symposium II. pp.193-200.

Sun, X., I.A. Munn, E. Loden, A. Hussain, S.C. Grado. 2005. Assessment of the Economic Importance of Mississippi Outfitters and Opportunities for Expansion. In: Proceedings of the 35th Annual Southern Forest Economics Workshop. S, J. Chang and M.A. Dunn, editors. Baton Rouge, LA. pp.127-137.

Thomas, J. K., C. E. Adams, W. K. Knowles and D. W. Steinbach. 1989. Development of Wildlife Resources on Private Lands." Texas A&M University System, College Station, Texas.

Welsh M.P. and G.L. Poe. 1998. Elicitation effects in contingent valuation: comparisons to a multiple bounded discrete approach. Journal of Environmental Economics and Management. 36:170-185.

Wright, B.A. 1989. Toward a better understanding of recreational access to the nation's private lands: supply, determinants, limiting factors. In: Income Opportunities for the Private Landowner through Management of Natural Resources and Recreational Access. W.N. Grafton, A. Ferrise, D. Colyer, D.K. Smith, and J.E. Miller, editor. Morgantown, West Virginia. West Virginia University Extension Service.

Wright, B.A., R.A. Kaiser, and S. Nicholas. 2002. Rural landowner liability for recreational injuries: myths, perceptions, and realities. Journal of Soil and Water Conservation. 57(3):183-191.

Yarrow, G.K. 1989. Forms of business organizations with emphasis on landowner cooperatives for natural resources. In: Income Opportunities for the Private Landowner through Management of Natural Resources and Recreational Access. W.N. Grafton, A. Ferrise, D. Colyer, D.K. Smith, and J.E. Miller, editor. Morgantown, West Virginia. West Virginia University Extension Service. pp.264-268.

Venkatachalam, L. 2004. The contingent valuation method: a review. Environmental Impact Assessment Review. 24:89-124.