

Forest History Foundation, Inc.
St. Paul, Minnesota

ORAL HISTORY INTERVIEW

with

George Neils
Libby, Montana
August 19, 1953

by John Larson

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Interview with
GEORGE NEILS
of the J. Neils Lumber Company
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In May, 1919 I was transferred from the Minnesota operations to the operations in the vicinity of Libby, Montana. In Minnesota I was employed principally as camp clerk during the winter months and as time keeper around the plant in Cass Lake itself, during the summer months.

Our logging in Minnesota had been done with horses and sleighs and ice roads, and towing in rivers and lakes and so forth, the usual kind of logging done in Minnesota during that period. Out here it was entirely new to me because we had never seen any logging of that type back in Minnesota. We used only horses and here they used only machinery. Of course, we did introduce some horses then for certain chances which could readily be handled by horses. The necessity for using machinery was determined by the type of topography here.

Logs were brought in entirely by railroad. We had two types of machines principally for skidding, the donkeys and the four line Clyde skidder. The four line Clyde skidder was better adapted to the better ground where we could space our railroads more conveniently at certain distances. We tried to hold them on quarter-mile intervals if possible, that is the optimum. Of course we couldn't build the railroads up in the hills, if we had to get up high in the hills; there we had to employ the donkeys and reach out far and skid them down in tree lengths.

Of course, we were watching developments. When the cats came into the picture they were an outgrowth of the use of these machines during the war, World War I. Immediately then we started using them in the woods. In the year 1920 we bought the first tractor, a six cylinder Holt. With this machine we skidded tree lengths to the railroad and bucked these into log lengths for transfer onto railroad cars. We soon found that this system did not work too well, and therefore changed over to skidding of logs rather than trees. In doing so we found that the ends of the logs would dig into the ground on irregular terrain and that this caused a reduction in the volume which the caterpillar could bring in for each turn. One of our men got an idea how this could be prevented and recommended that we use a boiler plate approximately eight feet wide and six feet in depth, with a roll in the front, similar to the nose of a ski. We found that this helped materially, and this same system is still in vogue at the present time in connection with skidding of logs by tractors.

In the year 1930 we bought the first tractor equipped with a bulldozer blade and we soon learned that this machine could build railroad grades at far less cost than the power shovel. At that time we also started experimenting with hauling of logs by truck and found that the truck was able to negotiate grades far steeper than what was possible with the railroad. We also found that we built roads at reasonable cost on the side hills, and then of course, we switched from railroad to truck. We quite the railroads entirely when we got done with the Swamp Creek area in 1935, late in the fall of '35. We've been using trucks ever since. That was about the same time that many of the other outfits began switching over to trucks. Areas which were considered inaccessible because of excessive cost, then became economically accessible, at least to a degree. As lumber prices increased, and stumpage prices increased, we could afford to go out farther.

The first trucks used were poor substitutes for what is being used today. They had a capacity of possibly fifteen hundred to two hundred feet per load of logs, whereas today it is not uncommon at all to haul loads of fifteen thousand feet. We soon learned that the smaller truck was not the answer to our problem, and consequently we discussed our problem with a manufacturer who was willing to take chances on building trucks which probably would do a better job. It is through the efforts of this company that we have in the Northwest today, a truck which can handle loads weighing up to sixty tons or more of pay load on grades as steep as fifteen percent.

As we found it necessary to employ larger trucks with greater capacities, we also found it necessary to build better roads. This meant bigger machines used in the construction of sub-grade and it also meant the application of pit-run gravel or crushed rock on road surfaces, particularly where speeds up to thirty miles per hour were desired. In order to do a first class job throughout, it was necessary to employ competent engineers for the location of truck roads, also competent personnel to supervise various operations, and particularly for equipment maintenance. Where at first we were able to do much of the equipment maintenance work in the woods after working hours, we now find it necessary to process most of the equipment through our general shop at Libby at least once per year. This means that a unit is employed almost constantly moving equipment from the shop at Libby to the woods and back again, in order to keep a round of trucks and other equipment moving through the shop continuously.

As stated above, we find it necessary and desirable to log practically every month of the year. We make an exception during the month of March, when the frost leaves the ground and surfaces become soft, particularly for the tractors skidding logs in the woods. We find it advisable therefore to accumulate logs during the early winter months for use by the sawmill during the month of March and in early spring. Then we again resume operations where the sun and wind have a tendency to dry out the

areas. This is particularly the case on the slopes to the south and west, and it is on these slopes where we have growing one of our better trees, namely the ponderosa pine.

Our operation at Klickitat was ahead of us with the adoption of a sustained yield program, because they had larger timber holdings than we did and they had a tract of timber which lent itself better to the adoption of that sort of a program. Studies were conducted there earlier. In fact, the only studies made were down there in reference to tree growth and classification of trees by crowns and life expectancy and volumes that should probably be cut per acre and volumes that should be left and the resulting increment per year in the trees not cut. And of course since they experimented and found it to be OK, we began picking it up here, and I think we were the first in Montana to adopt the program. Of course, we had to make very many changes in the program. We had more species to contend with and, in fact, we didn't know whether it would be good judgment to try it out in other species than the ponderosa pine, but we are doing that now, too. We're taking out the dead and the dying trees and leaving the growing trees to put on more wood, and each month we total these and calculate. Irrespective of whether the growth is comparable to what the increment otherwise might be we'll say you took that money from that tree and put it in the bank and collected two percent or three percent interest on it, we pay no attention to that because there are so many acres requiring treatment that if you didn't adopt that policy you'd be losing right down the line. So for that reason we're trying to cover acres as quickly as possible.

Our consulting forester, Dr. Meyer, made the original study. He was a professor at the University of Washington at the time, and now he is with Harvard. He is going to be in tonight by train, he and his son. They are going to visit this area and then go over to Klickitat - it's a yearly trip. He and the summer class students from the University of Washington camped right there in the area and they made the original studies - determined stand per acre and graded the trees, and got information with respect to growth on the basis of tree classifications, and location and this and that. Then we had to adapt all that information to the area over here. We didn't make a specific study here, it was easier to follow through.

Some acres you do practice sustained yield and some you don't. You run into certain situations, in larch particularly, where the trees are all large, over-mature, and you see that they are dying back - might be a dead spike up there twenty feet long, thirty feet, maybe forty feet, and understory coming in of other trees that are sapping so much moisture out of the ground generally that it doesn't leave enough for the old trees who have lost some of their vigor and so they're going out. But in a case like that there is no point in leaving any of the old trees. Oh, there have been some exceptions, sure, but generally they are being cut. But there isn't much of that. I would say it wouldn't be over, oh, five per cent of our acres that are clear cut. Of course at times certain economic factors

enter into the picture which upset your silvacultural program. Which you can't get away from either. After all, it has to pay. If it doesn't pay, forestry is no good.

Once in a while we think we're going overboard. As the situation is now with reference to our fight against the bark beetle both in spruce and more so in our lands in the fir, and we have to go to exceptional practices and high costs in order to combat a situation that we just can't measure the results from in dollars and cents value because nobody has, you might say, tried it and proven that it's going to give such and such results. We're in the dark in trying it out.

(Every once in a while you hear the interesting theory that because forest fires have been eliminated with relative success, it is harder to stamp out some of these things.)

It has no bearing on the beetle. I don't think we would get any benefit from letting any fires run over any of our lands unless it would be in areas where we clear cut and where we have an unsatisfactory duff situation. In certain areas it's pretty deep - particularly in spruce areas and it does require contact with mineral soil for seed to sprout. When you plant radishes, you don't plant them on your lawn; you plant them into the garden that's been tilled. Well, it's a similar situation that we run into. Therefore we like to clear-cut, put a ring around the whole thing, broadcast burn, expose mineral soil, and let the seed blow in from adjacent areas.

I guess the first ones to adopt that program were the private timber holders on the Coast in douglas fir - block system of cutting. It didn't have to be a rectangular block - fit the country - a territory not over forty acres. Then a stand of timber, depending upon how the prevailing wind is in that area, blows seed in. It's having good results, I understand; it's closer to the natural way of reproducing. There's one thing very evident when you fly a plane over this country, the seeds blow a whole lot farther than given credit. They say you can't expect a seed from a tree to blow much over 75 to 150 or 200 feet. Hellsbells, you fly over this area with a plane and you can see where many square miles were burnt and blistered hard, but what've you got there now? You've got a canopy of the nicest, green young forest in there you ever saw. But I don't know who planted them. So a lot of the problem is to get these areas properly developed, with various standards of roads required to result in efficient operation and so forth, and try to hold your costs down and stay within the budget and still get it properly developed. There are so many different things that you could think about, that you're worried about, and finally you jump into it and get the thing settled.

In every virgin forest, trees are found in various age classes. It is therefore necessary to set up certain classes to describe not only the

age of the tree, but its vitality. This classification determines then which trees are to be marked for cutting and which trees are to be left for the second cycle cut. Since a large acreage is involved in the areas adjacent to Libby, Montana, owned by the company itself, as well as by the Forest Service and State of Montana, it is extremely important to cover these areas as quickly as possible with the first cut in order to harvest the merchantable dead and those trees which have a short life expectancy. Trained foresters determine the tree classification and then mark the time for cutting under the directions of the management in case of company timber, and under directions of the staff of Kootenai National Forest in case of national forest lands. This sort of a program is not practical unless fairly large acreages are involved.

When we bought a fairly large tract of timber in 1941, we immediately put into the silvacultural program recommended to us by the consultant forester, Dr. Walter E. Meyer. Under his guidance, as mentioned before, studies were first of all made in our holdings in ponderosa pine areas near Mount Adams in Klickitat County, Washington, and from these studies it was determined that certain increment in volumes could be expected from trees of certain classifications. It was soon determined that it would be a paying proposition to remove from the forest, first of all, the merchantable dead and over-ripe trees, leaving the thrifty trees to put on more volume in the period involved in the first cutting cycle. In ponderosa pine type timber it is not desirable to have these cutting cycles any closer than ten year intervals, unless a very light cut is made in the beginning. In our case so much acreage is involved that it is questionable if we will be able to cover the entire area involved with the first cutting cycle in a lesser time than fifteen years. In order to accomplish this it must be determined approximately what volume of the merchantable timber should be removed in the first cutting cycle in order to be able to get over the entire area within the prescribed time. The greater the volume left for growth, the greater naturally the yield in volume per acre during the first cutting cycle interval.

This type of cutting cannot be adapted to all species or timber nor to all situations. In principal, however, the adoption of this sort of a program will unquestionably extend the life of the operations at Libby, Montana, and Klickitat, Washington, where our mills are located. The advantages resulting from the quick development of timbered areas are the possibilities of controlling fire and infestation by bark beetles or other enemies of trees. After an area has been developed properly, access to it is easy and examinations can be made at regular intervals determining the condition of the forest. When it is found necessary to remove certain volumes on account of blow-down, resulting from wind storms, or the killing of trees resulting from fire, or from insects, it is rather simple to develop a program and put this into effect.

To get quick information regarding the condition of the timber over large areas, the airplane is used extensively also. By observing the number

of crowns turning from a green to a brown or reddish color at regular intervals, it can be determined fairly accurately whether a ground examination must be made. Logging seems to be becoming more complicated every year. This can be explained possibly by the fact that more difficult areas are being developed constantly and there is greater cognizance also of the fact that a big job has to be done to conserve natural resources to the fullest extent.