

Landowner Interest in Natural Resource Conservation Practices



Land ownership in the southern United States is largely privately held. Private landowners are a diverse group with a wide range of characteristics and landownership objectives. Though dominated by a few large landholders, a majority of landowners hold relatively small parcels. Successful natural resource conservation efforts must, therefore, leverage the collective efforts of these owners to achieve desired levels of conservation and cultural benefits. Conservation planners must understand and appreciate the drivers of landowner management decisions and determine how these values can be translated into ecosystem goods and services.

This publication presents information on landowners' attitudes toward conservation efforts and their willingness to participate in conservation programs. It focuses on three primary wildlife habitats: open pine stands, bottomland hardwoods, and grasslands. Natural resource educators and managers can use this information to prioritize efforts promoting conservation programs.

Approach

A mail survey was sent to 6,000 landowners with at least 10 acres of property located in bottomland hardwoods, open pine stands, and grasslands of the East Gulf Coastal Plain, Mississippi Alluvial Valley, and Interior Highlands, respectively (**Figure 1**). After adjusting for noneligible landowners, landowners not owning land, deceased landowners, and landowners who refused to participate in the survey, 33 percent of surveys were returned.

Results

Successful conservation efforts must consider how professionals interact with new and existing clients. Frequency of landowner contact with local, county, state, and federal organizations was measured on a 5-point scale (1 – never; 2 – seldom; 3 – about half of the time; 4 – often; and 5 – always). Median rankings indicated

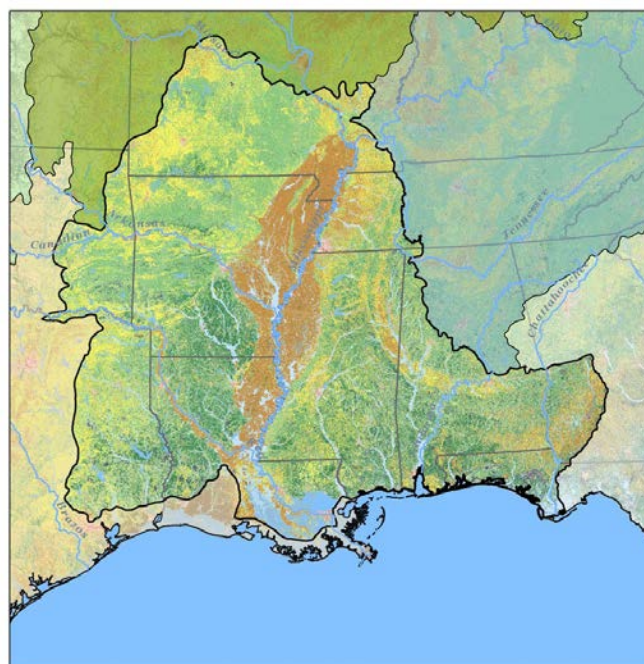


Figure 1. East Gulf Coastal Plain, Mississippi Alluvial Valley, and Interior Highlands.

that landowners rarely contact agencies for technical or financial assistance, except the county/university extension service, which was contacted infrequently (2 on a 5-point scale). The majority of landowners (36.1–83.2 percent) never contacted any of the listed agencies. However, a small portion of landowners (1.1–11.4 percent) contacted these agencies often or always (0.9–6.6 percent). **Figure 2** presents response frequencies organized by respondents who answered never and seldom versus those whose responses were about half of the time, often, and always.

Landowners were asked about their satisfaction with conservation programs (as of 2015). Such programs included cost-share and technical assistance programs. State and federal agency professionals identified the listed programs. Response frequencies are presented in **Figure 3**.

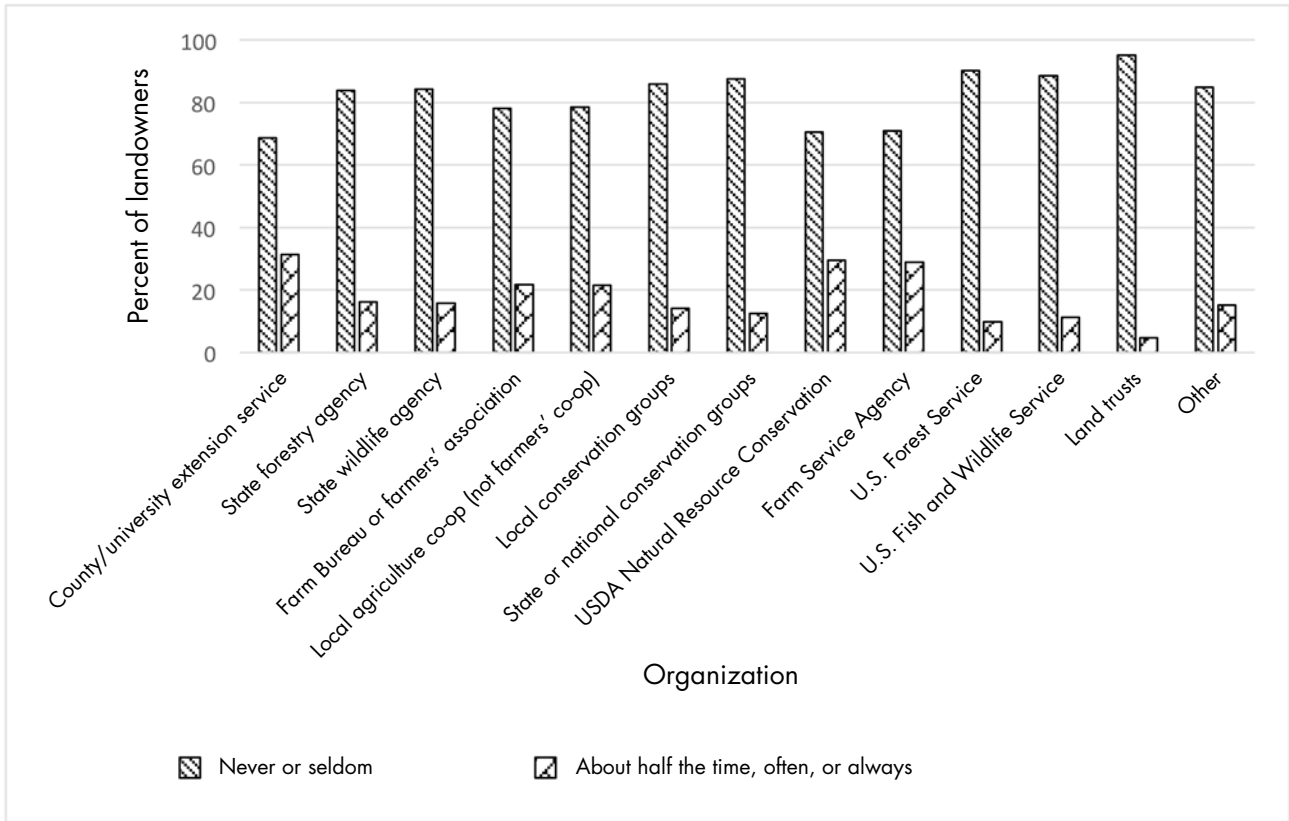


Figure 2. Frequency of contact between landowners and local, county, state, and federal organizations.

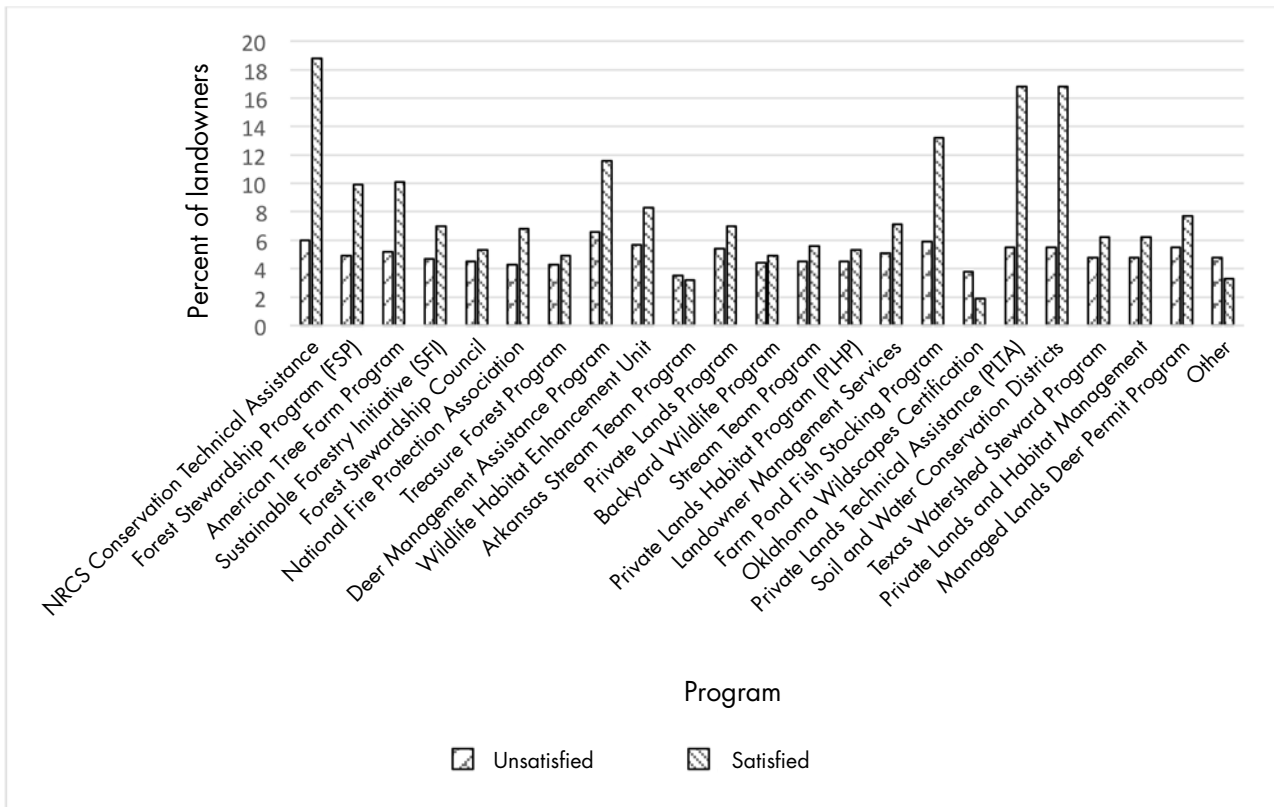


Figure 3. Satisfaction with relevant conservation programs based on percent of responding landowners.

Landowner willingness to participate in conservation activities was assessed using three different scenarios representing unique habitat types: 1) East Gulf Coastal Plain—open pine stands; 2) Mississippi Alluvial Valley—bottomland hardwoods; and 3) Interior Highlands—grasslands. In each scenario, landowners were asked to consider enrolling in a new, 10-year conservation program in exchange for an annual payment. Conservation measures for two of the stand scenarios involved postponing a final harvest by 10 years; the grassland scenario conservation measures involved practices promoting grassland preservation. The following is an example of the scenario used for open pine habitat.

Assume that you own a 50-acre tract of loblolly pine managed for timber in the county where you have most of your land (as you answered in Question 2). The stand is currently 30 years old, and you plan to harvest it at the end of this year (2015). You have been offered the opportunity to enroll it into a new conservation program administered by the U.S. Department of Agriculture. Under this program, you will implement conservation measures over the next 10 years in exchange for an annual payment.

Under the program agreement, you will **postpone a final harvest by 10 years to the year 2025**. Because some of the conservation practices might require you to modify your forest management, you will have to change your current forest management plan to make accommodations for final harvest restrictions. This implies that timber revenues from your stand might be lower than expected.

However, if you enroll in this program, you will receive an annual payment over the next 10 years. If you break the contract, you will have to refund the agency for already-received funding plus appropriate interest. However, if your forest experiences catastrophic damages, such as those caused by hurricanes, tornadoes, fire, and pests, you will be allowed to conduct salvage operations. You also will be allowed to conduct forest sanitation activities to prevent diseases and insect infestations on your forestland.

Of 17 factors used in the analysis, only monetary compensation (the amount of money paid to the landowner) affected landowner willingness to participate in a conservation program. A one-dollar increase (per acre per

year during a 10-year contract) in an annual monetary compensation increased the probability that a landowner would participate in a conservation program by 0.24 percent. This represents a fairly nominal impact.

By comparison, landowners in the bottomland hardwoods were presented with a hypothetical scenario involving participation in a conservation program that required postponing a final harvest of a 50-acre bottomland hardwood stand by 10 years (from stand age of 55 years to 65 years). A one-dollar increase (per acre per year during a 10-year contract) in an annual monetary compensation slightly decreased the probability that a landowner would participate by 0.08 percent. Further, the presence of grassland slightly decreased the probability that a landowner would participate by 0.2 percent.

Finally, landowners in the grassland habitat type were presented with a hypothetical scenario involving participation in a conservation program that required implementing grassland preservation practices during a 10-year period. Of 17 test factors, five variables (monetary compensation, percent of open pine stand, percent of bottomland hardwoods habitat, profit-oriented ownership objective, and education level) were related to willingness to participate in the conservation program. In short, a one-dollar increase (per acre per year during a 10-year contract) in an annual monetary compensation increased the probability that a landowner would participate in a conservation program by 0.2 percent. The presence of open pine stand habitat type decreased the probability that a landowner would participate in a conservation program by 0.5 percent. The presence of bottomland hardwoods increased the probability that a landowner would participate in a conservation program by 0.22 percent. Landowners whose goal was to make a profit were 13.85 percent less likely to enroll in a conservation program than landowners without profit-related goals. Landowners with some college or higher education were 8.43 percent more likely to enroll in a conservation program than those whose education was less than some college.

Key Findings

- Landowners almost never contacted organizations for technical or financial assistance.
- The most frequently contacted organizations were county and university extension service offices.
- 22 technical and 38 financial-assistance programs were evaluated.
- Landowners were most satisfied with the following financial-assistance programs: CRP, EQIP, and CSP.

- 28 percent of respondents with predominantly open pine stands on their land were willing to participate in a conservation program at \$128 per year for 10 years.
- 25 percent of respondents with predominantly bottomland hardwood stands on their land were willing to participate in a conservation program at \$150 per year for 10 years.
- 29 percent of respondents with predominantly grasslands on their land were willing to participate in a conservation program at \$166 per year for 10 years.

Conclusion

Landowners rarely use available technical and financial-assistance programs to help them attain their ownership goals. Additionally, landowners express a relatively low satisfaction level with existing programs. It is not clear if landowners rarely contact these organizations for technical and financial assistance because of previous unsatisfactory experiences or because they are not aware of the benefits these programs offer.

Low contact frequency means these assistance programs are reaching only a fraction of landowners, which makes it difficult for the programs to reach their conservation targets. Another implication of low contact frequency is that many landowners are missing out on incentives for improving their land management and potentially lowering management costs. While overall contact frequency and satisfaction level are relatively low, several programs (county and university extension) are contacted more often and receive higher satisfaction ratings than others. Many of these programs have been operational for decades, and landowners are familiar with them and their requirements. These programs can be used as platforms for disseminating information to landowners and assessing landowner needs.

Many landowners already manage their land for ecosystem services, and, therefore, implement some conservation measures on their land. However, a substantial proportion of landowners (25–29 percent depending on habitat type) would require monetary compensation to participate in a conservation program. On average, these landowners would require an annual compensation of \$128 to \$166 per acre for a 10-year contract. Compensation amount is a statistically significant factor across open pine, bottomland, and grassland habitat types, and landowners are more likely to participate in programs as the monetary compensation increases. Presence of grassland habitat increases a landowner's probability of enrolling in a conservation program focusing on bottomland hardwoods habitat. Presence of open pine and bottomland hardwood habitats and high education levels increase a landowner's probability of enrolling in a grassland conservation program. A profit-motivated ownership objective decreases a landowner's probability of enrolling in a bottomland hardwood conservation program.

The results of this survey can help quantify future minimum budgets needed to implement conservation activities across specific landscape types. They can also help prioritize conservation projects and identify the most effective scenarios. This information demonstrates trends in attitudes toward conservation programs and monetary compensation amounts required to incentivize landowners to implement conservation measures on their lands. Understanding these trends can help conservation professionals identify geographic areas where conservation efforts are most likely to succeed. In addition, the information can contribute to development of outreach efforts and conservation programs that more effectively satisfy landowner needs and meet conservation objectives.

Publication 3182 (POD-01-18)

By **Robert K. Grala**, PhD, Professor, Forestry; **Jason S. Gordon**, PhD, Associate Extension Professor, Forestry; **Katarzyna Grala**, Research Associate II, Geosciences; and **Ram P. Dahal**, Forestry.



Copyright 2018 by Mississippi State University. All rights reserved. This publication may be copied and distributed without alteration for nonprofit educational purposes provided that credit is given to the Mississippi State University Extension Service.

Produced by Agricultural Communications.

Mississippi State University is an equal opportunity institution. Discrimination in university employment, programs, or activities based on race, color, ethnicity, sex, pregnancy, religion, national origin, disability, age, sexual orientation, genetic information, status as a U.S. veteran, or any other status protected by applicable law is prohibited. Questions about equal opportunity programs or compliance should be directed to the Office of Compliance and Integrity, 56 Morgan Avenue, P.O. 6044, Mississippi State, MS 39762, (662) 325-5839.

Extension Service of Mississippi State University, cooperating with U.S. Department of Agriculture. Published in furtherance of Acts of Congress, May 8 and June 30, 1914. GARY B. JACKSON, Director