WANTED:
High-Satisfaction Forestry

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ABSTRACT—Nationally, private nonindustrial woodland owners control over half of our forested environment, in the East, almost three quarters. For most of these folks the joys of land ownership are many, and they would like to see management promote all of their interests. To help them accomplish this purpose, the concept of high-yield can be broadened into high-satisfaction forestry.

From the beginning foresters have been trying to communicate their vision of proper management in a way that will stir private landowners to action. Once it became obvious that there was no new place to go after the next cutting, industry has responded rather well. So too have many, if not most, of the largest nonindustrial landowners—often they have formed more or less permanent contractual arrangements with local industry to manage their land, or to treat them as favored suppliers. But the owners of smaller tracts, with some notable exceptions, have generally turned a deaf ear to pleas for more intensive timber management. Why this should be has been discussed *ad nauseam,* but a new round of speculation has been sparked by Resources Planning Act forecasts of how future timber needs can be met.

The urgency of producing all the timber our forestland is capable of growing will only become apparent as the future unfolds. But no matter what the outcome, it is obvious that we cannot really be indifferent to what is done with the 59 percent of our commercial forestland in nonindustrial private holdings. A recent workshop on the policy alternatives for (heaven help us) NIPFs testifies not only to interest, but also to lack of satisfactory off-the-shelf answers to the many problems posed by these owners (Sedjo and Ostermeier 1978).

What is our present capacity to bring some unified, rational decisionmaking process to bear on the use of commercial forestland? The first minimum requirement seems to be that of having land exist in an operating unit under an executive head who has access to adequate organizational resources. Looked at this way, most of the county, state, and federal forest land-holding agencies have a hierarchy in place that is, or can be, used to plan and utilize natural resources, even though striking an acceptable balance among competing uses may be very difficult. Industry is, perhaps, best equipped with the organization, resources, and people needed to devise and carry out flexible land-use policies suited to emerging needs. And, as we have noted, many other large private holdings have a similar or shared capacity. If we add up the timber growth potential controlled by those agencies which are theoretically capable of providing consistent land-use guidance, we find they have 49 percent of our national capacity. Obviously, this can be a pretty solid base for plans to improve the management of forests.

The remaining 51 percent of growth potential is another story that cannot be ignored. About 4.5 million people have "small" holdings of less than 5,000 acres, and they use these tracts to realize a truly complex bundle of satisfactions. Most of these folks have the resources needed to actively manage their lands, or could mobilize the necessary help, but the vast majority either find it unnecessary or do not choose to use positive practices. Intuitively, foresters believe that technical knowledge is available to greatly increase both the private and public values from these lands. But why has so little happened?

Regional Problems

The significance of this question varies regionally because 90 percent of the private holdings are in the East, about evenly divided between North and South. Consequently, solving forest management problems in the West is largely up to the public and industrial owners, who have 75 percent of the land. In the East, the situation is reversed, and three-quarters of the land is held by folks without connection to industry or government. (Unless otherwise cited, these and other figures on landownership and production come from USDA Forest Service reports issued in 1958 and 1973, and cited at the end of this article.)

In the East there is a further dichotomy between North and South. The data on growth and removals from farm and miscellaneous holdings suggest that southern owners are getting about the same high growth and removal percentages from their growing stock as industry (*fig. 1*). Of course, management can always be improved, but a good start seems to have been made. An interest in timber production is not surprising in this region with its large rural population to employ, a favorable social climate, good forest soils and weather, a growing stock almost evenly divided between hard- and softwood, a well-developed industrial complex which has produced an active wood market for most species and relatively high stumpage prices. All the problems of competing uses haven't yet been solved, but the prevalence of management activities and skills provides a favorable milieu for seeking out new solutions.

The situation is quite different in the North, where forestlands are intermingled with the nation's main urban centers. As *figure 1* shows, growth is reasonably high but cut is under 2 percent of growing stock even from industrial lands. Several factors help account for this difference. More than 80 percent of the forest is hardwood, industries are often small and scattered irregularly over the region so that stumpage markets are variable, social mores are not always friendly to timber production, and the competition for land for environmental uses, living space, and amenity purposes is vigorous.

In the West, it appears that forest industry removals are considerably greater than growth, and public-land removals are trending in that direction. Farm and miscellaneous holdings have the highest rate of growth, and the cut is less than the increment.

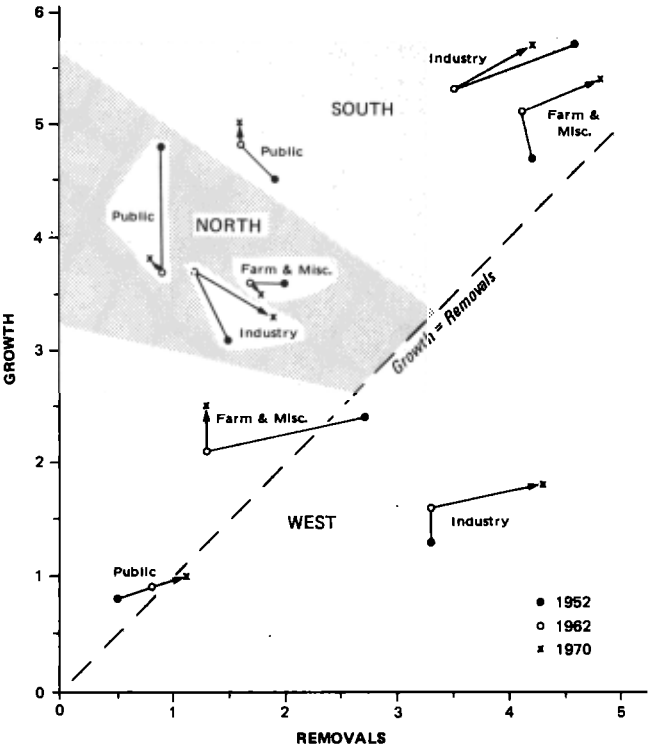

Figure 1. When annual growth and removals are calculated as a percent of growing stock, farm and miscellaneous owners in the North and South get about the same results from their timber inventory as forest industries. (Derived from USDA Forest Service, 1973, tables 6, 7, 20, and 21.)

Landowners Hold the Key

A look at southern New England can be enlightening because we have recent statistics about private holdings and their owners. Although other regions differ now, it is likely that most of the factors influencing forest demands in this long-settled part of the North are already present elsewhere and will gradually become more important. Kingsley (1976) has shown that in southern New England only 4 percent of the owners with 8 percent of the land are interested primarily in timber production. He describes the average owner as living on or near his forest, being well educated, well off, over fifty years old, and interested mainly in living space, esthetics, recreation, and land values. His holding is likely to be less than 10 acres, almost certainly less than 100. He has owned the land for more than 10 years and has never cut, because that would spoil the looks.

Kingsley found that about 9 out of 10 owners believed the chief benefits they had realized in the past five years were from esthetics, land value increase, and recreation. And they expected these satisfactions to dominate in the next five years. Among those who had harvested during the past five years, only 2 percent listed timber income as a primary benefit, and of all owners only 4 percent expected such benefit during the next five years.

The great majority of owners placed increased land value and recreation as primary satisfactions now and in the future, so that such psychic and investment values clearly dominate the forest priorities of private owners in southern New England. This does not mean they are indifferent to current returns, but they often balance future resale or estate value increments against near-term stumpage returns. Only about 2 percent of the owners with 3 percent of the land are opposed to harvesting, but only about the same number hold land primarily for timber crops. All told, the evidence seems clear that when timber is harvested it is very likely to be either a spin-off from other objectives such as land clearing, precipitated by misfortunes or opportunities that call for ready cash, or salvage following some natural disaster.

Holding Size Makes a Difference

But do these motives and satisfactions apply equally to all owners regardless of how much land they own? Apparently not, because Kingsley also found that the average size of holding for people who cut is 60 acres while for the others it is only 19. Those who have cut because they judged their forest or the timber market was ready averaged 79 acres while those who needed money and turned to their woodlots for it averaged 75 acres. Only the land clearers averaged a small holding of about 22 acres, about the same as those who didn't cut. Those who held off for esthetic reasons averaged 14 acres, which is reasonable when we remember that most owners live on or near the land and thus see it frequently.

Because owner actions and aspirations are significantly related to size of holding, it is unfortunate that the data on these factors are sketchy. The most re-

cently published national figures are for 1953, are not very detailed, and throw no light on owner objectives (USDA Forest Service 1958). Although a good number of special ownership studies have been made, they were usually concerned with small areas or are now quite old. Only recently have we had well-designed efforts to identify small holdings, owners, management activities, and values on a state and regional basis (Kingsley 1976).

Well documented or not, it is now part of common wisdom among foresters that over the last 25 years farm holdings have passed into the hands of "other" owners and industry at a great rate. In addition, a great many small tracts of less than 10 acres have been created by dividing larger holdings. A comparison of data from Barraclough (1949) and Kingsley (1976) shows that the area in holdings of one to nine acres is up five times while their owners have increased nine times. In the same 27-year period the 10- to 49-acre class increased moderately while the larger holdings decreased. Most of this fractionation is recent and has been attributed in large part to the purchase of second-home sites by city people looking for a change of pace and anxious to buy some open land before it is all gone. Unfortunately, we need much better data than are now available to know the details of such ownership trends and how they compare regionally.

In any case it is likely that timber production from holdings of less than 10 acres will always be minimal except as some are cleared for development. If so, 58 percent of the owners but only 8 percent of the land in southern New England is largely eliminated from commercial timber production though not necessarily from the need for positive management. At the other extreme, 5 percent of the owners control 43 percent of the land in tracts of 100 acres or more. As we have seen, such owners have been more likely to harvest in the past, but seldom consider timber a primary value. In between lie the tracts of 10 to 99 acres, comprising almost half the private land, and held by 37 percent of the owners. Thus tracts of 10 acres and up include 42 percent of the owners but 92 percent of the private nonindustrial land and are the most likely targets for positive management designed to increase the satisfaction their owners realize (Kingsley 1976).

High Satisfaction Is the Goal

The majority of these Yankee owners spend practically nothing on timber management, and foresters often take this inaction as evidence of irrational behavior. Economic folklore says, however, that a thoughtful person faced with a series of satisfactory investment opportunities will use scarce resources first on the highest payer, then take the second greatest return, and so on until resources or options run out. In all regions the investment opportunities for most people include the chance to acquire, secure, improve, and finally to cultivate forestland. Among these options the simple act of acquiring no doubt brings the highest return, because it preempts to the owner and his heirs and assigns all the values of whatever kind the property may produce.

The second order of returns surely must come from the security steps needed to insure that these values actually accrue to the owner. After that come the various kinds of improvements such as roads, trails, and bridges that must be added if the forest is to serve the various uses the owner has in mind. Finally, with the lowest order of returns, come the various practices which cultivate the forest to increase its natural powers to produce esthetics, recreation, wildlife habitat, timber, and the host of other things people set store by.

If this intuitive ranking of rates of return is correct, then most owners of small tracts are acting rationally when they simply buy land and pay the taxes necessary to keep it. Often their low level of management is sufficient to realize many amenities and safeguard land value gains; it may also be appropriate for timber production on those cut-over lands where the most pressing need is time for small trees to grow up.

People with more resources may improve access to broaden and facilitate use and fire protection. Too, many in the Northeast put up buildings.

If, after all this is done, there are still unemployed resources it is time enough to think about cultivation and the timber harvests that may go with it. The fact that most owners have not taken this last step may simply reflect a rational allocation of scarce resources among competing uses. Of course, we cannot ignore the probability that in many instances the choice is based on very imperfect knowledge of what the options really are.

What Services Are Needed

If the forester is to improve this situation he must inform owners and help them take those positive steps they believe will increase the satisfaction they realize from their chosen mix of psychic income and economic returns. For instance, even before a tract is acquired foresters could probably give prospective buyers a better idea about land-use potential than can the average realtor. Foresters are sometimes consulted when a large purchase is contemplated, but they are seldom asked about the much more complex technical problems of integrated usage on smaller properties. The situation might be rectified if the high cost of giving individual attention to small transactions was reduced, or was melded in to the land sale price like a broker's commission.

In the second or security phase of management, foresters can definitely help increase owner satisfaction. Boundary location and marking are often skipped or inadequately done by new owners, with the result that trespass of all kinds can later produce considerable unhappiness. Posting is also one of the first things many folks do in an attempt to protect their property and, depending on local mores, it may or may not be effective. Knowledgeable advice on these points can help bring owner expectations into line with performance.

When it comes to making woodland improvements foresters can give invaluable aid in laying out roads for fire protection. But because access improvements serve many purposes, the design of a road and trail system is often the single most important step toward realizing a wide array of the satisfactions inherent in a forest property. Fitting such a multipurpose network comfortably into the landscape to take full advantage of all the area's attractions at lowest cost, in a way that will require minimum maintenance and still protect soil

and water qualities, is a challenging task for any forest professional.

Having acquired, secured, and improved a forest the owner may find cultivation is the next logical management step. Foresters have an array of silvicultural practices designed to improve growth. Logging, however, can all too easily leave the forest in such a state that it has no esthetic appeal and greatly impaired resale value. A lot of work is needed to devise extraction methods that lay lightly on the land and do not distort or limit the choice of silvicultural practices. Logging should also be compatible with steps to preserve or enhance various kinds of outdoor recreation, wildlife habitats, water quality, and esthetic appeal. Designing an integrated system of these practices which over time will achieve a high level of satisfaction from all uses combined is one of the most demanding art forms in forestry.

It would be comforting to believe that all foresters routinely produce such well integrated land-use plans. But I am afraid that on the job the effective demand has generally been for single-minded management. However, the situation is changing rapidly as environmental interest heightens, and foresters are listening to a widening array of voices. The demand is clear for someone to do a sensitive job of handling all our renewable resources. Foresters with grit and imagination can create the woodland innovations needed. ■

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A National Forest Policy for Canada?

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ABSTRACT—One of the most important of the provincial powers within the Canadian Federation is the responsibility for management of forest resources. Because of the various jurisdictional and regional rivalries, an operational forest policy at the national level has often been said to be an impossible dream. However, there is a growing consensus at all levels that the need for un concertation national, *or joint federal-provincial accord, is so pressing that improved means of achieving it will simply have to be found. The Canadian Council of Resource and Environment Ministers is currently sponsoring an effort to establish appropriate principles, some workable targets and production strategies, and the mechanisms necessary to sustain continuing forest policy discussions at the national level.*

With over 206 million hectares of productive forestland, and over 18 billion cubic meters of growing stock, Canada has more forest per capita, by each measure, than any nation in the world. Four-fifths of this renewable resource is in softwoods, and Canada is the world's largest exporter of softwood products. The forestry sector is always in the top three (most often first) in value of manufactures and exports in the Canadian economy. It is also one of the most extensive and pervasive of sectors, having been significant in every province continuously since before Confederation.

Industrial wood production expanded at an average of 3 percent per annum from 1963 to 1976, in spite of all the economic crises and doldrums of that period. If that growth rate were to continue to 1990, Canadian forests would have to generate an additional 60 million cubic meters of annual harvest by that time, over the current output of about 140 million cubic meters. Certainly these levels of volume and value were undreamed of in the early decades of this century, when most of the forestland was put in public trust, under provincial jurisdiction. The policy issues involved in sustaining these levels of harvest confront local, provincial, and federal governments, and a maze of their agencies. There is a growing concern that the national interest in a sound forestry sector for the long run is currently lost in the maze.

Vive le Difference

To even say "national forest policy" in Canada is to state our second most important dilemma of nationhood. Clearly our "French Fact" in Quebec poses a primary cultural question for both sides to address and resolve, but that question is joined to a second critical set of economic issues which tend to be regional in nature. Linked originally by thin bands of railway steel and a loosely worded, nonresident constitution, we were and are a true federation, not a union. The continuing discussion of the sharing of national and provincial powers is an essential part of the Canadian landscape.

One power which was clearly designated to the provinces in the British North America Act of 1867 is the responsibility for forest resource management. Yet if present trends continue into the 1980s, the federal