Assessment of Ecosystem Service Value and Program Delivery

Natural Resource Conservation: Landowner Goals and Concerns

MISSISSIPPI STATE UNIVERSITY EXTENSION

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.

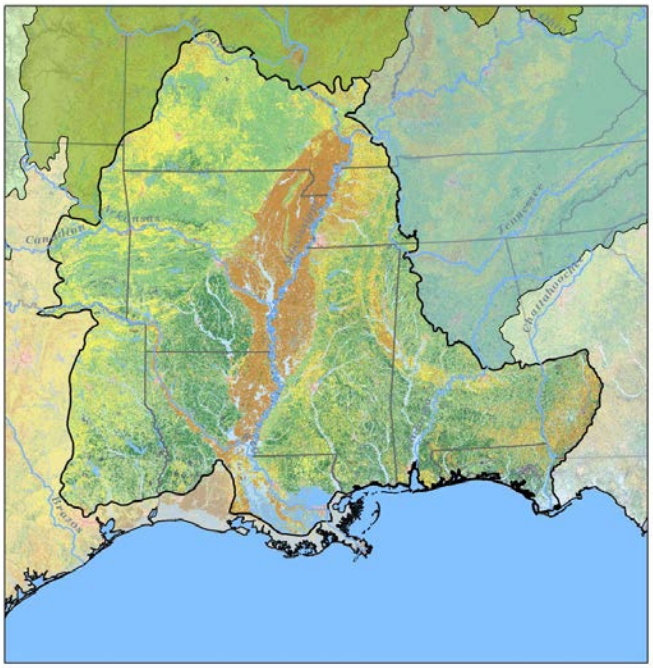

Figure 1. East Gulf Coastal Plain, Mississippi Alluvial Valley, and Interior Highlands.

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

Knowing the distribution of cultivated and uncultivated land can help conservationists focus on specific habitat types based on their conservation mission. Landowners in the three surveyed habitats owned approximately 424,000 acres of land, of which 54 percent was forestland and 46 percent was agricultural land. Most commonly, the three identified habitat types covered from 1 percent to 25 percent of landowners' land (**Table 1**). For example, landowners reported that grasslands (33 percent), pinelands (22 percent), and bottomland hardwoods (34 percent) covered 1–25 percent of their lands. Approximately 15 percent did not have any grassland, 34 percent did not have any pineland, and 16 percent did not have any bottomland hardwood habitat.

Landowners reported a variety of reasons for owning their land, with differing levels of importance ranked on a 5-point scale (**Table 2**). Of 13 listed ownership reasons, eight received a median ranking of a high priority (4),

Table 1. Predominant habitat types and their percent coverage in areas where most of landowners' land is located.

	Proportion of Land					
	1–25%	26–50%	51–75%	76–100%	None	Total
Habitat Type	Percent of Landowners					
Grasslands	33	20	15	17	15	100
Pinelands	22	17	13	14	34	100
Bottomland hardwoods	34	20	14	16	16	100

which was the highest reported ranking. These important ownership reasons included financial/investment reasons (a long-term investment), family legacy (family tradition and providing legacy to heirs), and ecosystem services (personal recreation, healthy soils, clean water, wildlife habitat, and visual appearance).

Landowners were concerned with various environmental issues (**Table 3**). Of 18 issues ranked on a 5-point scale, 12 received extremely or moderately concerned rankings. Drinking-water quality was associated with the highest level of concern (5). Landowners were also concerned with drinking-water quantity (4) as well as chemical drift; wildfires; insect pests; invasive species; soil erosion; loss of forest, farmland and natural areas; loss of wildlife habitat; and loss of pollinators. Issues related to quality and quantity of water for crop irrigation purposes and overgrazing were associated only with a slight concern (2).

Key Findings

- Slightly more than half of the surveyed landowners owned forestland.
- Income generation was an important land use objective.
- Ecosystem services had a high priority in land ownership.
- Landowners were extremely concerned with water quality and quantity.

Conclusion

Landowners own their land for a variety of reasons, and ecosystem services play an important role in landownership. Several ecosystem services, such as personal recreation, healthy soils, clean water, wildlife habitat, and visual appeal are high priorities for landowners. Landowners own land for both profit and nonprofit reasons.

Table 2. Importance of selected reasons for landownership.

	Priority					Median Ranking
	Not a priority	Low priority	Medium priority	High priority	Essential	
Reason for Landownership	Percent of Landowners					
Profitable working land for traditional forest, rangeland, and agricultural products (e.g., sawlogs, pulpwood, crops, livestock)	21.7	12.3	18.4	31.1	16.5	3
Profitable working land for nontraditional forest, rangeland, and agricultural products (e.g., nuts and fruits, forage and shelter for livestock, organic ranching, recreation)	42.0	22.7	18.7	13.2	3.3	2
Personal recreation for myself, family members, and friends	14.9	11.2	21.6	34.5	17.9	4
Fee-based recreation	77.6	8.9	6.0	5.1	2.3	1
Long-term investment	11.8	6.1	20.4	40.6	21.2	4
Family tradition	12.1	8.0	17.5	37.3	25.1	4
Providing a legacy to heirs	10.2	6.8	18.4	37.0	27.7	4
Maintain healthy soils	9.9	8.1	26.4	37.9	17.8	4
Provide clean water	12.1	8.3	23.2	36.8	19.6	4
Maintain wildlife habitat	7.5	6.7	22.8	39.0	24.0	4
Protect endangered species	22.2	14.6	26.3	22.9	14.1	3
Sequester carbon	42.7	17.5	21.5	12.0	6.5	2
Maintain visually appealing land appearance	10.7	7.6	26.5	39.5	15.7	4
Other	35.8	2.9	6.9	22	32.4	4

Table 3. Landowners' concern with environmental issues

Issue	Level of Concern					Median Ranking
	Not at all concerned	Slightly concerned	Somewhat concerned	Moderately concerned	Extremely concerned	
	Percent of Landowners					
Drinking-water quality	16.5	5.1	11.0	22.7	53.5	5
Drinking-water quantity	11.2	6.1	12.4	23.6	46.8	4
Water quality for crop irrigation	36.4	16.2	18.0	16.1	13.3	2
Water quantity for crop irrigation	37.2	14.6	16.6	17.2	14.4	2
Water quality for recreation (swimming, boating, fishing, etc.)	24.3	12.0	17.7	25.2	20.8	3
Water quantity for recreation (swimming, boating, fishing, etc.)	26.0	12.9	17.8	23.6	19.7	3
Chemical drift	18.3	11.3	16.5	21.6	32.3	4
Wildfire	14.3	15.1	18.3	24.3	28.0	4
Insect pests	8.5	11.8	21.9	31.1	26.7	4
Animal pests	13.3	15.7	24.1	28.6	18.3	3
Hurricanes and tornadoes	15.9	16.5	21.5	23.7	22.5	3
Invasive species	11.4	10.5	21.1	28.3	28.7	4
Soil erosion	8.7	8.5	17.3	31.1	34.4	4
Overgrazing	36.8	15.4	18.1	16.9	12.8	2
Loss of forests	14.1	9.5	18.9	27.0	30.4	4
Loss of farmland, natural areas, other open spaces	11.7	8.8	17.8	27.1	34.5	4
Loss of wildlife habitat	7.0	6.2	17.6	31.3	38.0	4
Loss of pollinators	8.3	5.7	19.3	30.3	36.4	4
Other	31.8	3.1	7.0	11.6	46.5	4

Different groups of landowners might require different approaches to encouraging their active engagement in conservation, depending on their goals. Landowner goals are often compatible with resource conservation. Landowners who do not have a strong profit motive might be willing to participate in conservation efforts more willingly than their peers and perhaps require little compensation to do so.

Landowners' objectives and environmental concerns coincided with their geographic location. Using a targeted approach, focused conservation efforts are most likely to gain landowner cooperation, especially if these efforts enhance landowner goals. Information on environmental concern rankings and their geographic distribution can be used to prioritize landscape-level conservation efforts that will help mitigate these concerns. Additionally, identifying areas with clustered environmental concerns can lower the cost of administering and implementing mitigation programs.

Understanding such trends will help conservation professionals identify geographic areas where conservation efforts are most likely to succeed. They can use this information to develop and coordinate outreach efforts and conservation programs that more effectively meet landowner needs.

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