

GEORGIA FOREST RESEARCH PAPER

36
JUNE, 1982



A SURVEY OF FOREST PRACTICE VENDORS AND SERVICES IN GEORGIA

BY
ALBERT A. MONTGOMERY



RESEARCH DIVISION
GEORGIA FORESTRY COMMISSION

AUTHOR



Albert A. Montgomery, Ph.D.
Senior Research Associate
Contract Research Division
Office of Services
School of Business Administration
Georgia State University.

ACKNOWLEDGMENT

The author is indebted to Mr. James D. Strange, Professor Robert L. Chaffin, and Dr. James E. Morrow who helped design the survey, and the many staff members of the Georgia Forestry Commission who did the field work and interviews.

A SURVEY OF FOREST PRACTICE VENDORS AND SERVICES IN GEORGIA

BY
ALBERT A. MONTGOMERY

While the outlook for the Georgia forest economy is generally optimistic, there is concern about the future adequacy of the pine timber supply. Even though the forest products industry will soon achieve a high level of sustained timber production on land it manages as pine plantations, the continued growth of the industry's manufacturing capacity is becoming increasingly dependent upon the future timber supply from private, non-industrial landowners.

Reflecting this, the market economy is currently calling for substantial annual investments in reforestation and improvements of existing pine timber stands found on non-industrial land. But the annual rate of improved forest management actually being accomplished by non-industrial landowners in Georgia is falling

short of the economic potential. Consequently, the industry's continuing investments in capacity expansion are being subjected to an increasing risk of an inadequate future timber supply.

If Georgia's forest economy is to continue growing, non-industrial landowners must improve their existing timber stands and increase reforestation efforts.

One of the main purposes of this survey is to focus on the extent of the forest management shortfall on Georgia's non-industrial timberland. The study finds that Georgia's non-industrial landowners have been more responsive to the market opportunities for forest investment than has been generally believed particularly with respect to reforestation.

In 1979, Georgia's non-industrial landowners reforested some 58,000 acres to

pine. But this substantial accomplishment was less than a third of the pine reforestation acreage that is annually justified by the market economy. Moreover, there is a greater lack of accomplishment in needed timber stand improvement and prescribed burning work.

A second major purpose of the study is to determine whether this management shortfall is due to a shortage of forest practice vendors, equipment, labor, and other resources with which to do the job for non-industrial landowners.

The study shows that the current situation in the vendor industry results in many problems for the individual landowners, especially in the state's Upper Piedmont and Mountain Regions. Unless the landowners are being assisted by a consulting forester or state service forest-

er, vendors can be hard to find. Relatively few vendors advertise their forest practice services through the public media. If a landowner can find a vendor, not infrequently, he may find that the vendor has gone out of business, or is inactive. Or, the landowner may be able to get his land site prepared, but can't find a vendor to plant the land or vice versa.

But what the individual landowner is not apt to perceive is that his problems with the forest practice vendor industry are due largely to the fact that landowners generally are not giving forest practice vendors enough work. In 1980, 330 forest practice vendors listed themselves with the Georgia Forestry Commission. By the time this survey was taken in the winter of 1980-81, 55 of these firms were inactive or out of business. The lion's share of forest practices is being accomplished by a handful of large vendors while the large majority of vendors have very little work to do. This results in an under-utilization of the vendors' equipment and men. This creates labor and financial problems for the individual vendor that are reflected in the vendor's availability to perform forest practices and in performance quality.

Therefore, the forest economy of Georgia does not have a problem with the forest practice vendor industry in general. This study concludes that the forest practice vendor industry must be counted among the major competitive advantages that favor continued growth of Georgia's forest economy.

The survey solicited the opinions, not only of vendors, but of state foresters, private consulting foresters, and industry foresters, who work daily with non-industrial landowners and vendors. In the opinion of the large majority of these experts, the management shortfall, on non-industrial land, is due mainly to a lack of landowner demand. It is the consensus of opinion that the supply of forest practices could be increased significantly if the market for these services was better organized and more stable. In support of these opinions, the study shows that the vendor industry could have reforested almost as much additional acreage in 1979, with its existing personnel and equipment, as was actually accomplished on non-industrial land in that year. This excludes the many part-time and inactive vendors who were not surveyed. A capacity exists, as well, to perform more acreage of timber stand improvement and prescribed burning on a smaller scale.

This abundance of real economic resources to do the job is explained, partly, by the fact that it is a legacy of the extensive landscape changes that have occurred in Georgia over the past 20 years.

The investment in equipment, labor, and know-how for road construction, pond building, and land clearing for utility rights-of-way, agriculture, home sites, shopping centers and the like can be applied in site preparation work now that these original purposes are less demanding. The abundance of tree planting vendor resources is explained by the fact that Georgia's forests are intermingled with an agricultural economy that gives forestry the advantage of a local infrastructure of roads, equipment serving businesses, and labor but does not seriously threaten the use of the land for forestry.

If forest management shortfall is due primarily to a lack of landowner demand, what are the reasons for it? What will it take to overcome the lack of will to make profitable investments? In the opinions of the foresters and vendors surveyed, the lack of landowner demand is primarily tied to investment cost.

What would it take to increase landowner demand for improved forest practices? About a third of the foresters and vendors were of the opinion that higher stumpage prices would be necessary. But, the majority of both foresters and vendors indicated that further public initiative would be necessary, either by tax incentives or public sharing of the forest investment cost.

These survey findings raise the question as to whether the public can afford the investment costs of substantially eliminating the management shortfall.

First, while the individual landowner must wait a minimum of 15 years for the personal economic benefit from planting seedlings, there is an immediate economic benefit for the public. It gives industry the assurance of a future timber supply. Without this assurance, industrial investments will not be made that are necessary to increase productivity, job opportunities, and income.

Without continued industrial investment in new, more productive manufacturing capacity, forest products will cost more. Stumpage prices, timber transportation, lumber, paper, and paperboard manufacturing costs will be higher unless the forest management shortfall is substantially reduced.

Thirdly, the real economic cost to the public would be much less than expected and non-inflationary in its impact on the economy. The resources to do the job already exist, and are substantially underemployed.

Georgia's forest practice vendor industry has trained operators and equipment for the work. Planters and labor are there to plant on a scale comparable to that of the Soil Bank Program days. As a legacy of that earlier program, there exist

state and industrial nursery facilities to supply genetically superior seedlings on a much larger scale than at present.

The real cost of doing the job would be marginal to the public. The public outlays would be partly offset by savings in the rural cost of unemployment and poverty programs. The public economic benefit would be immediate and substantial while the public economic cost would be minimal.

FOREST PRACTICES ACCOMPLISHED ON GEORGIA'S NON-INDUSTRIAL LAND

The acreage of site preparation, planting, timber stand improvement (TSI), and prescribed burning accomplished in 1979 on Georgia's non-industrial timberland have been estimated from the survey responses.

Some non-industrial landowners may have accomplished management practices without forester assistance, and some practices will have been arranged by consultants who did not participate in the survey. This method of estimation has been checked against the reported acreage of practices accomplished by vendors participating in the survey.

A total of 52,469 acres of site preparation, 57,559 acres of planting, 16,327 acres of TSI, and 67,280 acres of prescribed burning were arranged by these foresters statewide (Table 1).

REFORESTATION OF NON-INDUSTRIAL LAND--ACTUAL VERSUS POTENTIAL

The planting of 57.6 thousand acres of non-industrial land in 1979 was a considerable accomplishment, but much less than needed.

As existing stands of pine forest type are cutover, 180,000 acres of non-industrial land would be economically feasible for planting each year and some 70,000 acres could be annually regenerated with seed trees.

Under recent market conditions, the planting of Georgia's non-industrial land in 1979 was only 32 percent of the economically feasible annual rate (Table 2).

In contrast, it is estimated that industry's planting of land it manages in Georgia is proceeding at an annual rate that is slightly higher than would be necessary to sustain a plantation economy on 3.5 million acres of industry's pine land. Based on reported seedling use, industry planted from 100,000 to 120,000 acres in 1979 on land it owns or holds under long-term lease. This compares with a long-run annual potential of 95.2 thousand acres at recent stumpage prices and manage-

Table 1

Forest Practices Arranged For Georgia's Nonindustrial
Landowners in 1979 by Responding State Service
Consulting, and Industry Foresters, By Region

Region	Site Preparation Acres (%)	Planting Acres (%)	Timber Stand Improvement Acres (%)	Prescribed Burning Acres (%)
Coastal	36807 (70.1)	36466 (63.4)	5827 (35.7)	43242 (64.3)
Lower Piedmont	11669 (22.2)	15900 (27.6)	4577 (28.0)	15791 (23.5)
Upper Piedmont-Mountain	3993 (7.6)	5193 (9.0)	5923 (36.3)	8247 (12.3)
State	52469 (100.0)	57559 (100.0)	16327 (100.0)	67280 (100.0)

Estimated Percentage Work Done
By Vendors (V) and By Landowners (LO)

	Site Prep. V-LO	Planting V-LO	TSI V-LO	Pres. Burn V-LO
State	96%-4%	92%-8%	85%-15%	77%-23%

Table 2

Georgia's Reported 1979 Planting Versus
Long-Run Economic Potential

	Reported ¹ Planting Acres	Potential ² Planting Acres	Reported/ Potential %
Nonindustrial Land			
Coastal	36466	105400	34.6
Lower Piedmont	15900	46200	34.4
Upper Piedmont	5193	28500	18.2
State	57559	180100	32.0
Industry Land			
State	100,000-200,000	95200	100.0+
Public Land			
State	5000+	11700	42.7+

¹Reported nonindustrial planting from Table 1. Estimated industry planting from Southern Forest Institute seedling reports. Public planting as reported on National Forests.

²Potential Planting estimated from economic model at recent market prices and management costs. Southeast Forest Resource: An Economic Outlook, Montgomery, Robinson, and Strange.

Table 3

Opinions

Which Of The Following Is The Main Reason Why More Improved Forest Practices Are Not Being Accomplished On Nonindustrial Land In Georgia?

Lack of Landowner Demand For Practices
Or
Lack of Vendors To Supply Practices

	Coastal		Lower Piedmont		Upper Piedmont And Mountain		State ¹	
	Foresters %	Vendors %	Foresters %	Vendors %	Foresters %	Vendors %	Foresters %	Vendors %
Demand	73.1	87.5	72.7	90.9	69.8	93.7	72.3	89.8
Supply	25.0	5.6	24.2	9.1	23.2	6.2	23.8	6.6
No Responses	1.9	6.9	3.0	0.0	7.0	0.0	3.8	3.6
Total Responses (No.)	100.0 52	100.0 72	100.0 33	100.0 33	100.0 43	100.0 32	100.0 130	100.0 137

¹Includes Out-Of-State Responses

ment costs. As industry is cutting over existing stands of pine on land it manages, it is reforesting all of that land which has the potential of yielding a higher investment return from forestry than can be earned elsewhere in the economy.

OPINIONS OF FORESTERS AND VENDORS

Each respondent was asked the following questions concerning landowner requests for and vendor availability for forest management services.

Question 1. Is it the lack of non-industrial landowner demand for improved forest management or the lack of vendors to perform the management that is the main reason why more management is not being accomplished?

Of 130 state service foresters, private consulting foresters, and industry foresters surveyed statewide, 72.3 percent responded that it was a lack of landowner demand, 23.8 percent that it was a lack of vendors, and 3.8 percent did not respond (Table 3).

Question 2. What are the major reasons for the lack of non-industrial landowner demand for improved forest practices?

Foresters and vendors were given a choice of potential reasons for the lack of landowner demand, but were asked to volunteer their own reasons as well, ranking each reason in importance on a scale of one being the most important, two the next more important, and so on.

Lack of Dependable Vendors

Only 3.1 percent of service, consulting and industry foresters responding statewide ranked lack of dependable vendors as No. 1 in importance, and only 12.7 percent ranked it as high as No. 2 in importance (Table 4).

Can't Afford the Investment Cost

Statewide, 68.7 percent of the vendors and 48.1 percent of the foresters ranked this reason as the most important.

Lack of Knowledge or Interest in Economic Opportunities

That landowners are not interested in

the economic opportunities of improved forest management, or are simply unaware of those opportunities, was cited as the most important reason for the lack of landowner demand by 29.5 percent of the foresters and 19.8 percent of the vendors.

Holding Land for Potential Non-Forest Uses

That non-industrial landowners might be holding their land for real estate speculation, conversion to agricultural use, wildlife and recreational use was not frequently cited as the main reason for the lack of landowner demand for forest practices.

Unwillingness to Bear Risks

Neither foresters nor vendors very frequently cited landowner unwillingness to bear the risks of forestry (e.g. fire, insects, and diseases) as being No. 1 in importance.

Other Reasons

Virtually none of the vendors volunteered other reasons which they consider

Table 4
Opinions

What Are Major Reasons For Lack of Nonindustrial Landowner
Demand For Improved Forest Practices?

Percent of Responses Ranking No. 1 and No. 2

<u>Respondents</u>	<u>Coastal % of 1's/2's</u>	<u>Lower Piedmont % of 1's/2's</u>	<u>Upper Piedmont And Mountain % of 1's/2's</u>	<u>State¹ % of 1's/2's</u>
Lack of Knowledge or Disinterest in Economic Opportunities				
Foresters	34.6/28.8	30.3/25.8	23.8/28.6	29.5/28.6
Vendors	19.7/30.7	15.2/48.4	25.0/25.0	19.8/33.6
Unwillingness to Bear Risks (e.g. Fire, Insect, Disease)				
Foresters	1.9/17.3	0.0/22.6	0.0/14.3	0.8/17.5
Vendors	3.0/27.7	9.1/12.9	0.0/12.5	3.8/20.3
Can't Afford Investment Cost				
Foresters	51.9/28.8	57.6/22.6	35.7/28.6	48.1/27.0
Vendors	71.2/20.0	72.7/16.1	59.4/31.2	68.7/21.9
Holding Land for Potential Nonforest Uses				
Foresters	5.8/7.7	0.0/6.5	23.8/7.1	10.1/7.1
Vendors	6.1/20.0	3.0/22.6	15.6/31.2	7.6/23.4
Lack of Dependable Vendors				
Foresters	1.9/9.6	6.1/12.9	2.4/16.7	3.1/12.7
Vendors	---/---	---/---	---/---	---/---
Other Reasons				
Foresters	3.8/7.7	6.1/9.7	14.3/4.8	8.5/7.1
Vendors	0.0/1.5	0.0/0.0	0.0/0.0	0.0/0.8
Total Responses				
	100.0/100.0	100.0/100.0	100.0/100.0	100.0/100.0
Foresters (No.)	49 / 48	33 / 31	42 / 42	129 /126
Vendors (No.)	66 / 65	33 / 31	32 / 32	131 /128

¹Includes Out-Of-State Responses

Table 5
Opinions

What Would It Take To Increase Nonindustrial Landowner
Demand For Improved Forest Practices?

Percent of Responses Ranking No. 1 and No. 2

<u>Respondents</u>	<u>Coastal % of 1's/2's</u>	<u>Lower Piedmont % of 1's/2's</u>	<u>Upper Piedmont And Mountain % of 1's/2's</u>	<u>State¹ % of 1's/2's</u>
Higher Stumpage Prices				
Foresters	25.0/16.7	31.2/31.2	40.4/23.8	31.5/22.7
Vendors	28.4/12.1	42.4/20.0	37.5/12.9	34.1/14.2
Landowner Educational Programs				
Foresters	14.6/8.3	0.0/21.9	14.3/9.5	10.5/12.2
Vendors	10.4/18.2	9.1/16.7	6.2/9.7	9.1/15.7
Public Timber Crop Insurance				
Foresters	0.0/0.0	0.0/3.1	2.4/4.8	0.8/2.4
Vendors	1.5/1.5	0.0/3.3	0.0/3.2	0.8/2.4
Public Cost-Sharing				
Foresters	25.0/22.9	21.9/12.5	14.3/19.0	20.9/18.7
Vendors	37.3/22.7	39.4/20.0	34.3/22.6	37.1/22.0
Tax Incentives				
Foresters	35.4/45.8	37.5/28.1	26.2/26.2	32.2/35.0
Vendors	20.9/43.9	9.1/40.0	21.9/41.9	18.2/42.5
More Vigorous Vendor Marketing				
Foresters	0.0/6.2	6.2/3.1	0.0/9.5	1.6/6.5
Vendors	1.5/1.5	0.0/0.0	0.0/9.7	0.8/3.1
Other Factors				
Foresters	0.0/0.0	3.1/0.0	2.4/7.1	2.4/2.4
Vendors	0.0/0.0	0.0/0.0	0.0/0.0	0.0/0.0
Total Responses				
	100.0/100.0	100.0/100.0	100.0/100.0	100.0/100.0
Foresters (No.)	48 / 48	32 / 32	42 / 42	124 / 123
Vendors (No.)	67 / 66	33 / 30	32 / 31	132 / 127

¹Includes Out-Of-State Responses

to be important in explaining the lack of non-industrial landowner demand for forest practices.

Question 3. What would it take to increase non-industrial landowner demand for improved forest practices?

Higher Stumpage Prices

Statewide, approximately one-third of foresters and vendors cited higher stumpage prices as the most important factor that would increase non-industrial landowner demand for improved forest practices (Table 5). There is a distinct regional pattern with the importance of higher stumpage prices increasing from south to north. This reflects the existing pattern of stumpage prices in which prices decrease from south to north.

Public Cost-Sharing and Tax Incentives

Jointly, these two responses accounted for more than half of the foresters' and vendors' No. 1 and No. 2 rankings as the most important incentive for increased landowner demand for forest practices.

Landowner Education and Other Factors

Among the remaining responses, only landowner educational programs received as much as 10 percent of the foresters' and vendors' No. 1 and No. 2 rankings. Virtually none of the foresters and vendors gave much importance to the idea of public timber crop insurance. Similarly, neither group foresees much being accomplished by a more vigorous marketing effort by forest practice vendors.

Question 4. What would be necessary to increase significantly the availability of vendors and vendor services in Georgia?

Increased Demand for Vendor Services

Statewide, 46.3 percent of the foresters and 38.1 percent of the vendors ranked increased landowner demand as the most important factor that would lead to an increase in the availability of vendors and services (Table 6).

Higher Contract Prices for Vendor Services

Large vendors, i.e. firms site preparing or planting more than 2,000 acres in 1979, cited the need for higher prices as the most important factor more frequently than the smaller vendors, 52.2 percent

versus 28.9 percent. Considering the forest practice vendor industry as a whole, these findings imply that there could be a substantial supply response to an improved market for vendor services without the necessity of a higher level of forest practice vendor prices.

Technical Assistance to the Vendor

Virtually no vendors considered technical assistance to the vendor in running his business and performing his services as an important requirement for increasing the availability of vendors and their services.

Increased Supply of Well-Qualified Labor

Obtaining and keeping skilled labor was a frequently cited vendor problem. However, relatively few vendors ranked an increased supply of skilled labor as an important requirement for expanding the supply of vendor services.

Assistance in Financing Vendor Equipment

Few vendors considered assistance in financing of their equipment as an important requirement for increasing the availability of vendors and services.

GEORGIA'S FOREST PRACTICE VENDOR INDUSTRY

Each year the Georgia Forestry Commission compiles a list of forest practice vendors offering their services to non-industrial landowners. The list may not include all vendors operating in the state, some of whom will be limiting their business to the forest products industry (Table 7).

From the list of known vendors, 55 firms were found to be inactive or out of business. Sixty percent of the 275 active firms on the list were included in the survey.

Forestry Commission personnel interviewed 135 vendors, and 30 consultants; out-of-state, and industry vendors returned mail questionnaires. The vendors responding to the survey include virtually all of the known larger and active vendors and a large, but not complete, representation of the small and part-time vendors.

FOREST PRACTICES REPORTED BY RESPONDING VENDORS

The 41,505 acres of site preparation work done by independent vendors, on land owned or leased by the forest pro-

ducts industry, is consistent with the relative use of contractors and company personnel and equipment reported for this work (Table 8).

By Vendor Size

Even considering that a substantial part of the forest practice vendor industry's site preparation and planting work is for industrial customers, it is remarkable that the lion's share of all forest practice acreage is accomplished by a few large vendors (Table 9).

This pattern is seen to apply to the timber stand improvement and prescribed burning practices, as well.

THE ECONOMIES OF LARGE SCALE REFORESTATION

The economic explanation for the distribution of acreage between large and small vendors is well-understood in the forest practice vendor industry. Large vendors do more work because they can do the work more cheaply. There are substantial economies of scale for this capital-intensive industry. The minimum equipment investment for site preparation and planting is quite large. For example, it would appear that a vendor in the Coastal Region can site prepare as much as 1,000 acres a year with the equipment that he may be using only for 100 acres or less. Thus, the equipment investment cost per acre will be much higher if he site prepares only 100 acres as compared with full utilization of that equipment on 1,000 acres.

As a practical matter, the high investment cost per acre of the small vendor would appear to be less of a factor explaining his cost disadvantage relative to a large vendor than his labor costs. Among the 156 vendors who listed their equipment in the survey, 124 indicated that they owned most of their equipment. Only 12 vendors indicated they leased most or all of their equipment.

If the vendor's equipment has been bought and paid for, the investment cost is a sunk cost. By the same token, the sunk investment cost of idle equipment will not be a financial burden.

Unless he has the opportunity to use the equipment in non-forestry operations, the fact that he does not have enough work to fully utilize his equipment will not, by itself, force him out of the forest practice vendor business. On the other hand, while the vendor can afford idle equipment, he cannot afford idle equipment operators, including himself. It is one of the more important findings of this survey that there appear to be econ-



This heavy piece of equipment is used to chop forest debris in a site preparation operation.

omies of scale for labor as well as equipment utilization (Table 10).

While more operator time is required to site prepare and mechanically plant larger than smaller acreages, the increase in operator time and labor cost is less than in proportion to the increase in acreage accomplished. The increase in per worker acreage appears to hold through thousands of acres and thus, the productivity of labor increases even as the equipment investment and labor force is increased by additional sets of tractors, planters, and operators.

POTENTIAL FOR EXPANDED FOREST PRACTICE ACREAGE

One of the important conclusions of this study is that the forest practice vendor industry is capable of expanding its reforestation acreage more than in proportion to the additional equipment that would be required. It can expand its acreage with a less than proportionate increase in labor. A substantial increase in reforestation acreage could be achieved with no increase in equipment investment or employment. Each vendor was asked

how many additional acres of each practice he could have performed in 1979 with his existing equipment and personnel (Table 11).

When these acreage totals are compared with those of Table 9, the percentage increases over the acreage that was done in 1979 are found to be 58.4 percent for site preparation acreage, 36.6 percent for planting acreage, 51.7 percent for timber stand improvement acreage, and 95.1 percent for prescribed burning acreage.

Even the largest vendors of each practice indicated a potential for additional acreage of each practice with existing personnel and equipment. However, the potential additional acreage of site preparation by the vendors over 2,000 acres in size was relatively modest in comparison with the large planting vendors.

More importantly, the large site preparation vendors indicated a potential for additional acreage that was much less than the 28,550 acres indicated by the smallest site preparation vendors. These small site preparation vendors indicated that they could have worked almost four times as much acreage as they did in 1979 with the same equipment and personnel.

By the same token, the smallest planting vendors indicated that they could have accomplished more than two and half times their 1979 acreage with existing equipment and personnel.

MINIMUM ACREAGE FOR FOREST PRACTICES

There is a concern as to whether the forest practice vendor industry is inclined to provide services to small landowners. Vendors were asked what if any minimum acreage was required for them to offer services within their normal operating areas (Table 12).

SEASONAL AND REGIONAL AVAILABILITY OF VENDORS

The monthly availability of all but site preparation vendors exhibits distinct seasonal patterns (Table 13).

VENDOR MARKETING METHODS

A large percentage of vendors indicated that most of their business was obtain-

Table 6
Opinions

What Would Be Necessary To Increase Significantly
The Availability Of Vendors and Vendor Services?

Percent of Responses Ranking No. 1 and No. 2

<u>Respondents</u>	<u>Coastal % of 1's/2's</u>	<u>Lower Piedmont % of 1's/2's</u>	<u>Upper Piedmont And Mountain % of 1's/2's</u>	<u>State¹ % of 1's/2's</u>
Higher Vendor Prices				
Foresters	4.1/12.5	6.2/21.9	11.9/4.9	7.2/12.2
Vendors	31.8/25.8	36.3/35.5	31.2/21.9	32.8/27.1
Technical Assistance				
Foresters	0.0/8.3	3.1/6.2	2.4/2.4	1.6/6.5
Vendors	1.5/1.5	0.0/0.0	0.0/0.0	0.8/0.8
Assistance Financing Equipment				
Foresters	22.4/10.4	28.1/0.0	2.4/7.3	16.3/6.5
Vendors	6.1/24.2	15.2/16.1	9.4/18.7	9.2/20.9
Increased Supply of Qualified Workers				
Foresters	4.1/2.1	0.0/25.0	2.4/7.3	3.2/9.8
Vendors	1.5/10.6	6.1/16.1	0.0/3.1	2.3/10.1
A Better Organized And More Stable Market For Vendor Services				
Foresters	28.6/33.3	12.5/34.4	26.8/41.5	24.4/35.6
Vendors	19.7/15.2	3.0/19.4	21.9/21.9	16.0/17.8
Increased Landowner Demand For Vendor Services				
Foresters	40.8/31.2	50.0/12.5	51.2/36.7	46.3/28.5
Vendors	39.4/22.7	36.3/12.9	37.5/34.3	38.1/23.3
Other Factors				
Foresters	0.0/2.1	0.0/0.0	2.4/0.0	0.8/0.8
Vendors	0.0/0.0	3.0/0.0	0.0/0.0	0.8/0.0
Total Responses				
	100.0/100.0	100.0/100.0	100.0/100.0	100.0/100.0
Foresters (No.)	49 / 48	32 / 32	41 / 41	125 /123
Vendors (No.)	66 / 66	33 / 31	32 / 32	131 /129

¹Includes Out-Of-State Responses

Table 7

Forest Practices Offered By Vendor Firms in Georgia, 1980

	Firms Offering				
	Site Preparation	Planting	Timber Stand Improvement	Prescribed Burning	Separate Firms
Site Prep., Plant., TSI, P. Burn	12	12	12	12	12
Site Prep., Plant., TSI	4	4	4	--	4
Site Prep., Plant., P. Burn	9	9	--	9	9
Site Prep., Plant.	18	18	--	--	18
Site Prep, P. Burn	5	--	--	5	5
Site Prep.	185	--	--	--	185
Planting, TSI, P. Burn	--	3	3	3	3
Planting, TSI	--	23	23	--	23
Planting, P. Burn	--	2	--	2	2
Planting	--	71	--	--	71
TSI, P. Burn	--	--	2	2	2
Prescribed Burn	--	--	--	1	1
Total Firms	233	142	44	34	335

Table 8

Georgia Forest Practices Accomplished By Responding Vendors in 1979, By Ownership and Region

Region	Site Preparation		Planting		Timber Stand Improvement		Prescribed	Burn
	Acres	%	Acres	%	Acres	%	Acres	%
-----All Ownerships-----								
Coastal	67794	72.5	64766	68.0	10871	76.0	29020	63.9
Lower Piedmont	17660	18.9	24715	26.0	1569	11.0	11548	25.4
Upper Piedmont-Mountain	8031	8.6	5672	6.0	1870	13.0	4824	10.6
State	93485	100.0	95153	100.0	14310	100.0	45392	100.0
-----Industry Land ¹ -----								
Coastal	30052	72.4	38215	68.9	150	10.0	1150	36.6
Lower Piedmont	8378	20.2	14637	26.4	--	--	1403	44.6
Upper Piedmont-Mountain	3075	7.4	2622	4.7	1350	90.0	592	18.8
State	41505	100.0	55474	100.0	1500	100.0	3145	100.0
% All Owner Acres	44.4		58.3		10.5		6.9	
-----Nonindustrial Land ¹ -----								
Coastal	37742	72.6	26551	66.9	10721	83.7	27870	66.0
Lower Piedmont	9282	17.9	10078	25.4	1569	12.2	10145	24.0
Upper Piedmont-Mountain	4956	9.5	3050	7.7	520	4.1	4232	10.0
State	51980	100.0	39679	100.0	12810	100.0	42247	100.0
% All Owner Acres	55.6		41.7		89.5		93.1	

¹ Industry land does not include acreage accomplished by industry personnel and equipment but nonindustrial land includes acreage accomplished by industry vendors.

Table 9
Responding Vendors, Members and Forest Practice Acreage
By Size of Vendor Acreage

Vendor Size	1979							
	Site Preparation ¹		Planting ¹		Timber Stand Improvement		Prescribed Burn	
Vendors	Acres (%)	Vendors	Acres (%) ¹	Vendors	Acres (%)	Vendors	Acres (%)	
Under 500 Acres	57	10083 (10.3)	36	7943 (7.2)	12	1560 (10.9)	15	3292 (7.3)
500-999	11	7084 (7.3)	9	6350 (5.7)	1	550 (3.8)	4	2600 (5.7)
1000-1499	6	6342 (6.5)	4	4362 (3.9)	2	2200 (15.4)	3	3300 (7.3)
1500-1999	5	7900 (8.1)	1	1800 (1.6)	--	--	3	4700 (10.4)
2000 & Over	16	66274 (67.8)	21	90096 (81.5)	2	10000 (69.9)	9	31500 (69.4)
Total	95	97683(100.0)	71	110551(100.0)	17	14310(100.0)	34	45392 (100.0)

¹Includes out-of-state acreage by Georgia vendors.

Table 10
Full-Time Equivalent Vendor Employees and Acres Per Vendor,
Acres Per FTE Employee, by Size and Type of Vendor

	Size of Vendor (Acres)				
	Under 500	500-999	1000-1499	1500-1999	2000 & Over
(Site Preparation Vendors)					
FTE Employees Per Vendor	1.53	3.03	4.00	3.67	9.45
Acres Per Vendor	170.8	616.7	1100.0	1500.0	4900.0
Acres Per FTE Employee	111.9	203.7	275.0	409.1	518.5
Number of Vendors	37	6	1	2	5
(Planting Vendors - Machine)					
FTE Employees Per Vendor	.81	.80	--	--	4.8
Acres Per Vendor	208.7	680.0	--	--	5287.0
Acres Per FTE Employee	258.3	850.0	--	--	1109.8
Number of Vendors	10	5	--	--	6
(Planting Vendors - Hand)					
FTE Employees Per Vendor	1.27	--	6.58	--	15.17
Acres Per Vendor	193.7	--	1110.0	--	2250.0
Acres Per FTE Employee	152.5	--	168.6	--	148.4
Number of Vendors	4	--	2	--	2
(Site Preparation and Planting Vendors)					
FTE Employees Per Vendor	2.09	4.53	5.42	6.37	11.88
Acres ¹ Per Vendor	268.1	600.0	1121.0	1700.0	3800.0
Acres ¹ Per FTE Employee	128.2	132.5	207.0	266.7	319.8
Number of Vendors	10	3	2	2	10

¹The Larger of Site Prep. or Planting Acres where not the same.

Table 11

Additional Acres Of Forest Practices That Could Have Been
Performed In Georgia With Vendor Personnel And Equipment Existing In 1979
By Vendor Size

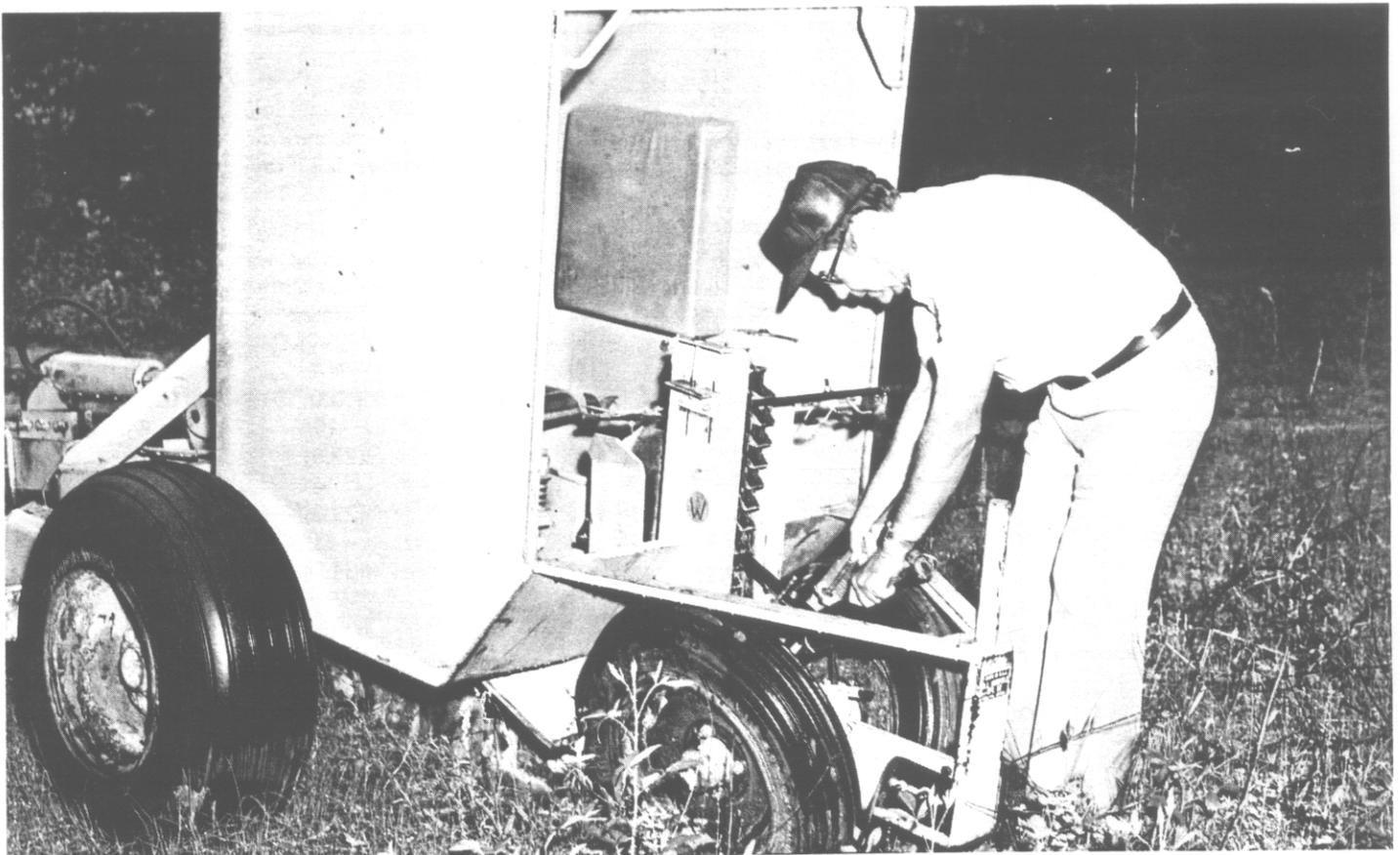
Vendor Size	Site Preparation		Planting		Timber Stand Improvement		Prescribed Burning	
	Acres	% Incr/1979 ¹	Acres	% Incr/1979 ¹	Acres	% Incr/1979 ¹	Acres	% Incr/1979 ¹
Under 500 Acres	28550	283.1	13275	167.1	5050	345.9	13950	423.8
500-999	9000	127.0	1700	26.8	---	---	5000	192.3
1000-1499	3000	47.3	450	10.3	1100	61.1	7500	227.3
1500-1999	5650	71.5	2700	150.0	---	---	---	---
2000 & Over	10850	16.4	22300	24.8	1250	12.5	16700	53.0
Total	57050	58.4%	40425	36.6%	7400	52.1%	43150	95.1%

¹See Table 9.

Table 12

Minimum Acreage For Vendor's Services Within Normal
Operating Area, By Practice

		Number Of Vendors					Total
		No Minimum	Less Than 10 Acres	10-19 Acres	20-49 Acres	50 Or More Acres	
Site Preparation	No.	20	12	29	20	19	100
	(Percent)	(20.0)	(12.0)	(29.0)	(20.0)	(19.0)	(100.0)
Planting	No.	11	13	28	10	19	81
	(Percent)	(13.6)	(16.0)	(34.6)	(12.3)	(23.5)	(100.0)
Timber Stand Improve.	No.	1	3	8	2	4	18
	(Percent)	(5.6)	(16.7)	(44.4)	(11.1)	(22.2)	(100.0)
Prescribed Burning	No.	4	4	9	4	11	32
	(Percent)	(12.5)	(12.5)	(28.1)	(12.5)	(34.4)	(100.0)



In the top photo, the blade on the tractor clears a path for the tree planter it is pulling. Below, a vendor makes an adjustment to his tree planter.

Table 13

Monthly Availability of Forest Practices From Responding Vendors
By Region and Practice

Month	---Coastal---		---Lower Piedmont---		---Upper Piedmont and Mountain---			
	Site Prep. Vendors	Plant Vendors	TSI Vendors	P. Burn Vendors	Site Prep. Vendors	Plant Vendors	TSI Vendors	P. Burn Vendors
Jan	52	37	2	21	14	15	4	3
Feb	49	37	2	21	14	15	4	3
Mar	50	26	3	16	13	15	4	3
Apr	46	4	7	9	12	3	4	3
May	48	2	8	7	14	---	4	3
Jun	48	2	11	5	18	---	4	3
Jul	49	2	10	5	18	---	4	3
Aug	50	2	10	5	18	---	4	3
Sep	52	2	6	6	18	---	4	4
Oct	53	5	2	6	18	---	4	4
Nov	53	23	2	11	18	4	4	3
Dec	53	37	2	18	17	15	4	3
Total Vendors	53	37	11	22	21	15	4	4

ed from direct contacts with landowners, as opposed to having the landowners referred to them by foresters and others (Table 14).

MAJOR PROBLEMS

Vendors were asked to identify what they consider to be their major problems in performing forest practices. Of 146 responses, 24 vendors indicated no major problems and 122 cited a total of 185 problems (Table 15).

VENDOR REASONS FOR NOT PROVIDING PRACTICES

Few vendors provided the full range of forest practices and many specialized in one of the two reforestation practices (Table 16).

Table 14

Vendor Methods of Obtaining Business

Direct Contacts With Landowners as Opposed to Referrals
From Foresters and Others By Region

Percent of Business from Direct Landowner Contacts	Percent of Vendors Responding			
	Coastal	Lower Piedmont	Upper Pied. & Mountain	State
100.0%	30.0%	25.7%	43.3%	31.7%
90-99	21.3	11.4	--	14.5
80-89	5.0	5.7	3.3	4.8
70-79	6.2	17.1	10.0	9.7
60-69	3.8	2.9	--	2.8
50-59	16.2	11.4	3.3	12.4
40-49	--	2.9	--	.7
30-39	1.2	--	3.3	1.4
20-29	6.2	2.9	10.0	6.2
10-19	5.0	11.4	3.3	6.2
1-9	1.2	2.9	--	1.4
0.0	3.8	5.7	23.3	8.3
Total Responses	100.0%	100.0%	100.0%	100.0%

Table 15

Vendor Problems

Problem	Times Cited	% Of All Problems Cited
Getting and Keeping Good Labor	41	22.1
High Fuel and Equipment Maintenance Costs	31	16.8
Weather	22	11.9
Poor Terrain and Site Conditions	15	8.1
Insufficient Demand	14	7.6
High Interest Rates and Capital Cost	12	6.5
Equipment Break Down	7	3.8
Small Tract Size	7	3.8
Cooperation and Compliance With Government	7	3.8
Collecting From Landowners	5	2.7
Scheduling Work	4	2.2
Insufficient Equipment Size	4	2.2
Profit Margin	4	2.2
Other	12	6.5
Total Cited	185	100.0
No Major Problems	24	--

Table 16

Vendor Reasons For Not Offering Selected Forest Practices

	Site Preparation		Planting		Timber Stand Improv.		Prescribed Burning	
	No. Responses	% Of Total	No. Responses	% Of Total	No. Responses	% Of Total	No. Responses	% Of Total
Insufficient Demand	4	22.2	12	27.9	26	34.7	14	20.0
Equipment Or Investment								
Cost Too High	13	72.2	5	11.6	5	6.7	3	4.3
Labor, Obtaining Or Problems	---	---	8	18.6	10	13.3	11	15.7
Too Much Other Work	---	---	4	9.3	4	5.3	6	8.6
Land Clearing Only	---	---	5	11.6	5	6.7	5	7.1
Lack Knowledge & Experience	---	---	3	7.0	13	17.3	8	11.4
Lack Time Or Too Time Consuming	1	5.6	---	---	4	5.3	8	11.4
Not Profitable	---	---	1	2.3	3	4.0	2	2.9
Liability Or Risk	---	---	---	---	---	---	9	12.9
Business Would Be Too Large	---	---	2	4.7	2	2.7	2	2.9
Seasonality of Work	---	---	1	2.3	1	1.3	1	1.4
Too Much Trouble	---	---	---	---	1	1.3	1	1.4
State Requirements	---	---	---	---	1	1.3	---	---
Contractors Do It Cheaper	---	---	2	4.7	---	---	---	---
Total Responses	18	100.0	43	100.0	75	100.0	70	100.0
No Equipment	16	---	25	---	26	---	24	---
Not Interested	3	---	11	---	22	---	29	---



A. Ray Shirley, Director
John W. Mixon, Chief of Forest Research

Cost \$2795
Quantity 5M