

AN EXPANDED CONCEPT OF THE ROLE OF FOREST
INDUSTRY IN PRIVATE NONINDUSTRIAL FORESTRY

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ABSTRACT

Forest industries in the southeastern United States offer assistance to private nonindustrial forest landowners in planning and accomplishing regeneration of cutover land and management of subsequent stands. In general, if the landowner sells a tract of timber to the company, the company will develop an intensive regeneration and management plan for the tract and carry it out at company cost to the landowner. The problem is that most private forest landowners will not invest the amount of money it costs the company to regenerate cutover land in this way. Highly intensive industrial forestry practices are justified on an economic basis quite different from anything the private owner can even consider. The way to make forest management attractive to the private nonindustrial sector is to cut the cost of it. The major costs of forest management to the landowner are those for regeneration. To reduce these costs, pre-harvest planning must be done when a source of seed is still available on the site. Because forest industries are buying most of the wood, they have a unique opportunity to provide pre-harvest planning for the forest owner. My suggestion to forest industry is to make present programs more attractive by tailoring them to landowners' investment and production goals. The key to reducing regeneration costs is to offer natural regeneration and direct seeding as alternatives to plantation establishment.

INTRODUCTION

Most productive forest land in the southeastern quarter of the United States is owned by private citizens and by private non-forestry oriented corporations and businesses. The median size of ownerships is so small that the owners can not sustain day-to-day operational forestry programs like those of forest industry. Despite this, more than half of all forest products must come from these small tracts of privately owned land. Forest industry in the southeast recognized and analyzed these facts about 10 years ago and many companies decided to launch Landowner Assistance Programs (LAP), Cooperative Forest Management (CFM), or similar programs. Services and requirements of such programs vary between companies but, in general, if the landowner sells a tract of timber to the company, the company will develop a regeneration and management plan for the tract and carry it out at company cost to the landowner. In most situations, the company forester's standard prescription is clearcutting, intensive site preparation, and planting. There are two reasons for this. First, this prescription usually provides for the most cost-effective harvesting and second, and more important, it may often be the only regeneration system that the company forester has a working knowledge of.

The problem is that most private forest landowners can not or will not invest the amount of money it costs the company to regenerate cutover land in this way. From the

economic standpoint of the private owner, there is hardly ever sufficient justification to warrant such high levels of investment in regeneration. Highly intensive industrial forestry practices are justified on an economic basis quite different from anything the private owner can even consider.

INDUSTRY VS. PRIVATE OWNER ECONOMICS

When a forest industry decides to locate a pulp mill, and often an associated solid wood products mill, a certain amount of land will usually be acquired within reasonable hauling distances of the mills. The rationale behind the decision of how much land to acquire explains why highly intensive forestry is economically justified for the company.

For example, consider that a mill will require 500,000 cords per year from its timberlands. The objective of the company is to produce this volume with minimum capital investment. To do this, the company will choose to manage each acre purchased for maximum annual yields expending relatively large amounts of money which are expensed or amortized on a relatively short-term basis (Table 1). In the example, a "do nothing" management strategy would require 1 million acres to produce 500,000 cords, and a capital investment of 750 million. Custodial management would require capital costs of 500 million with an increase in operating cost of only 0.8 million. Intensive management will triple

the yield and correspondingly cut the capital cost to 250 million, with an annual operating cost of 3.7 million. But most important, annual interest payments drop from 90 million with the "do nothing" strategy to 30 million with intensive management. Clearly, on this basis, the company can readily justify intensive forestry sufficient to obtain biologically maximum yields from each managed acre. From the example, 60 million a year is very good leverage.

Private forest landowners are in a very different economic situation. It is rare that owners purchase or hold land exclusively for income from wood as a raw material. Investments in forest management by the private nonindustrial owner are marginal investments similar to alternative investments in recreation facilities, cattle, horses, Christmas trees, common stock, or whatever. The question is typically, "What will an additional dollar invested yield at the end of this year?" Unfortunately, intensive forestry is not a very attractive investment opportunity for the private owner in today's markets, if the justification is based entirely on expected future timber value. Private nonindustrial owners usually have two or more goals to be attained by forestland ownerships. These goals vary among owners but not as much as one might think. I suggest that the five goals listed below represent a large proportion of those shared by private nonindustrial forest landowners. Priorities within the list vary according to owner inclination.

Suggested goals for private forest ownership are:

1. Inflation Hedge--Land prices tend to keep pace with or even exceed inflationary trends.
2. Annual or Periodic Income--Income accrues from hunting, fishing, camping, firewood, and timber, and equity accumulates for a "rainy day".
3. Pride of Ownership--Traditional values in our society stress the prestige and independence accorded landowners. Esthetic appeal is quite important in this regard.
4. Estate Value--A piece of land is a "heritage" to pass on to the children.
5. Retirement Planning--A piece of land is held to retire to and for supplemental retirement income from forestry and other resources.

If you accept this list for the sake of discussion, consider how different the economic analysis of these investments is for the private owner than for forest industry. For example, it is very difficult to even define a unit of economic value for each of the listed goals. If units could be defined, a unit increase would mean something different to each owner because of financial status and goal priority. It is also difficult to

evaluate the relative impacts of actions aimed at one goal that invariably affect other goals.

There is an enormous difference in complexity between an economic analysis for the industrial ownership versus that of the private ownership. Every land management decision for a private ownership is unique because of the owner's goals, personal financial status, and the condition of the land. Management planning by foresters who seek to render valuable consulting services to landowners must reflect these variables. Consultants must be able to offer a wide range of management strategies that vary in cost and in resource product mixtures.

THE SITUATION TODAY

Response by forest owners in the private nonindustrial sector to LAP, CFM and similar programs has been nominal. It is fair to speculate that without recent increases in federal assistance (Forestry Incentive Program), response would have been dismal. What does this tell us? It suggests that most private nonindustrial forest landowners would prefer to have thrifty natural stands and plantations on their lands because they see that forests contribute to their ownership goals. But the message is that while the majority of private landowners are willing to invest nominal amounts to regenerate and manage their forests, only a few consider as nominal the amounts that forest industries typically invest. Abundant natural productivity of forest land in the southeastern quarter of the Nation has justified the private landowner's choice for profit through small investments in forest management. After all, the forest industry in the Southeast was built on that productivity and runs largely on it today. But by no means is this an assurance that a similar strategy is appropriate for the future.

THE SITUATION FOR THE FUTURE

Every prophet of consumer trends predicts that demand for stumpage in the Southeast will soar during the next two decades. Few would argue against this. If we accept the prophecy, we must ask, "Where will the wood come from?" Industrial forest lands are already being managed for maximum production, so the opportunities for increases in that sector are small. We must look to the private nonindustrial sector.

Who has the greatest stake in assuring that the supply of wood keeps pace with demand for traditional and innovative uses? Forest industry-- its existence depends on it. With industries' well-established and highly effective procurement systems, it matters little on whose land the wood is produced. The way to control future price is by assuring supplies adequate for demand by growing more wood. By using private ownerships, forest industry has the opportunity to greatly increase supplies on land it does not need to own. The only requirement is that the management package offered by forest industry be attractive to the private owner, and that in the future, industry be competitive in

price and active in procurement.

HOW TO MAKE FOREST MANAGEMENT ATTRACTIVE

The way to make forest management attractive to the private nonindustrial sector is to cut the cost of it. Major costs of forest management to the landowner result from regeneration activities. To reduce these costs, planning and implementation of certain silvicultural practices must be done before final harvesting, when a source of seed is still available on the site. Because forest industries are buying most of the wood, they have a unique opportunity to provide these services for private forest landowners. The key to reducing regeneration costs is to prescribe natural regeneration whenever feasible. Where seed sources are inadequate for natural regeneration, direct seeding may be considered as the next least expensive alternative.

Chances for success of natural regeneration rests squarely on preharvest planning and treatment, and the quality of harvesting maintained by the logger. When the person responsible for the logging is also responsible for regeneration, many regeneration problems can be avoided, on industrial and private land ownerships. The industrial forester who assists the private landowner should be responsible for forest operations from preharvest planning through regeneration, and for subsequent stand management.

NEED FOR TRAINING

Most industrial foresters who work with private landowners will need extensive and concentrated training in natural regeneration methods relative to pre- and post-harvest stand conditions and treatment, seed source manipulation, seedbed preparation, etc. State and federal agencies could be of assistance by offering workshops, seminars, and formal courses in forest regeneration and management aimed at providing industrial foresters with new skills. Training will also be necessary for private forest landowners who typically and rightfully insist on knowing how their land will look one, five or ten years after treatment. Demonstration forests maintained by State and Federal agencies and by industry could be of great assistance in this training.

WHO PAYS? WHO BENEFITS?

Ultimately, some costs will be paid by everyone involved in the system: industry, state and federal agencies, and the landowner. There are no simple formulas for determining how much should be paid by the various interested parties, but one message is clear, the present-day private forest landowner is reasonably content with current production and profit levels.

If society at large wants higher production rates, government must say so with more dollars through assistance programs and more favorable tax incentives for forest landowners. The track record in this respect is not overwhelmingly positive, but it is improving.

Clearly, industry must ensure increasing wood supplies in the face of increasing demand, or be prepared to sustain a disproportionately large increase in the price of wood. My suggestion to industry is to make current programs more attractive by tailoring them to landowners' investment and production goals. The key to reducing regeneration costs is to offer natural regeneration and direct seeding as alternatives to plantation establishment. We have had the necessary technology for years. It seems to me that we now have increasingly strong incentives to apply it.

TABLE 1

EFFECTS OF INCREASING FOREST YIELDS THROUGH PROGRESSIVELY MORE INTENSIVE MANAGEMENT
TO REDUCE UP-FRONT CAPITAL INVESTMENT IN FAVOR OF INCREASED "EXPENSED" CASH FLOW AND
DECREASED INTEREST COSTS.

MANAGEMENT STRATEGY	ANNUAL YIELD	YIELD AT HARVEST ^{a/}	ACREAGE CUT/YEAR	CORDS REQUIRED PER YEAR	REQUIRED ACREAGE	UP-FRONT INVESTMENT CAPITAL	ANNUAL COST	ANNUAL INTEREST PAYMENT @12%
		-----Cords/Acre-----		-----Thousands-----		-----\$ Million-----		
"Do nothing" ^{b/}	.50	12.5	40	500	1 000	750	2.0	90
Custodial ^{c/}	.75	18.8	26.6	500	665	500	2.8	60
Intensive ^{d/}	1.50	37.5	13.3	500	332	250	3.7	30

^{a/} Based on 25-year rotation.

^{b/} Taxes and insurance: \$2/acre/yr.

^{c/} Regeneration: \$30/acre; maintenance, taxes, and insurance: \$3/acre/yr.

^{d/} Regeneration: \$150/acre; maintenance, taxes, and insurance: \$5/acre/yr.