

Minnesota Logging Railroads

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IN NOVEMBER, 1941, a Chicago firm completed the dismantling of forty-nine miles of what was known as the Duluth and Northeastern Railroad from Hornby to Saginaw, leaving less than ten miles of the road in operation between Saginaw and Cloquet to connect the latter city with the Duluth, Missabe and Iron Range Railroad. Thus vanished one of the enterprises that played a major part in the logging of Minnesota's once vast virgin timber stands, for the Duluth and Northeastern was the last of the logging railroads to depend entirely on the logging industry for its existence. A short spur of the Minnesota, Dakota and Western, also known as the Backus Line, running south from Littlefork to Camp 29, is still used.¹

In the late 1870's and early 1880's, some short railroads were built and used for log hauling, but it was not until the late 1890's that the logging railroad really came into the picture. Prior to 1900 most logs were moved from the woods by draying, skidding, or sleigh hauling them to the rivers and lakes, and driving or rafting them to the mills. This type of logging operation reached back from the shores of the lakes and streams only about six to ten miles and when all timber within an area was logged off some method of transportation had to be found to move what remained. To meet this problem logging railroads were constructed. Some were built by railroad companies for the purpose of getting the log-hauling business, as well as that of carrying supplies to the small logging towns that sprang up with the industry, and others were built by logging companies to reach their own logging operations.

Many of the roads built by railroad companies advanced from town to town along with the logging industry and eventually reached considerable length. Most railroads of this type were built

¹ Since the road was owned and controlled by the E. W. Backus interests, the lumberjacks called it the Backus Line.

as common carriers, and they are still in existence today doing business as passenger and freight hauling railroads. The Minnesota and International, running north from Brainerd, is an example of this type of railroad. Others have been dismantled because, although they were built as common carriers for the use of the public, there was no more business for them after logging ended. Among railroads that were dismantled between 1920 and 1940 were the Minneapolis and Rainy River, or Gut and Liver Line, from Deer River to Wirt, the Minneapolis, Red Lake and Manitoba, from Bemidji to Redby, and the Duluth and Northern Minnesota, or Alger Line, from Knife River to Cascade.²

Some of the railroads built by logging companies were later taken over and operated by railroad companies, and in some cases large logging companies were stockholders in the railroad companies. Sometimes logging companies had parts of their main lines set up as common carriers, and they kept only their woods spurs as private lines.

In addition to the main rail lines of the logging industry, there were miles and miles of spurs that were built by the logging companies and contractors right into the logging operations. The spurs greatly exceeded the main lines in mileage. In many cases they were well graded and graveled and were used in summer as well as in winter. In hilly or rough country they often wound in and out among the hills in order to take advantage of minimum grades. Some spurs were used only during the winter months. They consisted of temporary ties and rails laid on the frozen ground, and were known as "skeleton tracks."

Much of the forested area of Minnesota from Brainerd north to the Canadian boundary and east to Lake Superior was covered with a network of spurs. Today only the old grades are left to remind hunters and foresters of the great timber operations once carried on. Although evidence of spurs can be found almost everywhere,

² The lumberjacks called the Minneapolis and Rainy River road the Gut and Liver Line because quantities of sausage and liver were served in the camps along its route. The Duluth and Northern Minnesota was known as the Alger Line because it was owned by the Alger-Smith interests.

pine trees twelve to fifteen inches in diameter have grown in some of the road beds, and in many only the "cuts" and "fills" are noticeable. Many of the early roads in northern Minnesota followed abandoned railroad spurs, and many of them are still being used as township and county roads. Hardly a day passes that some hunter or fisherman does not stop at a ranger station and ask for information about railroad spurs and grades he has seen. The visitors want to know when they were built, by what companies, and the like.

Railroad logging was done by many companies and logging contractors. Some of the larger companies are listed below, and the parts of Minnesota in which they operated are located. The Virginia and Rainy Lake Lumber Company and Cooke and O'Brien transported logs in the area between the Mesabi Range and the Canadian boundary. North of Cloquet and south of the range were the Northern, the Cloquet, and the Johnson-Wentworth lumber companies, and Campbell and Williams. Most of Koochiching County, part of the Red Lake Indian Reservation, and part of northern Itasca County were logged by the International Lumber Company, which was owned by the Backus interests. In the area north of Bemidji, the Crookston and the Bemidji lumber companies were active. The country adjacent to Walker was logged by the Walker and Akeley and the Red River lumber companies. West of Itasca State Park, the Nichols and Chisholm and the Red River lumber companies operated logging railroads. The Brooks Scanlon Lumber Company was active in the area just north of Duluth. Three concerns worked in the district adjacent to Two Harbors and along the North Shore of Lake Superior — the Radcliff, the Merrill and Ring, and the Alger-Smith lumber companies. The northeastern part of St. Louis County, in the neighborhood of Ely and Tower, was logged by the Scott-Graff, the William O'Brien, the Trout Lake, the St. Croix, and the Swallow-Hopkins lumber companies. Although only a few of the many companies and contractors connected with railroad logging in Minnesota are named here, the foregoing list gives some idea of the size and extent of the industry at its height.

Standard gauge tracks were used by all companies operating in

Minnesota. The locomotives were small, ranging from fifty to seventy-five tons, and most of them were of the rod type, like the common locomotive. In hilly country and over crooked, winding spurs, however, the Lima, a gear-driven locomotive, was popular, and I know of one company that used the Hysler, which had cylinders set at an angle and used a drive shaft, with limited success.

Some other types of equipment varied with the topography, which differs greatly in the eastern and western parts of the state. In eastern Minnesota, which is rough and hilly, the railroads twisted around hills to avoid steep grades, and they consequently were often very crooked. In such country the short log car known as the Russell was used. It held but one tier of logs and, since it was short, it could be maneuvered around sharp bends of track much more easily than larger cars that held two tiers of logs. The Russell car also was known as the skeleton log car, for it lacked both a deck and a platform. Some Russell cars had racks for hauling pulpwood. In the western part of the state, where the topography is more level, the regular flatcars equipped with two sets of bunks, or timbers laid crosswise for the logs to rest on, were in general use for the hauling of logs.

Before 1910 most log cars were equipped with chains known as "corner binds" on the outside logs next to the bunks, as well as two sets of chains to hold the logs in place when the train was in motion. One set of chains, which was put on when the car was about half loaded, was known as the "center chain." The other, which went over the top of the load when it was almost finished, was known as the "wrapper." Even with chains to hold them, great care had to be used in placing the logs on the cars. The "top loader," or man who worked on top of the car, had to be thoroughly experienced; he was the highest paid man in the loading crew. About 1912 a new patented type of "stake pocket" was placed on all cars, which reduced the number of chains needed to a single one placed across the top of the load between the stakes. This device made the job of loading much easier and safer, and it did away with the top loader's job. On cars equipped with stake pockets, the loads were tripped from

the opposite side when they were unloaded, which lessened the danger of injuring the men. Earlier, when logs were rolled off the cars with the aid of canthooks, many men were hurt.

On small jobs logs were loaded onto cars with horse jammers, or hoists, which used horses for power; on most large jobs, however, steam jammers were used. Where logs were loaded onto cars directly from the water, chain or endless chain hoists sometimes were used. The Clyde type of jammer, which could move along the track on its own power as the cars passed under it, was used almost entirely in the eastern part of the state for hoisting logs onto cars. In the western part of the state, a jammer that slid along the tops of the cars was used.

A log loading crew usually consisted of two hookers, or men who hooked the logs; and two men who rolled logs up to the hookers (the act of rolling the logs onto the skids to the hookers was known as "tailing down"); the top loader; and the loader or engineer who operated the jammer. Members of loading crews were usually the highest paid men in the operating end of railroad logging, and it was a treat to see a well-trained loading crew function.

Many companies had special cars for hauling pulpwood. They were equipped with racks or stakes at both ends, and were known as "rackflats." Cedar poles were loaded on flatcars; ties and cedar posts usually were hauled in boxcars. Most of the log cars were forty feet long, and most of the pulp rackflats were thirty-six feet long.

Whenever possible spurs were laid within skidding distance of all available timber—seldom more than a quarter of a mile. Small, scattered bunches of timber, however, often had to be sleigh-hauled several miles to the tracks. The bulk of the log timber taken out by logging railroads was skidded to the tracks with the aid of horses. During the last few years, however, tractors were used to some extent. A few of the larger companies owned steam skidders, which consisted of a donkey engine and cables connected with a high tree on which a traveling block was fastened. Only one company used a steam skidder with marked success—the Crookston Lumber Company, which operated it in the vicinity of Kelliher and Northome

and near Hines and Blackduck for a number of years. The steam skidder was used only in connection with railroad logging.

A few of the larger companies used patented track layers, but as a rule rails were carried out ahead of a car by a crew of men who laid them at so much a foot. These workers were known as "jippo track layers," since the word "jippo" was used in the lumber industry to designate any man who contracted to work at other than daily or monthly wages. Many of the ties for a track were cut adjoining the right of way. Skeleton tracks that were laid during cold weather were subject to "sun kinks," which appeared at the joints when it warmed up and the rails expanded. They caused the derailment of many log cars. In rough country much trouble was caused by what was known as "running steel," which developed on tracks where most of the log loads were hauled in one direction. Heavily loaded trains moving down steep slopes had a tendency to work the rails down with them, and when the steel became tight it would kink and derail the train.

In many places spurs had to cross swampy areas, and there were but few pieces of track that did not have one or two "sink holes," where the track settled in the soft ground. Both locomotives and railroad cars were lost when they sank into swamps, and many spurs had to be abandoned because it was impossible to keep the track from sinking. In swampy areas, however, a good mat of full-length trees often was laid before ties were put in place. It is surprising how well the swamps held up when a proper mat of timber was laid in advance. Rails were sometimes laid up hills so steep that a locomotive could pull up only one or two cars. On most woods spurs eight to ten cars made up a train, while on the main lines twenty to thirty-five cars were handled by a single locomotive.

Most of the men who engaged in railroad work in the timber industry were of the "boomer" type (men who shifted from one job to another), but most companies had a few regular engineers and brakemen who worked more or less steadily. The engineers who operated logging locomotives over the crooked and winding logging spurs were some of the best, for the conditions under which they

worked brought out exceptional qualities. There was no eight-hour day in the woods, and railroad men often worked sixteen hours. They were not only well paid, but they often had special bunkhouses for their own use. Many companies had complete shops and round-houses right out in the operations, usually at the headquarters camp, while other companies had their repair work done in the towns from which they operated, or in the shops of some of the large railroad companies.

A ride over a main line logging railroad furnished plenty of thrills for one who was unfamiliar with them. As it wound up and down and around hills, a train often went down grade one minute at about forty miles per hour, and it climbed uphill the next at about two miles per hour, jerking and weaving as it went. Not all logging railroads were this bad, but many in the hilly country of the eastern part of the state were.

As a whole, these trains ran quite slowly, and usually they took the best part of a day to cover fifty or sixty miles. They stopped at every camp or spur along the track to unload supplies or pick up cars. On most of the main lines each train carried a passenger coach—usually one discarded by some large railroad—to transport lumberjacks, light supplies, and mail to the camps.

There were always several check scalers, timber cruisers, walking bosses, and other woodsmen traveling between camps on the logging trains.³ Mail sacks, of which each camp usually had its own, were carried by these trains. The rear-end brakeman usually had his hands full throwing them off and picking them up along the line.

Every railroad must have a dispatcher system to keep trains running and traffic controlled. For communication purposes telephone lines were built along with the main lines of logging railroads and into most of the camps along the line. The skeleton tracks or spurs reaching into logging operations seldom had telephone lines along them. On the main lines there was usually a good telephone line with two or four wires, while on the spurs running into the camps

³ Check scalers were traveling log scalers who supervised the scalers in the camps; timber cruisers looked over the timber before logging operations began; and walking bosses went from camp to camp supervising the camp foremen.

a one-wire (grounded system) line was often strung on the trees adjoining the track. Most main-line trains were dispatched from a central dispatcher's office, usually located in the town from which the railroad operated, but temporary dispatchers were stationed at the junction of two or more spurs or at strategic points along the line. Telephone boxes, usually painted red, with phones in them were placed on poles at most spurs and junctions. There the trains stopped, while the dispatcher was called for orders. Besides the trains and locomotives that operated over the logging lines, many gasoline motorcars or "speeders," used by foremen, timekeepers, fire patrolmen, etc., passed over them. Men were hauled to work on speeders, and many an errand that did not require a train or locomotive was handled by a speeder.

Despite the frost heaves in the tracks, sun kinks, and crooked tracks and hills, there were but few bad accidents on the logging railroads. Snow removal was always a problem, but most of it was done by front-end plows of varying design that shoved the snow aside. I do not know of any logging company that used a rotary snowplow.

With the advent of the railroad in the logging industry came one of the worst fire hazards of all time. Locomotives threw sparks from their smokestacks as far as three hundred feet from the tracks; cinders and live coals fell from their ashpans to the dry forest floor. As a result, many bad forest fires were set by locomotives.

State laws were passed requiring that all locomotives be equipped with spark arresters and screens, and the companies were required to keep a rigid patrol behind locomotives in dry weather. After a bad start and several civil suits as a result of fires set by locomotives, the logging companies adopted a very rigid policy in controlling fires, and long before the end of railroad logging, fires that could be traced to locomotives became rare.

When the last logging railroad ceased to exist in the fall of 1941, the last railroad venture into the rocky hills of the North Shore country also ended. After the Duluth and Northern Minnesota, or Alger Line, which ran from Knife River to Cascade, completed its

logging operations, the road was purchased by the combined Cloquet companies, and in 1924 it was dismantled and the steel was stored at Hornby. In the summer of 1926 and 1927 the General Logging Company of Cloquet built a spur known as the General Logging Line from the end of the Duluth and Northeastern at Hornby to Cascade. It paralleled more or less the old Alger Line, but it was farther from Lake Superior. By 1928 spurs had been extended to Brule and Rose lakes on the Canadian boundary.

When this railroad was constructed it was generally believed that it would continue to haul logs to the mills at Cloquet for a number of years. The poor quality of the pine in the region it served, however, combined with the dropping off of the lumber market in the depression of the 1930's, soon put an end to the venture, and between 1939 and 1941, after the road had been idle for several years, its owners pulled up the steel. Next came the pulling of the steel and dismantling from Hornby to Saginaw of the Duluth and Northeastern, which was owned by the same interests as the General Logging Line. Thus ended an era of railroad history which extended over forty years and played the leading part in the harvesting of a once vast timber crop.

Trucks that haul as much as a railroad car now come out of narrow forest truck trails and wheel down the highways, taking pulpwood, logs, and other forest products from the woods to their destinations in less time than it once took to skid them to the railroads. The logging railroad, whose story has become just another chapter in the history of the North Star State, has been replaced by another form of transportation.



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