INTERMEDIATE CULTURAL PRACTICES

by W. Robert Dinneen, (Retired) Former Director,
Forest Management Division, Maine Forest Service,
Bureau of Conservation, Augusta, Maine.

What are these interesting sounding things? Are they theory, are they pie in the sky, fantasies of desk foresters - or are they the real McCoy - something the landowner needs if he is going to make his woodlands pay a return on his investment. To list briefly, shall we say they are pre-commercial treatments, marginal commercial treatments, commercial thinnings, pruning for improved quality and perhaps a few more that we all generally recognize.

Frankly, I have been fascinated by them since my grammar school years when I transplanted wild strawberries from a field and set them out in a weeded garden and saw them triple or more in size with this simple procedure; when I cut back scrub oak over-topping white pine reproduction and saw these trees easily surge upward above the poor quality hardwoods and the non-released pines die; when I planted a gravel bank on a north slope that had been barren of vegetation for years with hemlock I dug out of the woods and saw it become a vigorous young stand with a humus layer in a few short years.

And when I went to forestry school and found in the silviculture books the discussions of these principles, I felt as happy as Columbus when he didn't fall off the edge when he sailed westward.

That forestry school was many years ago and the time devoted to intermediate cultural practices was brief, and the field exercises or examples for us neophyte foresters to see, were practically non-existent, and I have a feeling they are in today's schools also. Researchers were a rare breed (and maybe still are) and they had not proliferated to the degree they have now where everything under the sun is being probed and researched and a good job done on it - but the universal complaint now as then - and justifiably so, <u>how do we get this research read and put into practice by the forester - it just is not being done</u>.

Let me digress just a moment. Foresters are, and try to be, all things to all people. Let me see if I can cover all angles briefly. There is need for bulk fiber and a need for quality wood. I believe they are not only compatible, but that foresters and industry must believe this and practice it. There is the pucker-brush forestry of Harold Young which will have a place in providing the bulk fiber the world needs. I have no problem believing the foresters, the engineers and the chemists will solve all the intermediate problems it now may have. As an example, when I first came to work in Maine, S. D. Warren Company took no oak for their paper making. Then they took 10% oak well scattered throughout the load; then 30% well mixed throughout the load, in other words, not entire tiers, and then suddenly you could bring in all the oak you wanted, truckloads and woodlots full of oak. At another period, S. D. Warren took green white pine, but the Brown Company wanted their pine seasoned a year before delivery. As I raced between their paper making plants trying to figure this one out, I began to realize the limitless potential of our forests and our chemists.

But there was also the human element that contributed to the problem - and some of you here may be old enough to remember when pulpwood contracts specifically read "the entire tree and the entire woodlot will be cut into pulpwood. Any trees, or portions of trees, diverted to other products or markets will be cause for cancellation." And "integrated logging" was a dirty word that Bob Dinneen thought up while sitting at his forestry desk.

Some of you may read the Forbes magazine, a financial publication - and all of you know the International Paper Company, the largest paper company in the world. While I have heard they had things going on the past year or so, changes, etc., that are interesting, the June 16, 1976 (1) issue discusses these and other things in more detail. Their new president, Stanford Smith says, "We're in the land resource business" and continues on citing what he says is an industry truism "You get your highest value from using trees as poles, the next highest from lumber, then plywood. Paper is last. Only the residuals are ground into pulp for paper."

Stanford Smith is about my age - not a forester - and became president of I. P. in January 1974 and he is saying <u>now</u> all these nice well known things that I, and

many other foresters, were saying years ago, and he's President... and I. P. never even offered me a job scaling pulpwood - Ah, Kismet, thine name is fate.

My point to the above digression is that if we as foresters, we as land managers, continue to ignore the needs of our woodlands for intermediate cultural practices, then we are basically in the bulk fiber production business - the residuals - if you wish, that I. P. President Smith says is last in the line of profit making. And hence the last in the line of profitableness for the small woodland owner who is the provider of a vast amount of our stumpage and is one of our largest landowners. He has to be kept financially viable or else you are going to deal with an ever increasing number of total preservationists.

And the only way he will remain not only financially viable, but interested in continuing in the forest landowning business, is by making it possible for him to grow high quality timber, and intermediate cultural practices are the key to doing this successfully.

And Bob Dinneen, past and present non-entity, and Stanford Smith, now President of the International Paper Company, the largest paper maker in the world, both say this applies to all landowners, big and small.

You have all seen hundreds and thousands of acres cut and left to grow and we may acknowledge they have bulk fiber - but how many have quality wood growing? A few years ago the Forest Management Division of the Maine Forest Service visited the Bartlett Experimental Forest in New Hampshire and saw an excellent hardwood site covered with pin cherry and white birch 35 feet tall and 2-3 inches in d.b.h. The pin cherry was the dominant species and the white birch was hanging on. We discussed why this had not been weeded, a pre-commercial treatment, and were told that pin cherry being a pioneer species would die out soon and the white birch would take over. I may agree with this, but what of the 15-20 years and money lost by prolonging the time of harvest because the white birch has been held back all this time? On a more personal note, I bought a piece of land in 1948 that had an area that had been blown down by the 1938 hurricane. My reconnaissance showed that the area had an excellent stocking of vigorous white pine along with miscellaneous hardwoods including poplar, pin cherry, grey birch and white birch. I felt that the area was not pressing as

as far as working on it immediately compared to other areas. Unfortunately, a constant need for money continued this line of reasoning, as I only very occasionally looked the area over again..... And one day I looked it over and found that less than 5% had white pine and the rest miscellaneous hardwoods, most of low value. It is obvious now that I had my priorities wrong, as at the time very little work would have been necessary to bring the white pine through.

If a person such as myself who is a firm believer in the need for intermediate cultural practices lets himself be diverted so easily, what about all the foresters and forest land managers - and their bosses - who may not really be sold on these practices, and have many pressing problems needing - they believe - immediate attention. You are right - intermediate cultural practices take a far back seat.

On a more optimistic note, I had a 10 acre old field stand of white pine approximately 25-30 years of age in need of thinning and pruning. This I thought had real priority and in 1955 it was thinned for pulpwood and a stumpage return of $1.50 per cord was received. I then personally pruned 100+ trees per acre to 17 feet. (No wonder I never got to the weeding job mentioned above.) In 1975 a power line had to go through it so we made a study of the results from the pruning, sawing pruned trees and adjacent unpruned trees at a local sawmill. (2) These trees were marked, measured, etc., before the power line clearing commenced. The results were as follows:

Lumber Grade Recovery From Pruned Logs		Lumber Grade Recovery From Unpruned Logs	
Selects	17.3%	Selects	1.5%
#1 and 2C	41.4%	#1 and 2C	7.8%
#3 C	31.7%	#3 C	49.9%
#4 C	9.6%	#4 C	40.5%
#5 C	0.0%	#5 C	0.3%
	100.0%		100.0%

Or to put it in other words, 58.7% of the lumber produced from pruned logs was Grade 2 C or better, while only 9.3% of the lumber from unpruned logs was in Grade 2 C or better.

My money pruning investment at the time was 20¢ a tree, or $3.83 per MBF for the pruned log sample. According to the figures, the actual value achieved was equivalent to an interest rate of 17.68%. Carrying it further, the study showed it would have been possible at the time to invest 77¢ per tree and still show an earning rate of 10%, or invest $1.61 per tree and show an earning rate of 6%.

Following me will be Harold Hocker of the University of New Hampshire and Bob Frank of the U.S. Forest Service at Orono to talk on the Research Potential that Silviculture holds, and Ted Tryon of Sewall Company and Oscar Selin of the Georgia-Pacific Corporation to discuss their field experiences. I am sure they will have other examples to offer you from their work in the field.

In 1968 I wrote a Paper on Research Needs for the Cooperative Management Program of the U.S. Forest Service giving my views on this subject. As a farewell gasp - gesture - as I left the lucrative field of forestry last February, I xeroxed it again and sent copies to the U.S. Forest Service with a mild note saying I hoped someone would try reading it.

I was most happy to have an excellent reply (my only one) from Bill Leak, Silviculturist for the USFS at Durham, N. H. who said some things I think are timely and important. (He also says that some of the things I said in 1968 were not complimentary.)

One of his points is that putting together guidelines that are practical and specific enough to be used by practicing foresters is difficult. And I agree with him.

Another major problem is economics. He says many researchers are not heavily oriented in this direction - and I agree - but add that, unfortunately, neither are most field foresters. (Can a cord of wood or a thousand board feet of logs be cut and transported at a profit? That's first grade arithmetic... Can you do a pre-commercial thinning, carry it out at 1.op^{n} for yourself or your company and make a profit? Man, that's forest economics.) Are we knowledgeable in this so all of us, from the bottom to the top of the forestry ladder can use it easily, correctly and saleswise for our companies so they will invest in a forest management program? So they invest in title searches,

boundary line work, roads, equipment..... but forest management work? That is a good question.

Another major problem is products. Fortunately, here in New England, and particularly in Maine, we are blessed with many diversified markets and products that possibly even Stanford Smith, IP's president, may not know about from the listing he made. But what I recommend in Maine, may not be valid in Vermont. - However, that is true only at the moment I said it. Given any number of changes - market demands, better roads, better trucks, knowledge of markets and a good salesman-forester - and my statement will not be valid tomorrow. But are we as foresters keeping up with these important points or are we bound to our traditional market places? Another question to ask...do we need quality products, produced by intermediate cultural practices, to be able to afford longer trucking distances? I am sure all of you have heard of raw products being trucked phenomenal distances that a few years ago would have been thought impossible. (Not to mention some years ago shipping Dutch Elm infected logs from Holland to middle America for further manufacture as well as spreading the disease.) Along this line, a few years ago, Blynn Merrill a former Service Forester with the Maine Forest Service resigned to go to work in New Hampshire for a private company. He sold forest products to markets in Maine, trucking tremendous distances, that few in New Hampshire had ever even tried to tap before, and did it successfully.

I believe one of our major needs - and many people are in agreement on this - is to get our forest research and forest economics into practice by our field foresters. I believe this will only be accomplished - if and when there is a persistent, dogged effort by forest supervisors to upgrade and train their foresters through continual educational and training programs. In these programs, the forestry schools and the Society of American Foresters through its sections and chapters, must be involved and lend their time, expertise and facilities.

But most important, this education and training must have the complete support of top company and public management personnel, aiding, pushing and abetting their foresters. It is only by such encouragement that foresters will be successful in bringing their profession to its rightful place that we all believe it should hold.

It will not be easy - it will not be an 8 to 5 job as some new, and possibly some old, foresters believe. But forestry has never been an easy profession.

I believe we have the ability, I believe we have the will, and I believe the country has the need for us to achieve this high professional status to supply it with the goods and services that will be needed in the years ahead.

And I also believe that Intermediate Cultural Practices are important keys to our being able to do this.

REFERENCES CITED

1.) The Remaking of International Paper. Forbes Magazine, June 16, 1976

2.) Pruning White Pine, by George Bourassa, Utilization Forester, Forest Management Division, Maine Forest Service, Augusta, Maine. April 26, 1975.