

THE FUTURE SUPPLY OF CONIFEROUS TIMBER FOR LAKE STATES INDUSTRY

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I feel a bit like the onion in the petunia patch today. Here I am, a professional timber beast, trying to tell a bunch of geneticists how to run their genes. However, I do believe that the practical success of the forest geneticists' work is dependent not just on their abilities, but also partly on someone else's knowledge of the real need for tree improvement. So, we will try to pass on to you people some of the understanding that we butchers have for wood markets and availability, both today and to some degree in the near future. Particularly, we will concentrate on the coniferous species.

In the Lake States, we have a total volume of coniferous timber of about 10 billion cubic feet. This figure does not include the timber standing on public lands dedicated to other uses than forest management, but it does include the trees on a lot of forest area that is not available to the timber user. The amount of wood available to the wood-using industries is closer to 8 billion cubic feet than the 10 billion.

At the present time the actual annual harvest of Lake States conifers for all wood purposes is in the neighborhood of 140 million cubic feet. About half of this wood is cut in Minnesota, the other half in Michigan and Wisconsin.

Of this 140 million cubic feet of coniferous wood that is harvested each year in the Lake States, the paper industry is by far the principal user. About 85 percent of all of this wood is used in the pulp mills. Because of this single overwhelming use, and because I happen to have a better understanding of pulpwood than I do of other kinds of raw wood, from now on my talk will be primarily relevant to the pulp mills.

Let's go back again to the 140 million cubic foot harvest of coniferous wood. Except for jack pine, Lake States conifers are being harvested very conservatively.

The total cut of all species amounts to only 60 percent of the estimated desirable cut. Only two species were higher than this 60 percent figure — jack pine, which is being harvested at an annual rate of 120 percent of the desirable cut, and spruce, which is being cut at a 70 percent rate. The species that has the greatest amount of surplus volume is balsam fir, of which only one-third of the desirable cut is being used (fig. 1).

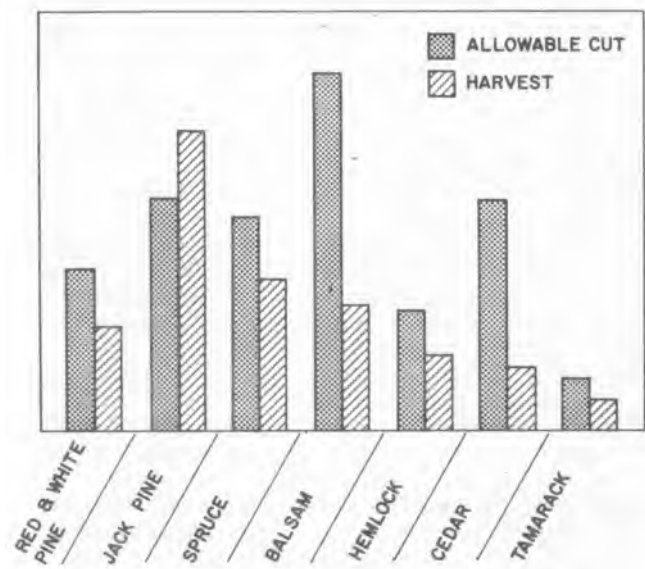


Figure 1. —Allowable cut and harvest in the Lake States.

The use of softwoods in the Lake States has been relatively stable during the past 15 years — varying between 1.6 and 1.8 million cords (fig. 2). However, the use trends of individual coniferous species show a considerably different pattern. For instance, in 1956 spruce was the king species; then over the last 12 years its use has been cut in half. Balsam, also, has been on the skids. But pine use has been climbing steadily, and

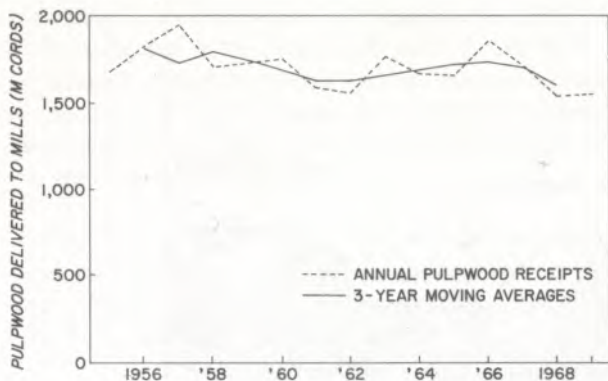


Figure 2. — Trend in use of long-fiber wood in Lake States pulp mills.

chips (mostly pine sawmill waste) have more than doubled in the last 5 years. Hemlock and tamarack use has been quite stable, but they are minor items in the total wood procurement picture (fig. 3).

If my estimates of desirable cut are reliable, and I don't guarantee them, we have at the present time a good surplus of coniferous timber in the Lake States. If there were no restrictions on quality and species, the Lake States softwood-using industries could increase their production by about 80 percent and still be within the bounds of the desirable cut. But these restrictions do exist because of technological, economic, and geographic problems. So, our current situation here is not quite as cozy as the numbers indicate.

The pine pulpwood situation in Wisconsin is a good example of the geographical disproportion between the sites of the paper mills and the location of timber. Wisconsin pine forests are providing the Wisconsin kraft mills with only 35 percent of the pulpwood of these species. This amount of wood is at the limit of the combined desirable cut for all of the Wisconsin pines. Wisconsin mills receive about 15 percent of their pine pulpwood from Upper Michigan, where current harvest of jack pine exceeds desirable cut; and 10 percent from Minnesota, which has some surplus pine. The three Lake States provide 60 percent of Wisconsin's pine needs. The other 40 percent comes from the western States — from the Black Hills and as far away as Idaho. About two-thirds of this western wood is waste material from sawmills — material that was formerly burned (fig. 4).

Now, if this was all that needs to be said about softwood availability in the Lake States, I could go back to my office, sit down in a comfortable chair, and re-

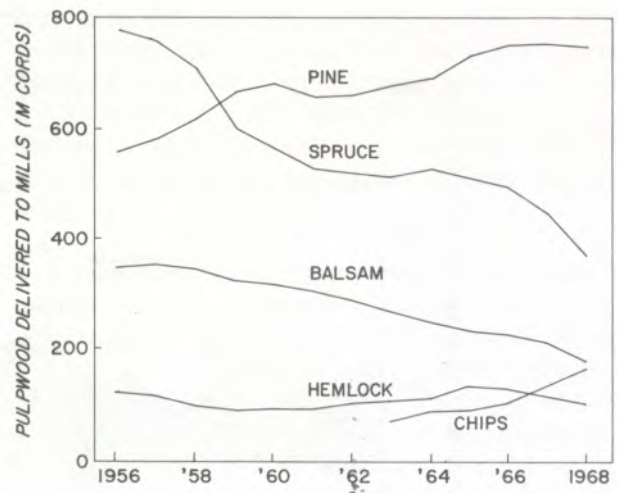


Figure 3. — Components of long fiber pulpwood delivered to Lake States pulp mills.

mind myself occasionally that the only problems I would have in wood procurement were weather and car shortages; and you geneticists could head for your laboratories and perform all sorts of interesting experiments with no thoughts at all about applying your knowledge to something practical.

But it ain't like that, fellows. For instance, the pine-using mills in the Lake States are dependent upon the western forests and sawmills for 250,000 cords of wood annually. Right now, we are anticipating an increase in western freight rates; an increase that could be so great that it would knock the props out from under these chips as a useful and desirable source of wood. Or worse yet, there is a possible regulation on 'Clear-cutting on the eastern slopes of the Rockies. This could put many western sawmills out of business, and there go our chips again. I am not kidding you about these catastrophes — they are both serious and possible. What do we have to replace our western wood? Principally the surplus balsam and cedar in the Lake States, and these are two species that provide very poor pulp yields.

We have mentioned that there is now a surplus of softwood in the Lake States. But this is not going to be a perpetual premium to the local wood-using industries. There are in sight some factors that will cause changes in the need for coniferous wood and the availability of it.

Let's look at some of these factors that will affect the need for wood. First, the pollution regulations will

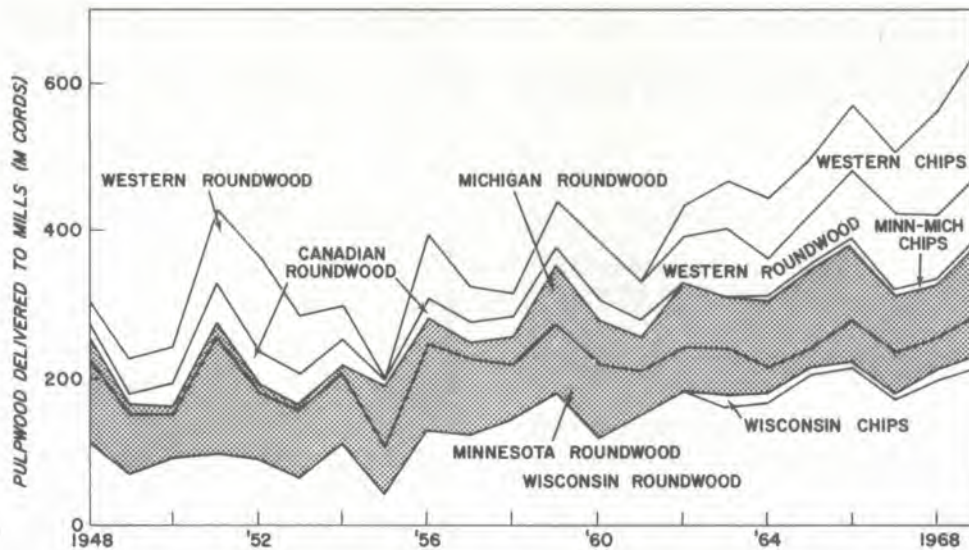


Figure 4. — Sources of pine for Wisconsin pulp mills.

very likely put out of business some of the Lake States pulp mills. We are talking here about some of the old sulfite mills that are principally softwood users. If this does happen, we can expect that most of this abandoned wood will be absorbed by the expansion of other mills.

And then we have the prediction that there will be substantial increases in the national need for the products of the wood-using industries. Certainly, the wood reservoir of the Lake States is not being overlooked — it will provide its share of both softwood and hardwood timber.

These estimates of major increase in wood use appeared to be quite grim when they were first presented. But they appear grimmer when we look at current changes in forest land use; and grimmest when we consider some of the proposals being offered by the environmentalists.

I have seen no figures on the amount of forest land that has been recently withdrawn from timber harvesting in the Lake States but it certainly is a sizable area, and it will become larger. There have been many changes in ownership of private forest lands and much of this will not be available for timber production. Recreation developments by public agencies are being expanded on Federal, State, and county lands that have formerly been considered to be timberlands. The establishment of the Voyageur National Park will swallow a large area of well-managed, private coniferous forest.

The Apostle Islands development is on the edge of one of the large jack pine areas in Wisconsin and the park could put some of this timber in jeopardy. Probably the worst afflictions we have are the newborn environmentalists, ecologists, and preservationists who are proposing the arresting of clearcutting and, indeed, the outlawing of all logging on public lands. Something like this gets serious when presumably perceptive federal lawmakers propose legislation along these lines.

All of these forces are going to cause the timber people a lot of trouble, although the worst of them are not likely to happen to the degree that the proponents are asking.

Now, what can we do about this besides standing here wringing our hands? The first act, of course, is to get involved in the politics of these movements. But there are a lot of other things, too. New technology in the mills is necessary. The paper industry already has increased the reuse of rejected or used fiber and waste materials. Synthetic fibers are being tested. Sawmill and veneer mill equipment is being improved. Better wood handling and processing in the yard and mill is necessary. In a pulp mill that uses 300,000 cords of wood, a 3½ percent loss in the wood system causes the use of 10,500 more cords of wood than is necessary.

What can the foresters do? Better forest management, by all means, and better coordination between management and the research people. When I compare the

correlation of management and research in the Lake States with that in the South and parts of the West, I am amazed at how backward we are. And, of course, we need a better forest management program for small ownerships — a program sponsored by the Forest Service, the States, and industry.

The forest engineers have the task of developing ways of getting better utilization of the wood in the forest. Morbark's Metro-system is a start at this. The bark-chip separation research is another step.

Now, you geneticists sit here sort of quietlike. But don't kid yourselves — we have a job for you, too. You are the people who we expect will provide us with trees that have excellent fiber, very high yield, faster growth, insect and disease resistance, and response to fertilization and irrigation.

I am serious. This is the 10th annual meeting of the Lake States Forest Tree Improvement Committee and I know that the organization has existed about 10 years longer than this period. To my knowledge, we still do not have a superior coniferous tree that will

grow faster than the plain, ordinary, everyday red pine on the proper site. The fault is not really yours; there has so far been little interest in using your skills. Nor is it completely the fault of the forest managers; they have never seriously approached you mainly because no one really had anticipated the situation that lies before us.

I have presented to you my ideas of the problems that the wood-using industries, and our total society, are facing in the availability of coniferous wood. Frankly, I do not feel that we are capable of telling you tree improvers what help you can give us or how you should do it. We do not have the background that you have developed. But I do believe that you can be a real help to us if we can work together. I am not asking for your help in just the development of strains of trees that furnish high yield plantations, but also in other facets of forest management on the millions of acres of Lake States forest land that are not adaptable to the agricultural type of forestry.

If we need a slogan for this job, let's put it this way: You furnish the protoplasm; we furnish the dirt.