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## LOGGING ON LITTLE RIVER, 1890-1940

By ROBERT S. LAMBERT

Little River is a stream which rises among the peaks of the Great Smoky Mountains, descends swiftly to the broad valley of Tuckaleechee Cove, and then pursues a northwesterly course to join the waters of the Tennessee below Knoxville.

Several miles above Townsend, Tennessee, the main body of Little River is formed by the confluence of its three principal tributaries, the East, the Middle, and the West prongs. The East Prong rises under Clingman's Dome and Siler's Bald on the North Carolina state line. To it are drawn the waters from Sugarland Mountain to the northwest, and the chain, Miry Ridge-Blanket Mountain-Meigs Mountain to the southwest. Then it empties into a narrow gorge through which its waters have worn their way for many centuries. The watershed of the Middle Prong is bounded by the Miry Ridge-Blanket Mountain-Meigs Mountain range on the east, the North Carolina state line on the south, and Thunderhead Mountain and Defeat Ridge on the west. On the other side of Defeat Ridge are the West Prong (sometimes called Near Prong) and its principal tributary, Laurel Creek, which are separated by Bote Mountain until they come together about a mile above the junction of the three prongs.

Some of the finest virgin hardwood timber to be found in eastern America, as well as hemlock and spruce of high quality, once grew along the tributaries of Little River and on the high slopes from which they flow. For at least a half-century before 1940 these forests, now reserved for campers, hikers, and other nature lovers, resounded with the noises of axe, saw, and locomotive as commercial loggers strove to make the timber available to the demands of the market place.

By the last quarter of the nineteenth century the major hardwood stands of the northeastern and Great Lakes regions of the United States were showing signs of depletion, and lumbermen began to look to other areas for a future supply of timber. The hardwoods of the Southern Appalachians were virtually untapped until this time, but

little by little lumbermen began to purchase timberlands and stumpage in the more accessible river valleys. In the early 1880's they reached the lower waters of Little River.

This is not to say that the Great Smoky Mountains of Tennessee were uninhabited. Sturdy pioneer farmers had cleared land and built homes in some areas before 1830, and many other families had followed them in from the east.<sup>1</sup> Mountain farmers, singly or through community effort, were all lumbermen of sorts for their own needs, but their remoteness precluded many efforts at commercial logging.

By 1890 the more valuable hardwoods such as cherry, walnut, and ash were "playing out" on the lower streams, and only deep in the mountains could they be found in quantity.<sup>2</sup> The tulip, or yellow poplar, was more plentiful but was also in great demand. Therefore, the first characteristic of commercial logging on the waters of Little River was the selective cutting of these valuable species, which commanded such handsome prices in the lumber markets of the East and Middle West.

What was the source of the capital for these early operations? The available evidence indicates that many of the original investors were lumbermen from the older hardwood-producing regions of the country. Their plans involved heavy risks, for they were forced to locate their sawmills many miles from their source of timber and to rely upon the river current to bring their logs to the mill. Several of these enterprises were set up near Rockford, where the old Knoxville and Augusta Railroad crossed the lower reaches of the river. These were the most ambitious designs, but as one observer noted, a great deal of the first logging in the Smokies was carried on by "farmers and small saw mill operators . . . who cut from 25,000 to 250,000 feet of lumber each season."<sup>3</sup>

There was a direct relationship between the natural conditions of terrain and the logging methods employed. Animals were depended upon to provide the motive power; men were called upon to supply

<sup>1</sup> Inez Burns, "Settlement and Early History of the Coves of Blount County, Tennessee," East Tennessee Historical Society's *Publications* (Knoxville), No. 24 (1952), 44-67.

<sup>2</sup> *Northwestern Lumberman* (Chicago), April 2, 1887.

<sup>3</sup> The quotation is from *ibid.*, July 21, 1894; some notices of the early mills on Little River are found in the issues of July 10, 1882, October 9, 1886, August 22, 1891, and March 17, 1894.

some of the necessary energy and to adapt their ingenuity to the solution of problems as they arose.

The first step in logging was to find and cut a likely tree. In rugged mountain country many valuable specimens were to be found on high slopes; therefore, it was necessary to bring the logs down to a stream or mill site. Usually this was accomplished by dragging the logs to a prepared rollway down the mountainside and "ballhooting" them down to the valley below. Hauling was done by teams of oxen both to bring the logs to the top of the rollway and to gather them at the bottom.<sup>4</sup>

At this point a choice had to be made between two procedures for getting the timber to market. The choice depended upon the location of the timber, the species, and the season. One method was to use the flow of the streams to float the timber in the log to the mill. On Little River this involved the use of a series of splash dams behind which large quantities of water could be impounded. The dams were located in the lower end of the Metcalf Bottoms and on Blanket Creek for the East Prong, and on Mark's Creek and Spruce Flats for the Middle Prong. When the splash boards were released the force of the water would carry the logs down to the broader stretch of the river where it was hoped that the current would be swift enough to float them the rest of the way. The yellow poplar, a relatively buoyant wood, was a favorite for stream driving. This method was of particular use in the 1890's when the mills of the J. L. English Lumber Company were operating at Rockford. Heavy spring freshets or long dry spells could spoil the loggers' plans, however, and the mills could never be certain of a steady supply of timber.<sup>5</sup>

The other method employed was to bring portable sawmills into the more accessible areas. These mills manufactured rough lumber which was loaded on wagons and hauled by teams to a railhead. A wagon road was built from the East Prong through Little Greenbrier Cove and Wear's Valley to Sevierville. The partnership of Swaggerty

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<sup>4</sup> See *ibid.*, May 2, 1885, for a description of rolling cherry timber in the Tennessee mountains.

<sup>5</sup> The author is indebted to Mr. Jim Shelton of Walland, Tennessee, for pointing out the exact locations of some of the splash dams which were used to convey logs to the English mill. That firm sold its property in East Tennessee and moved its offices from Knoxville to New York in 1904. *American Lumberman* (Chicago), July 23, 1904.

and Eubanks used this route as one of its sources of poplar and ash about the turn of the century.<sup>6</sup>

It is not known how much timber was removed by these methods before 1900. Certainly a fairly large proportion of the choice poplar, cherry, walnut, and ash was taken from the areas adjacent to the lower streams, but no serious depletion of the total resources of the Little River basin had resulted from the logging to that time. One contemporary authority estimated in 1905 that some 288,000,000 board feet of "log timber" and 1,107,000 cords of small wood remained in the area.<sup>7</sup>

The logging industry on Little River was about to enter a new phase in which the latest logging methods would utilize the timber more effectively than had been possible before that time. One observer in the 1890's, noting the uncertainties of supply resulting from haphazard methods of bringing timber to the mills, prophesied that "within the next decade . . . the logging railway or aerial system of transport will be the coming factors to assist lumbermen."<sup>8</sup>

In 1901 reports began to circulate that lumbermen were exploring the possibilities of extending a railroad into Tuckaleechee Cove in order to exploit the Little River timberlands. The *Southern Lumberman* declared that "indications are more favorable than ever for the development of the great resources of the Cove. If the plans carry it means a big thing for this section."<sup>9</sup> The plans turned out to be "a big thing" for they were being laid by the Little River Lumber Company, which for nearly forty years was to be the dominant factor in logging the Little River basin.

As early as 1899 the firm had begun to explore the basin by sending a cruiser in from the North Carolina side. The company's home office was in Philadelphia, and its first president was W. M. McCormick, a leading hemlock producer. The driving force behind the enterprise was provided by the general manager, W. B. Townsend, of Clear-

<sup>6</sup> Swaggerty and Eubanks were reported to have shipped over 6,000,000 board feet of poplar to a Knoxville firm by 1903, and a fairly large proportion of that probably came from its cutting on the East Prong. *Southern Lumberman* (Nashville), May 15, 1903. Their land transactions may be traced in Deeds (Register of Deeds Office, Sevier County, Sevierville, Tenn.), particularly I, 311, 314; II, 435; X, 7; XII, 392.

<sup>7</sup> H. B. Ayres and W. W. Ashe, "The Southern Appalachian Forests," in United States Geological Survey, *Professional Paper No. 37* (Washington, D. C., 1905), 167-178.

<sup>8</sup> *Northwestern Lumberman*, June 30, 1894.

<sup>9</sup> December 1, 1901. For an earlier report see *American Lumberman*, October 27, 1900.

field, Pennsylvania. Of greatest interest to these men were the more valuable hardwoods and hemlock, a species which could be found in abundance in the southern Appalachians, but which had not been considered of sufficient value to warrant the expense necessary to remove it from the high elevations.<sup>10</sup>

The plans of the new enterprise called for the construction of a standard-gauge railroad from a junction with the Southern Railway at Maryville to the mill and the timber. The Little River Railroad Company was chartered in 1901 with a capital of \$150,000; it was authorized to extend its line up the main prongs of the river to the North Carolina state line.<sup>11</sup> Even more ambitious was the reported scheme for eventual extension of the railroad up Laurel Creek to its "terminus . . . at Bushnell, N. C."<sup>12</sup>

The Little River Lumber Company's mill and offices were located at Townsend in Tuckaleechee Cove, about three miles below the forks of the river. The mill had a listed capacity of 30,000 board feet per day in 1910, but on occasion 60,000 and even 120,000 feet were produced daily by it and the contractors' portable mills in the woods.<sup>13</sup>

The first areas to be extensively logged were the watersheds of the West Prong and Laurel Creek. The Little River Railroad was constructed along those streams, but the actual work in the woods was turned over to local contractors. Two brothers, John and Jim Shea, provided teams and saw crews to cut the timber and haul it to the railroad, and they also ran the commissary. Log slides, one of which was two and one-half miles long, were constructed to bring logs from the higher elevations down to the railroad. Horses were used to bunch logs at the slides and the railroad and for clearing skid roads as well. In certain places remote from the railroad, portable mills sawed rough lumber, which was then transported by wagon to the railhead. One portable mill was hauled on an incline to the top of a mountain above Anthony Creek.<sup>14</sup>

<sup>10</sup> An interview with Mr. Granville I. Calhoun of Bryson City, N. C., reveals that he took the company's agent on to the tract. Brief biographical information on these men may be found in *American Lumberman*, March 23, 1901.

<sup>11</sup> *Southern Lumberman*, December 1, 1901.

<sup>12</sup> *American Lumberman*, December 7, 1901.

<sup>13</sup> *Register of Sawmill Equipment for 1910* (Chicago, 1910), 376.

<sup>14</sup> Interviews with Mr. Louis McCarter, Gatlinburg, Tenn., July 22, 1958, and Mr. Alex O. Bradley, Haysville, N. C., July 26, 1958. The portable mill is mentioned by

The operations on the West Prong began in 1903 and were carried on for about five years thereafter. On at least one occasion heavy rains washed out the railroad, and work at the mill was curtailed for several weeks while the track was relaid. In spite of such interruptions, it was reported that from 1905 through 1907 over 37,000,000 board feet of poplar, hemlock, ash, and other species had been cut. In one month, May, 1905, over 2,000,000 feet were shipped as the mill sawed lumber at the rate of 60,000 feet per day.<sup>15</sup>

In a sense this early phase was just preparatory to bigger things to come, for in 1908 the Little River Lumber Company embarked upon the most ambitious stage of its operations, the logging of the East Prong of the river. In the development of this watershed the company spent half its total life. In addition, it displayed a large measure of ingenuity in mastering the engineering problems involved in reaching and cutting successfully the timber of a region long considered to be inaccessible to commercial logging on a large scale.

The development of the East Prong had been assumed by the company almost from the day of its founding. As early as 1901 the firm purchased 40,000 acres in five parcels for \$121,000. In succeeding years smaller tracts were acquired from residents or timber interests like Swaggerty and Eubanks to give the company rights of way for its railroad and access to the timber of the entire watershed. From time to time timber rights to isolated tracts were procured from individuals who retained title to the land.<sup>16</sup>

No problem was more trying than that of getting to the timber itself. For a dozen miles or more above the junction of the three prongs, the East Prong winds its way tortuously through a narrow gorge. As there are no sharp changes in elevation, the river provided the best means of access to the main watershed. But in the gorge itself the cliffs loom over the water so that only by rock blasting could a right of way be cleared that was wide enough to accommodate the railroad bed.

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J. P. Murphy in his testimony in *Morton Butler Timber Company v. United States* (1937), U. S. Circuit Court of Appeals, 6th Circuit, Files of Great Smoky Mountains National Park (Gatlinburg, Tenn.), 216, 247. The testimony of experienced lumbermen in this and other cases has provided valuable background information. The lands were being condemned in order to create a national park.

<sup>15</sup> *American Lumberman*, March 2, 1907, March 3, June 24, 1906.

<sup>16</sup> Deeds (Sevier County), V, 266; VIII, 91; IX, 170; XVII, 143-72, 204.

In 1908 the work of extending the Little River Railroad through the gorge was carried out. The river was crossed three times by bridges in order to take advantage of less difficult conditions. The curves were so sharp—there were several of thirty-four and thirty-six degrees—that it became necessary to purchase a special Mallet-type locomotive to insure safe negotiation of the more treacherous turns. The track, of standard-gauge, consisted of sixty-pound rails laid on hewn oak ties. The cost of constructing this line for eighteen miles was \$360,000, a staggering sum for that time. In addition, by 1912 the Little River Railroad was using seven locomotives, thirty-five logging and flat-cars, three service cars, two passenger coaches, and two observation cars.<sup>17</sup>

Eighteen miles above Townsend the town of Elkmont was built as the base for woods operations on the East Prong. The railroad ran a regular passenger schedule to Elkmont, and it became a favorite holiday excursion before the day of good automobile roads into the area. The terminal, a post office, a commissary, and a number of residences comprised the town which existed for over fifteen years.

From Elkmont the railroad generally followed the main stream, and as cutting progressed spur lines were built along the tributaries. Further bridge construction was necessary, and, as the railroad began to penetrate the higher elevations, switchbacks were installed so that grades could be taken gradually.<sup>18</sup>

The penetration of the gorge by the railroad was an outstanding engineering achievement and made the timber of the East Prong marketable, but once this feat had been accomplished the operation of the railroad was generally routine. This was not true of logging itself, however, for new methods had to be adapted to the rugged mountain terrain.

As railroad construction progressed, some timber was removed along the right of way and from the small streams which joined the river. These areas, with some of the more accessible parts of the hollows in the vicinity of Elkmont, were cut by the familiar methods of saw crews and teams provided by local contractors who delivered logs to the nearest railroad siding. Above Elkmont, however, the grades were

<sup>17</sup> *Hardwood Record* (Chicago), November 3, 1912.

<sup>18</sup> *Southern Lumberman*, November 3, 1916.



steeper, and at last the Little River Lumber Company turned to some of the newer mechanical devices because the costs of team skidding had become excessive.

The first experiments were with ground skidding equipment; for example, a stationary donkey engine was able, by winding a cable on a drum, to pull logs in to the railroad more quickly than could be done by teams. This method was widely used in the lowlands of the South, but could be applied with only limited success to conditions in the Great Smokies where stumps, trees, and cliffs often impeded the progress of the logs.<sup>19</sup>

The company then sought the assistance of the Clyde Iron Works of Duluth, which had designed an overhead cableway system for use in the mountains. Put into operation in 1912, the system soon proved its worth by saving time and thus reducing logging costs. Soon four of these machines were in operation. The usual haul was about 2,000 feet, although on occasion logs were brought in from distances as great as 3,500 feet. The overhead system was especially effective in the spruce and hemlock forests below Clingman's Dome and Siler's Bald from 1917 to 1923.<sup>20</sup>

On especially steep grades incline railroads were put into use to attain heights to which rails could normally be laid only by the use of many switchbacks. Track was laid to the top of a slope, where a yarding machine was installed to pull cars up the grade by power and to let them down by controlled gravity. In this manner grades over thirty per cent could be surmounted where the safety limit for adhesion of wheel to rail on the ordinary logging railroad would not exceed ten per cent. A particularly striking example of the use to which the incline could be put was the line thrown across the river on a swinging bridge to surmount the Meigs Creek waterfall in the last stages of operations on the East Prong.<sup>21</sup>

The older methods continued to be employed in some areas. Teams were still called upon for many jobs, and log slides were used to advantage under certain conditions. An arrangement was made with the

<sup>19</sup> *Smoky Mountains National Park Commission v. Champion Fibre Company, et. al., Condemnation Proceedings*, Sevier County Circuit Court, 1930, Files of Great Smoky Mountains National Park, 240.

<sup>20</sup> *Ibid.*

<sup>21</sup> *Ibid.*

Champion Fibre Company by which that firm's spruce pulpwood was conveyed to the Little River Railroad for shipment to the Champion mill at Canton, North Carolina. This was achieved by constructing a flume from the head of Rough Creek, where the Champion Fibre property adjoined the Little River lands, down to the siding in the hollow.<sup>22</sup>

The period of logging the East Prong saw also a noticeable shift in emphasis from the hardwoods to hemlock. Hardwoods were cut and marketed as always, but more and more hemlock was utilized as the higher elevations were reached. The outbreak of the First World War created a demand for spruce for use in airplane construction. The estimated spruce sawlog stumpage held by the company was 15,000,000 board feet; of this over 9,000,000 feet were cut and shipped in 1917 and 1918.<sup>23</sup>

During its operations on the East Prong the company suffered severe losses from what might be considered the occupational hazards of the industry—fires and train wrecks. In 1916 a fire swept through and partly destroyed the mill, dry kilns, ice plant, and some adjacent buildings. The planing mill and some 15,000,000 feet of stored lumber were saved, but the value of the damaged property was estimated at between \$70,000 and \$80,000. The firm was well covered by insurance, however, and facilities were rapidly restored, and the mill resumed operations early in 1917. The inevitable brush fires started in the slash near the railroad, and occasionally, as on Jake's Creek in 1925, the fire got out of hand and caused widespread damage. There were a number of minor accidents on the railroad, especially on the temporary spur lines built up the tributaries of the main stream. The most famous wreck occurred at a switch just above Elkmont in 1909 and resulted in the death of the engineer, "Daddy" Bryson.<sup>24</sup>

By 1923 the accessible timber on the highest elevations above the East Prong had been cut out, and plans were set in motion to retreat from the basin. The railroad was taken up and laid into Jake's Creek above Elkmont, where operations continued until 1925. In that year

<sup>22</sup> *Ibid.*, 189, 240-41.

<sup>23</sup> *Ibid.*, 240; Kenneth M. Clark, "Spruce Production in North Carolina and Tennessee with Special Reference to the Production of Airplane Stock, May 13, 1918," Forest Service Papers (Agriculture and General Services Branch, National Archives, Washington, D. C.).

<sup>24</sup> *Hardwood Record*, July 10, 1916, gives an account of the fire; interview with Louis McCarter, July 22, 1958, on train wrecks.

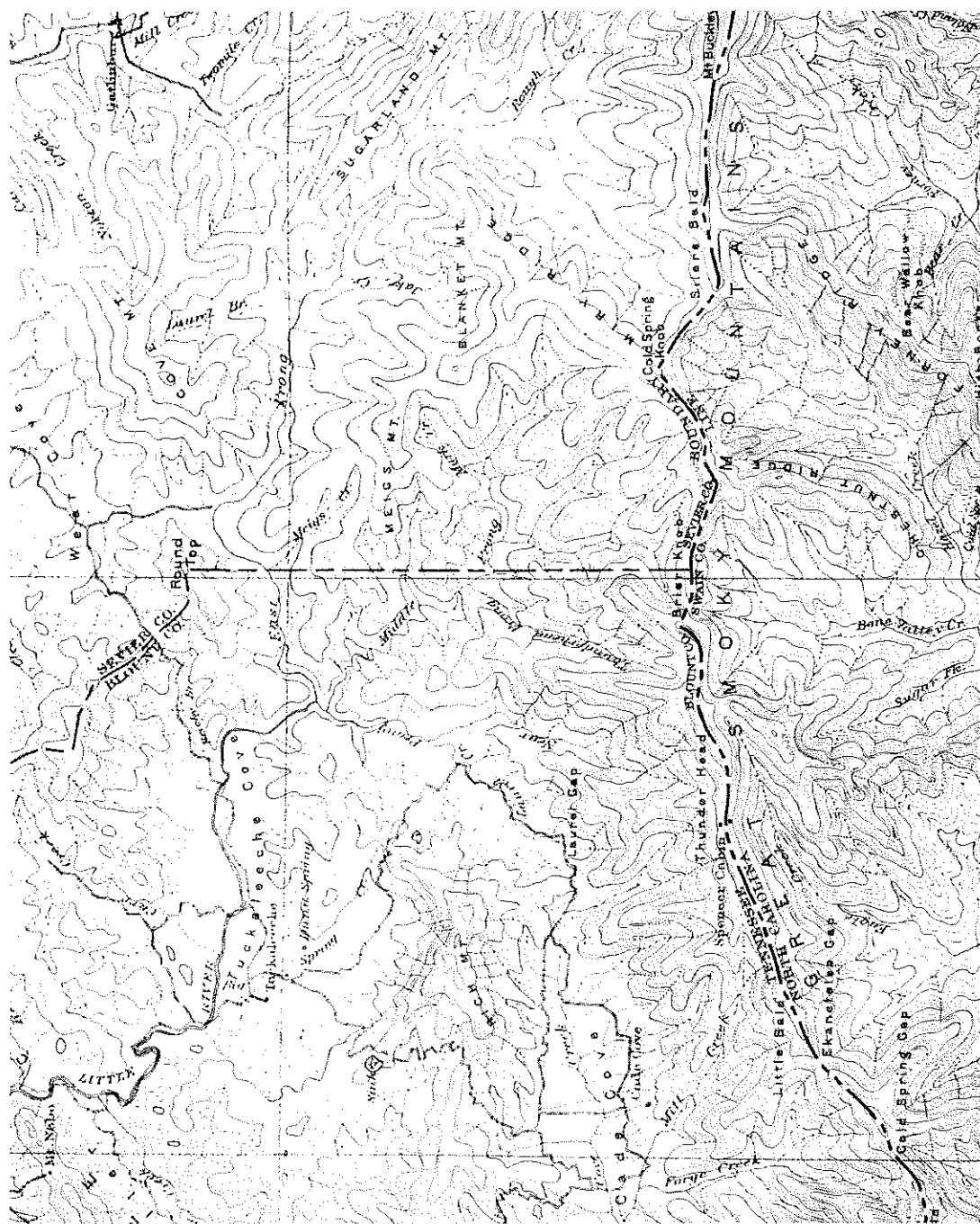
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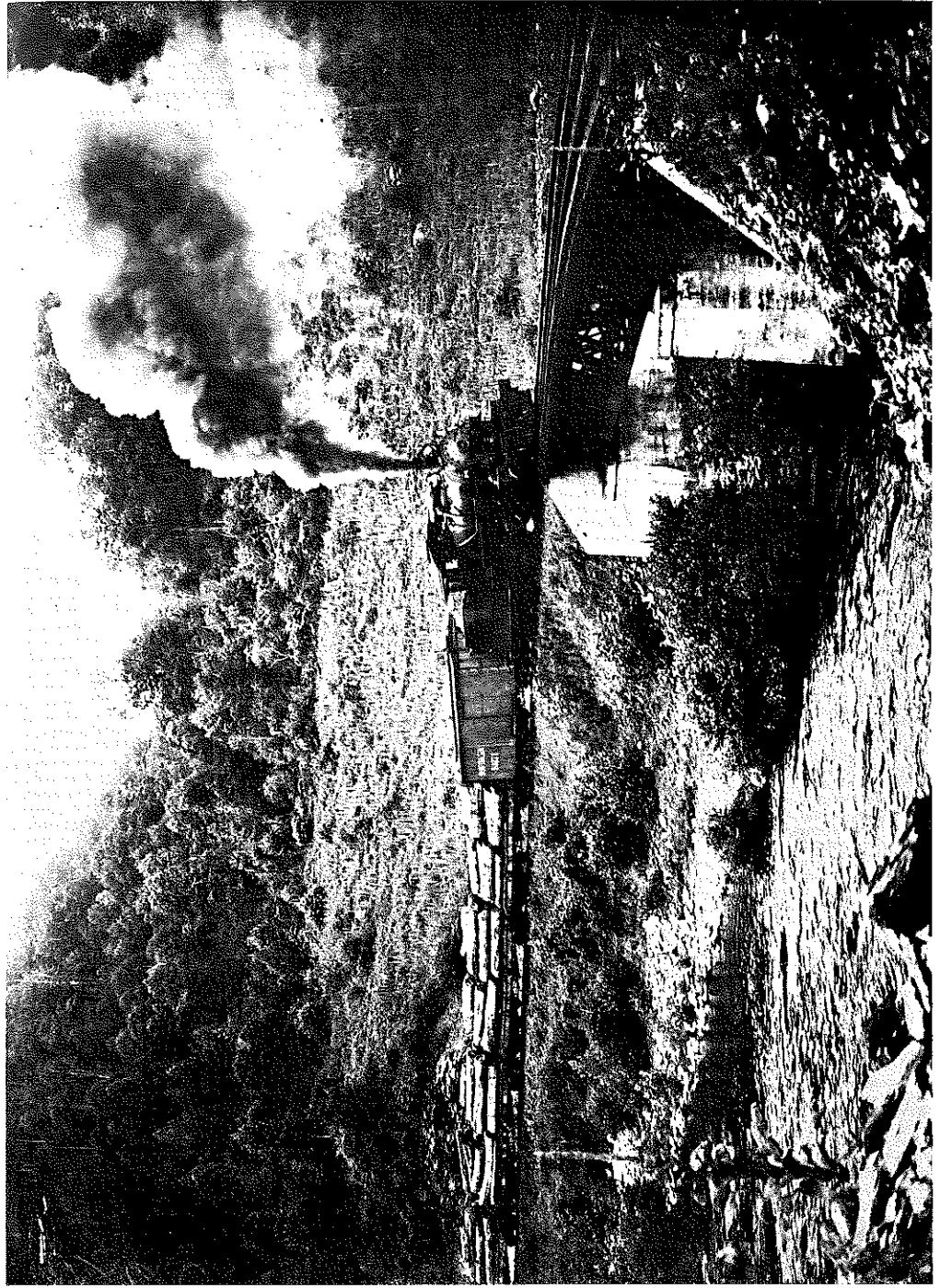
Map Showing Headwaters of Little River. U. S. Geological Survey, 1901 ed.



Snaking Birch Curly Wood. Collection of D. H. Tipton in National Park Headquarters, Gatlinburg.



Snaking Birch Curly Wood. Collection of D. H. Tipton in National Park Headquarters, Gatlinburg.



Little River Railroad at Three Forks. Collection of D. H. Tipton in National Park Headquarters, Gatlinburg.



Flume Used to Transport Logs to Railroad. Collection of D. H. Tipton in National Park Headquarters, Gatlinburg.

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Elkmont was left behind as the rails were removed below the town and through the gorge. Logging continued on the smaller creeks which flowed into the gorge so that virtually all the merchantable timber had been removed from the basin by the time the principal forks of the river were reached. Thus the era of logging on the East Prong ended at the point where it had begun some eighteen years before.<sup>25</sup>

The company now turned to the development of its remaining timber on the Middle Prong of the river. Generally most of the operating conditions were similar in nature to those experienced on the East Prong except that railroad engineering and construction were essentially simpler, and the distance between timber and mill was shorter. The pattern of logging was substantially the same, with principal reliance being placed upon mechanical methods. Production at the mill proceeded at an unusually high rate through the late 1920's, averaging over 22,000,000 feet per year. With the worsening economic conditions of the 1930's, this output could not be generally maintained; indeed, in the last year of operations the mill cut less than 2,000,000 feet.<sup>26</sup>

Economic conditions did not cause the cessation of operations on Little River. A new factor had emerged which would bring to an end the era of commercial logging, not only in the Little River basin, but throughout the Great Smoky Mountains. The development of the Middle Prong coincided with the movement in North Carolina and Tennessee to donate the Smoky Mountains lands to the United States government for the creation of a national park, and the Little River Lumber Company was among the first in that region which agreed to dispose of its lands to the Tennessee Park Commission. The firm was permitted to continue cutting merchantable timber for fifteen years, and its operations did not cease until 1939.

It will probably never be known how much timber was removed from the Little River basin during the period of commercial logging. The Little River Lumber Company estimated that some 560,000,000

<sup>25</sup> Interview with D. H. Tipton, Townsend, Tenn., August 13, 1958. Most of the information on the chronology of cutting on the East Prong was given to me by Mr. Tipton, the last president, and, for many years, general superintendent of the Little River Lumber Company.

<sup>26</sup> "Cost of Production of Lumber and Pulp Wood for the Years 1923 to 1928, inclusive, based on Log Scales, and Statement of Logs Scaled and Cut at the Townsend Mill for the Year 1939, and the Period of Operation," Files of D. H. Tipton, Townsend.



on in National Park

board feet of logs were manufactured by the mill at Townsend. In addition, unmeasurable quantities of timber were consumed in construction work at the mill, on the railroad, and in the camps, while some spruce was shipped directly in the log. The timber cut by the small farmers and selective loggers before 1900 is of unknown quantity, but it seems reasonable to speculate that the basin yielded as much as 1,000,000,000 feet of timber before cutting stopped altogether. Poplar, cherry, and ash brought the best prices as lumber, but hemlock accounted for over fifty per cent by volume of the timber cut, although much of it was turned out as lath rather than lumber.<sup>27</sup>

Data on costs, profit, and income of the Little River Lumber Company are fragmentary at best, but figures which were based upon certain years in the 1920's indicate that the operation was essentially a profitable one. The firm must have provided substantial assistance to the economy of the area through the purchase of supplies and its payroll, but here again its actual effect cannot be measured.<sup>28</sup>

Now as the traveler proceeds up the Little River gorge into the Great Smoky Mountains National Park, he is probably unaware that a generation ago a substantial industry flourished in the area. Little evidence of that activity remains, but if the traveler is a careful observer, he may discern fragments of such evidence in the form of the mill building in Townsend, the Tennessee highway which winds its way through the gorge on the old railroad bed, and the residences which still stand around Elkmont. And everywhere within his vision stands second-growth timber which in one short generation has been unable to achieve the stature of that which once stood there.

<sup>27</sup> "Statement of Logs Scaled, and Statement of Amount in Feet, Value, and Net Proceeds . . . of Lumber Shipped During 1939 and the Period of Operation." *Ibid.*

<sup>28</sup> "Net Proceeds from Sales of all Hardwood Lumber . . . for four years, viz; 1926, 1927, 1928, & 1929." *Ibid.*