

# **Survey of Habitat Management Assistance by Forestry and Extension Personnel on Nonindustrial Private Lands in the Southeastern United States**

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*Abstract:* Assistance foresters in the 12 southeastern states were surveyed by mail questionnaire to ascertain the amount of habitat management they recommended for nonindustrial, private forest (NIPF) lands. The efforts of state wildlife extension specialists also were estimated by examining existing data sources. Assistance foresters managed >550,000 ha for wildlife in 1987, with >60% of this being reported by private consultants. The 550,000 ha represented >20% of the total area managed by assistance foresters during the year. The 12 state extension offices reported 29 full-time equivalents allocated to wildlife activities in 1987, and provided information and assistance to individuals owning >2.6 million ha. Increasing foresters' knowledge of the available resources for habitat management activities would result in an even larger portion of NIPF lands being managed for wildlife.

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NIPFs comprise the majority (67%) of all forestland in the southeastern United States (U.S. Forest Service 1988). While these lands provide more than one-half of the annual timber harvest volume, they also are important sources of wildlife habitat and noncommodity goods.

Past research has examined wildlife management practices conducted on large private tracts (Lassiter 1985) and wildlife management assistance provided by state wildlife agencies (Teer et al. 1983, Wigley and Melchioris 1987). Little information is available, however, concerning the wildlife management activities of foresters on private lands. There are 3 principal types of foresters who provide forest and wildlife management assistance to private landowners. The largest group (about 2,000 - 3,000) of management assistance foresters consists of self-employed consultants and

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those employed by private forestry consulting firms (Walsh 1986). In addition to wildlife agencies, each state has a forestry agency that employs foresters to assist landowners in managing their forest lands. State foresters comprise the second largest group of assistance foresters, and currently number close to 1,500 nationally (Walsh 1986). The third group consists of about 200 foresters employed by forest industry to assist NIPF landowners through formal and informal management agreements.

State Cooperative Extension Service (CES) personnel also provide assistance to NIPF landowners. Each state employs at least 1 resource specialist with responsibilities for developing information on wildlife management for landowners, organizing landowner workshops on wildlife, and training county extension agents. In addition, these county agents are responsible for providing information and assistance to landowners in their area who are interested in managing their land for wildlife.

My objectives were to estimate the percentage of area managed by technical assistance foresters for wildlife in the southeastern United States. I also wanted to estimate the total management efforts and popularity of wildlife habitat management practices among foresters and wildlife specialists, and to draw conclusions concerning opportunities for increased assistance. Partial funding was provided by U.S. Department of Agriculture, Forest Service, North Central Forest Experiment Station, Research Evaluation Work Unit and the University of Georgia School of Forest Resources. Special thanks go to F. Cabbage and J. Neal for their advice and assistance.

## Methods

Assistance forester data were collected by a mail survey (Dillman 1978). A composite population was developed for the 3 assistance groups in Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, and Virginia. From this total population, a random sample was drawn for each sector proportional to its share of the total assistance forester population.

The original mailing list was comprised of 332 names, but 35 were discarded because they were not working in the profession or could not be located. Of the remaining 297 assistance foresters, 245 (82.5%) completed and returned their questionnaires. The group response rates were 76% for the private consultants, 84% for industry, and 88% for state service foresters. Total assistance forester management effort was estimated by summing the average area (ha) listed for artificial and natural regeneration and timber stand improvement by sector. Estimates of prescribed fire accomplishments were omitted to avoid double counting.

The efforts of CES wildlife specialists in the same 12 states were estimated from the National Accountability and Reporting System. These data were obtained through the U.S. Department of Agriculture Extension Service Natural Resources and Rural Development Office, and provided information on personnel allocated to wildlife extension efforts and the impact of these efforts. As states need only report

their accomplishments periodically, the 1987 and 1988 reports were surveyed to assure that all states were included.

## Results and Discussion

### Technical Assistance Foresters

The assistance forester survey revealed that the respondents managed a substantial portion of private lands in the southeastern United States for both timber and wildlife (Table 1). The data illustrate that industry foresters are the most active, on a per forester basis, followed by consultants and state service foresters. Given that most forest products companies concentrate their management assistance efforts on large tracts, this result is expected. Consultants typically have less equipment and personnel, so are more likely to employ less intensive methods where feasible. Many state agency foresters are restricted in the amount of time that they can spend assisting any individual landowner in a given year. They may also be prohibited from marking timber or required to refer tracts exceeding a maximum size to a private forester. There are considerably fewer industry assistance foresters, however, so the consulting and state sectors accomplished more in terms of total NIPF assistance. A weighted average of forester assistance based on the sector populations was estimated as 1,972 ha. This was calculated by multiplying each group's average ha total management effort by the group sample population (e.g., for consultants:  $1,305 \times 91$ ). These totals were summed for all 3 groups and then divided by the total respondent population of 245.

Prescribed burning was recommended extensively by the respondents. Again, industry foresters reported the largest area served, with about 3,600 ha burned per forester in 1987. Consulting and state foresters averaged less than one-half of the area reported by their industry counterparts. Approximately one-half of the area recommended for burning by the 3 groups was being prepared for planting.

**Table 1.** Average hectares managed and number of landowners assisted by technical assistance foresters in the 12-state southeastern United States survey region, 1987.

Practice	Consulting foresters (N = 91)	Industry foresters (N = 46)	State foresters (N = 108)
Artificial regeneration	617	2,713	1,248
Natural regeneration	286	227	173
Timber stand improvement	402	1,746	266
Prescribed fire	1,141	3,598	1,386
Wildlife management*	629	640	218
Owners assisted	55	79	141

\* Respondents provided estimates of the amount of land that they managed specifically for wildlife. No information was collected pertaining to the specific practices used on these acres.

Wildlife habitat management was conducted by >80% of the respondents. Indeed, establishing wildlife clearings was the second most popular "new" forest management practice adopted by the foresters. Industry foresters, as with most practices, managed the largest area, on average. The consultant average, however, was much closer to industry efforts for this activity (Table 1). The low average area managed for wildlife by state foresters (Table 1) may be explained partially by the fact that most state wildlife agencies provide wildlife management assistance, which perhaps encourages forestry personnel to avoid duplicating these efforts or overstepping their authority.

Consultants considered wildlife requirements on >48% of NIPF lands they managed (Table 1). The efforts of industry and state foresters were substantially less and averaged 13.7% and 12.9%, respectively. Overall, the 3 groups included wildlife considerations on 20.9% of the total area managed.

Cabbage and Hodges (1986) estimated that about 650 consultants, 70 industry landowner assistance foresters, and 550 state service foresters were practicing in the southeastern United States. Based on these estimates and the wildlife management efforts reported, I calculated that the 3 forester groups managed 573,550 ha for wildlife in 1987. Consultants accounted for 408,850 ha (60%) of the total. Industry foresters managed 44,800 ha for wildlife; state foresters 119,900 ha. Although industry foresters reported the largest mean level of management, they accounted for <7% of the area managed, as they constitute only 5.5% of the region's assistance forester population.

Little information was obtained describing what the wildlife habitat management efforts entailed, although 1 section of the survey provided some insight into the popularity of such management practices. Specifically, at least 160 foresters said they had changed their management approach during the past 5 years. Seventy-four (45.7%) noted that 1 reason for the change was to improve wildlife habitat on NIPF lands. The most common newly adopted practice was chemical site preparation, followed by wildlife clearings and prescribed fire. Thus, practices favoring wildlife such as clearings are becoming more popular among foresters assisting private landowners.

### CES Efforts

Wildlife specialists were involved in a substantial amount of assistance activities throughout the southeastern United States. Professional wildlife extension personnel totaled >29 full-time equivalents (FTEs) in 1987 and provided information and educational materials that reached individuals owning more than 2.6 million ha (Table 2). This area estimate is for only 7 of the 12 states in the region, because not all states reported accomplishments in any 1 year. It should also be noted that the area affected is an estimate of land controlled by individuals receiving information from extension personnel. No data were available on the impact of extension efforts on management decisions. In addition to professional personnel, the states reported more than 12 FTEs of "paraprofessional" and volunteer work expended on wildlife projects. These figures do not include the work of county-level extension workers

**Table 2.** Accomplishments of cooperative extension service wildlife specialists in the southeastern United States, 1987.<sup>a</sup>

Region	Personnel (FTE's)	States ( <i>N</i> reporting/ total <i>N</i> )	Area affected (ha)
Central Gulf	9.58	(2/3)	1,214,000
East Gulf	4.45	(1/2)	193,000
South Atlantic	8.60	(2/3)	502,000
West Gulf	6.75	(3/4)	704,000
Total	29.38	(8/12)	2,613,000

<sup>a</sup>Source: U.S. Dep. Agric. Coop. Ext. Serv., Nat. Resour. and Rural Dev. Off.

on wildlife problems, however. Thus, the total extension effort in 1987 likely was considerably greater than that reported by state wildlife specialists.

Wildlife specialists provided a wide range of information and services related to wildlife, and employed several innovative approaches. As expected, the primary effort of extension was to educate and increase the awareness of their clients. This included developing videos, news releases, fact sheets, and workshops for landowners and the general public. Several states reported using field days or establishing wildlife habitat areas to demonstrate the applicability of wildlife management on private lands. Numerous topics were covered in these education efforts including increased public awareness of the economic value of wildlife, current issues and laws affecting wildlife, income opportunities from hunting leases, and alternative farming and forest management techniques to minimize adverse impacts on wildlife or enhance habitat values.

Wildlife specialists reported several projects in addition to their landowner and public education efforts. A number of states offered continuing education or correspondence courses in wildlife management for resource managers. Another popular activity involved assisting individual landowners in implementing habitat improvement projects or integrating timber and wildlife management. Several wildlife specialists also assisted local governments interested in including wildlife considerations in regional development plans, and implementing the plans once they were finalized. A final activity of wildlife extension was controlling wildlife pests, particularly beavers. In 1987, the states conducting such activities reported saving landowners >\$1 million in property damage.

## Conclusions

Assistance foresters and extension specialists in the southeastern United States can significantly influence land management decisions. These 2 groups provided information and assistance to individuals owning more than 3 million ha in 1987. Clearly, the efforts of these professionals are vital to maintaining or improving wildlife habitat on NIPF lands.

Both public and private assistance foresters provided wildlife management assistance on a large portion of the area they managed and have the opportunity to expand substantially such efforts. Wildlife management work is conducted on 20% of the area that these foresters currently manage. While foresters must manage to meet the objectives of the landowner, incorporating wildlife management with timber activities may be possible on a large portion of private lands. Interestingly, some researchers argue that rather than detracting from timber productivity, wildlife management may increase the likelihood of timber management on many forests (Young et al. 1985, Haymond 1988). Once they understand the wildlife benefits of many timber management activities, reluctant landowners are persuaded to actively manage their timber.

As part of the forester survey, respondents were given the opportunity to provide their opinions of current issues in forestry and education. A number of those choosing to comment noted that environmental considerations and nontimber uses of private lands were growing. Coupled with the results of several recent studies indicating that landowners are becoming more interested in nontimber uses (see, for example, Birch and Pywell 1986), this evidence suggests that assistance foresters will have more opportunities to manage for wildlife in the future.

In addition to foresters and CES wildlife specialists, other sources of assistance are available to NIPF landowners. Teer et al. (1983) surveyed state wildlife agencies to determine the availability and extent of landowner assistance. Eight of the 12 southern states reported the number of participants in their formal programs, as well as the area covered. In total, the programs in these 8 states involved >7,000 participants and approximately 1.7 million ha. Budgets allocated for these programs averaged \$64,816 and ranged from \$3,960 to \$114,000. Wigley and Melchioris (1987) provided an update of the state survey. Because their results were reported according to U.S. Bureau of Census divisions, the 12 southern states plus Delaware, Kentucky, Maryland, and West Virginia were included in the section containing the South. Their results revealed that agencies provided technical services to >5,800 landowners who were managing >1.3 million ha. Management materials were provided to more than 11,000 landowners for use on 662,500 ha in 1985.

Increasing wildlife management on private lands will require substantially more cooperation between forestry and wildlife professionals. Such increased cooperation could enhance assistance efforts by fostering a better understanding between the professions. Many state CES offices already offer continuing education courses on integrating timber and wildlife management. Moreover, some state chapters of the Society of American Foresters and The Wildlife Society are holding joint meetings to discuss multiple-use management and avenues for increased cooperation. Such meetings also provide the opportunity for foresters to learn about available resources for improving wildlife habitat such as management materials provided by state wildlife agencies. Increasing opportunities for discussion among the wildlife and forestry professions in the southeastern United States is crucial to enhancing wildlife habitat on NIPF lands.

## Literature Cited

- Birch, T. W. and N. A. Pywell. 1986. Communicating with nonindustrial private forest-land owners: getting programs on target. U.S. Dep. Agric. For. Serv. Northeast For. Exp. Sta. NE-RP-593. 11pp.
- Cabbage, F. W. and D. G. Hodges. 1986. Public and private technical assistance programs for non-industrial private forest landowners in the southern United States. *Silva Fennica* 20:376-384.
- Dillman, D. A. 1978. Mail and telephone surveys—the total design method. John Wiley and Sons, New York. 325pp.
- Haymond, J. L. 1988. Adoption of silvicultural practices by opinion leaders who own nonindustrial private forestland. *South. J. Appl. For.* 12:20-23.
- Lassiter, R. 1985. Management of wildlife resources on large private forestland holdings in the southeastern United States. *Trans. North Am. Wildl. and Nat. Resour. Conf.* 50:221-231.
- Teer, J. G., G. V. Burger and C. Y. Deknatel. 1983. State-supported habitat management and commercial hunting on private lands in the United States. *Trans. North Am. Wildl. and Nat. Resour. Conf.* 48:445-456.
- U.S. Forest Service. 1988. The South's fourth forest: alternatives for the future. U.S. Dep. Agric. For. Serv. Resour. Rep. No. 24, Washington, D.C. 512pp.
- Walsh, B. W. 1986. Competing for clients. *J. For.* 84:30-31,41-44.
- Wigley, T. B. and M. A. Melchior. 1987. State wildlife management programs on private lands. *Wildl. Soc. Bul.* 15:580-584.
- Young, R. A., M. R. Reichenbach and F. H. Perkuhn. 1985. PNIF management: a social-psychological study of owners in Illinois. *North J. Appl. For.* 2:91-94.