

**Proceedings of the
SYMPOSIUM ON
INTENSIVE CULTURE OF
NORTHERN FOREST TYPES**



**USDA FOREST SERVICE GENERAL TECHNICAL REPORT NE-29
1977**

**FOREST SERVICE, U.S. DEPARTMENT OF AGRICULTURE
NORTHEASTERN FOREST EXPERIMENT STATION
6816 MARKET STREET, UPPER DARBY, PA. 19082**

FOREWORD

THE NORTHERN FOREST TYPES constitute a vast natural resource for the United States and Canada. For instance, in the eastern United States there are more than 10 million acres of commercial forest land supporting spruce and fir types alone. The magnitude and variety of this resource is such that treating it in any detail at a 3-day meeting was impossible. Rather, the idea that germinated and developed into this symposium was to present a broad picture of the extent of our knowledge of intensive cultural techniques, the status and trends of our research in the northern forest types, and some actual experiences in managing this resource; and to explore those factors that affect our use of the intensive cultural techniques we have at hand.

There is no doubt that we face a new era in the management of northern forests. The production of wood products is no longer the primary objective of many owners, and increased pressure for the social values of our forests is being felt by all landowners. We must recognize these other forest values, which in turn dictates intensification of all aspects of forest management if we are to meet the future demands of a wood-hungry society.

The enthusiastic efforts of the symposium sponsors—the School of Forest Resources, University of Maine; the Maine Bureau of Forestry; the Maine Forest Products Council; and the U.S.D.A. Forest Service—and the individuals behind those efforts, should be commended. Special thanks are due to Great Northern Nekoosa, Inc., and Brooks B. Mills for their help in providing interesting field trips, and to the Casco Bank and Trust Co. for sponsoring the symposium brochure. Also, without the enthusiastic participation of the experts invited to present papers, and the moderators of each session, the Symposium could not have taken place.

—**BARTON M. BLUM**
Symposium Chairman

PUBLISHER'S NOTE

This report is published by the Northeastern Forest Experiment Station as a public service. The papers it contains are published as received from the authors. Any questions or comments about these papers should be directed to the authors.

Proceedings of the SYMPOSIUM ON INTENSIVE CULTURE OF NORTHERN FOREST TYPES

*held 20-22 July 1976 at Nutting Hall, University of Maine, at
Orono.*

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LET'S CALL THE WHOLE THING OFF!

by Gordon Baskerville, Department of Forest Resources, Faculty of Forestry, University of New Brunswick.

The organizers of this symposium assigned me the task of the devil's advocate. My job is to convince you that we either do not need to increase wood yield or cannot do it. Clearly they did not have much faith in my oratorical abilities because they have scheduled no less than 32 speakers to follow me, each dealing with a specific aspect of how to get on with intensive management. It is unlikely indeed that I would succeed in having the symposium cancelled as unnecessary and my title is admittedly facetious. However, I do have a deadly serious point to make. Simply stated my point is that as a profession we have been largely ineffectual (perhaps even to a degree, irresponsible) in the promotion of intensive forest management in the northern forest and that this will continue until we modify our approach. It would be most appropriate to begin here in the next two days.

To develop my point let us start with this symposium. The papers this morning are intended to rationalize the need for intensive forest management - literally to justify the real discussion which is to follow. The papers of the symposium proper are essentially of the familiar technical "how to" form. Clearly we are here to talk about getting on with the job because to us it is abundantly clear that there is a job to be done. Since we already seem to have decided we will do the job it might perhaps be useful to establish what "the job" is. I have sufficient experience in the northern forest to permit me to believe we could indeed carry out the various silvicultural manipulations we will discuss here. That is, technologically they are all feasible operations. What is not at all clear in my mind, and judging from the press and our technical journals apparently in a substantial number of other people's minds, is why we would do them.

Sounds heretical - not really. Do we as a group have a clear idea of the goal of intensive forest management? Of course we do - its the management of the forest, through the application of silviculture, to achieve the greatest good for the greatest number. But is that clear? Would we know when we reached that point? Is it in fact a goal at all? There are many benefits that flow from the forest - pulp and paper, lumber, aesthetics, wildlife, social, water, environmental quality and recreation just to name a few categories. If we conceive of the flow of benefits as a pipe and each of these categories as a faucet on the pipe

then it is clear that opening any faucet reduces the flow to others. Thus the goal as just stated implies optimization of all benefits. That is, a consideration of the setting of all faucets. But do we really mean this? In this symposium only two papers deal with "other amenities" while 95% of our discussion will be concerned with the production of wood.

Obviously we cannot expect to be credible on the motherhood goal of intensive forest management. In fact, if we are honest, we have no desire to attempt to inflict our relative values of the various categories of benefits on society at large. We would prefer that society somehow make these tradeoffs and then we will manage the forest so as to produce the desired mix of benefits. How about limiting the goal of intensive forest management to obtaining the greatest possible flow of wood from the forest consistent with maintaining the flow and other amenities? Sounds better and it is directly related to our professional talents, but is it necessary? Is it realistic?

As I drove to Orono I passed through miles of forest on both sides of the border that certainly are not under intensive management by anyone's definition. A frighteningly large proportion of the recent cutover does not even appear to support a reasonable mix of useable species by current standards. There are two possible explanations for this observation. First it may be that we do not need more wood because we are not cutting the full allowable cut there is no need to manage intensively. Secondly it could be that we really do need more wood but the foresters responsible for management are incompetent. Since I am unwilling to accept the second alternative as true, I conclude that there is really no need to maximize wood yield. Intensive management means expenditure of money and manpower and we would not really expect a landowner to spend money on intensive management to produce more wood than he doesn't obviously need. In fact a manager who would spend money in such a way would not be considered responsible in our society.

Historically this line of reasoning appears to have left our profession trying to sell intensive management in a rather poor market. Also historically we have talked about 'good' or 'better' forest management, meaning intensive forest management, and have regularly implied that all silviculture is 'good'. We have used the word management so loosely as to all but destroy its meaning. The phrase intensive management implies something beyond ordinary management yet we have not been explicit as to what constitutes management and what level of increased input constitutes intensive management. Further, our arguments for the implementation of intensive forest management are heavily laden with value judgements about the inherent virtues of 'good' management of the forest. One need not look far in northeastern North

America to see that these arguments have not been convincing to the landowners. You have to search dilligently to find that part of the forest that is intensively managed.

A major problem has been that rather than manage, the traditional approach in forestry has been to adjust utilization standards. When the 18 inch white pine suitable for sawlogs were gone it was more expedient to harvest smaller pine and 12 inch spruce than grow large pine by intensive management. When the large spruce are gone we utilize smaller spruce and balsam fir. With pulpwood we have seen a similar change in acceptable species and sizes. Such changes result in an instantaneous increase in useable wood and are often regarded as 'good' or 'better' management whereas the culture of a forest requires time and money which are regarded as long term investments. Perhaps the ultimate in this progression will be reached when all the tree species have been high graded out and we meet our industrial needs with something akin to Harold Young's duckerbrush paradise. We can do this without intensive management, indeed, since changing utilization standards is an immediate solution it obviates the awkward necessity of a time delay associated with management. Such an approach bears little or no relationship to the notion of planned forest management.

As a group, foresters tend not to look analytically at why there is so little 'good' management (i.e. intensive) but rather seek to promote the concept by incentive programs or policy changes. By implication we are saying that since people do not see the inherent good in silviculture and intensive management, we will pay them to do these 'good' things for themselves or make them a matter of policy. I have become cynical about such approaches. Incentives and policies as sole tools for promoting intensive management at best engender lip service and at worst result in callous tokenism. If we can only achieve intensive management by paying people from public funds or by decreeing it, and I do not underestimate the value of these, we can hardly expect a very comprehensive or vigorously pursued program. Surely if we have a valid point with respect to intensive management we can make it without buying or decreeing belief.

Experts in the field of social psychology have told me that foresters are outstanding in their free use of value judgements. This is perhaps most obvious with respect to intensive management and its associated silviculture. These are always considered as 'good'. Yet there are many with an interest in the forest who do not see or do not want our particular kind of 'good'. As a result we regularly find ourselves bogged down in endless unresolvable arguments over perceived values with all the moralistic implications this involves.

Can we, in the next two days, continuously bear in mind that

intensive management and silviculture are amoral. They are simply concepts and acts that possess no inherent virtue. We do not do these things (nor advocate them) because they are 'good' or 'better', we do them because they are essential to achieve certain desirable ends. If intensive management and silviculture help us to reach our goals then they acquire goodness and of course the opposite is true. That is, intensive management and silviculture are good (or bad) only when considered in relation to our goals.

I believe there is ample evidence that our usual broad motherhood goals are inadequate to our needs. If we persist in using meaningless phrases open to many interpretations, the profession will lose its already dwindling credibility with respect to forest management. Whether we actually have control of forest management or not, we are considered to be 'the managers' of the forest and if the results of 'management' (whatever intensity) are found to be seriously lacking we - and perhaps, but not necessarily, our masters - will be publicly held to blame.

We must have explicit goals for management and we need a willingness to stand up and take a public position when our masters (political or private) accept goals but don't come through with the dollars and manpower to do the job. We have all seen acknowledgements by public and private agencies that they subscribe to good forest management. We have also all seen how most of these agencies are unwilling to dedicate the resources necessary for more than token effort towards such laudable, but imprecise, goals. Can measurable goals be set? For a given forest an explicit goal can easily be set for yield - say 300,000 cunits per annum - rather than use the vague indeterminate notion of maximum yield. Given such a goal one can readily determine if it will be met without any management and, if not, the management steps essential to meeting the goal can also readily be determined with current technology. Most importantly, such a goal is attainable and we will know exactly when it is reached. If the dollar support for the necessary programs is not there this will also be evident and the short fall will be a finite amount rather than just 'not enough'. Note that with such an explicit goal you do not necessarily invoke all the tricks in the bag called intensive management, another general implication of which we are frequently guilty. You only need to gear up and spend dollars on the techniques essential to reaching your goal. As progress is made the goal can be raised and more sophisticated methods introduced.

As an example of goal setting let me suggest that growing more volume may not be what it is all about. In much of the forest we are discussing, we still face the problem of oversupply and the philosophy that we don't need technical management because when we run out of trees we can use puckerbrush. But

there is one major problem that can only be solved by application of some intensive methods. It may not be widespread in the Northeast, but in Atlantic Canada we have what is most simply termed a quality problem. For example in New Brunswick our harvest of hardwoods is less than one-half the allowable cut and our harvest of softwoods is just reaching the calculated allowable cut - based on volume. Perhaps more particularly in the hardwoods but also in the softwoods, we are discovering that an under-cut in terms of volume can easily be an over-cut in terms of quality. That is, we still have plenty of volume but it is made up of trees of poorer quality than we have harvested in the past. While this is not well documented we often hear industrial managers decry the faltering quality of the forest yield.

The reasons for this situation are somewhat complicated, but simply stated they relate to our past solution of management problems by lowering utilization standards and the fact that if you want a big tree of high quality you must let it grow for the time it takes to get to the desired size. We are discovering that regulation by volume does not always allow for sufficient time to reach what we consider a desirable size! There is an alternative to just waiting - we can use techniques of intensive management to get the quality we desire sooner and to concentrate the quality material spatially. In the case of New Brunswick while we cut only 47% of the allowable hardwood cut, there is an urgent (perhaps the word is desperate) need for intensive methods in part of the hardwood forest to maintain a flow of suitable quality wood. I suggest that intensive management may have greater justification today for producing quality than for producing quantity. The goals for quality can be stated explicitly in terms of amounts, sizes and quality parameters and it is therefore possible to determine readily what must be done to reach those goals.

If we want to see intensive management practiced (i.e. to have our talents used) then we should not ask that it be done simply because it is good to do so. We must extract goals from the owners and then show what must be done to meet these goals. This can be presented in the form: if you want this goal, then you must carry out this intensive management, or conversely, if you don't manage in this manner then you will not meet your goal.

The goals can be many and varied. They include quality and quantity of wood, location, and even attaining amenity values. But we must insist that the goals be made explicit so that our proposed management schemes can be properly designed and assessed.

To go back to the beginning - if we continue to try to sell intensive management as a 'good' solution to all ills (real and

imagined) I do not believe we will ever be successful. In fact the chances of being convincing in this way grow slimmer every year. On the other hand if we extract reasonable quantifiable goals from the forest owners (private and public) then we can demonstrate that a given mix of intensive management methods is essential to reach those goals - and we might find ourselves actually managing the forest. There is no doubt in my mind that we need a more intensive approach to forest management. It disturbs me that we are not getting it and that a major part of the problem is our predilection to discuss the means as if they were the ends.

As a devil's advocate this is perhaps a positive note on which to end but while I do feel strongly that silviculturists have not served their purposes well I am quite human and don't practice what I preach. I must say I would rather have talked to you about my work in spacing and early thinning in softwoods because like all of you, I want to get on with the job.