special history study

logging and lumbering

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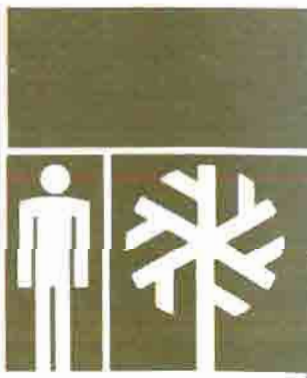
VOYAGEURS



NATIONAL PARK / MINNESOTA

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Special history study on logging and lumbering as

SPECIAL HISTORY STUDY ON LOGGING AND LUMBERING AS ASSOCIATED WITH THE AREA NOW INCORPORATED WITHIN THE PRESENT BOUNDS OF VOYAGEURS NATIONAL PARK

by

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CHAPTER ONE: HOW THE LOGGING FRONTIER APPROACHED THE MINNESOTA/ONTARIO BORDERLAND

The historic antecedents of Minnesota logging, of course, had their roots in a geographic progression that commenced on the Atlantic seaboard and migrated gradually across the continent to the Pacific Northwest, with a sideward digression to the South. It is axiomatic that the authors who wrote about this process tell us that the men and technology that exploited the Maine woods, moved on west following the trees to conquer the forests, in turn, of Michigan, Wisconsin and Minnesota. The woodsmen and entrepreneurs of Minnesota consecutively moved on to conquer the timber of Montana, Idaho, Washington, Oregon, and California. Thus there developed a tradition which was more than regional, but which, in its disparate locations, became distinctive to the local area. In other words, the Minnesota experience had something of the flavor of Maine, Michigan and Wisconsin; yet became individuated when it settled into the north wood's landscape.

One facet of logging, wherever it went, was the idea that wood could be useful only if it could be transported to the place where it was needed. Its utility depended mostly on transportation. One author went so far as to say that through almost every stage of the progress of lumbering, the cost of transportation constituted from forty to seventy-five percent of the cost of lumber to the consumer.[1] Whether these figures are reliable in all places or at all times is an endlessly debatable question; but the fact remains that transportation is such an integrally related part of logging, that it is without doubt one of the most important components of lumbering as an industry. Only the availability or non-availability of the timber itself is more important than transportation of the product. Thus, after the tree was felled, it had to be moved first to the landing, next to the mill either by water, rail or truck, then to the distributor or lumberyard, and finally to the consumer. In each of these phases there was a concomitant labor cost that paralleled the expense of the technological tools these men used.

The list of these instruments includes such diverse things as oxen, horses, sleighs, sleds, railway cars, various engines, jammers, dollys, wagons, and delivery vehicles.

The limitations of transportation technology also had an effect on how much and what kind of timber could be removed from the forests. Since early transport was restricted pretty much to movement by water, the lumberjack could only remove trees that were fairly close to a stream or a lake. The radius of action for oxen or horses was restricted by the plodding pace of the former and the strength and endurance of the latter. Similarly, the first sawmills were confined in close proximity to the same bodies of water. Therefore, the climate or season of the year determined <u>when</u> logs could be moved and when they could be sawed. For the same reason, swampy areas could be logged only during winter when the surface of the forest was frozen solid and the logs could only be driven to the mill after the spring thaw. The floatability of the timber was equally a limiting factor. White pine floated well enough, but most hardwoods and such trees as hemlock, birch, oak, and maple would sink to the bottom and could not be brought to market by water. Only later, when logging railways or trucks could get access to these heavier woods, did hardwoods and trees with greater density than water become fit objects for widespread logging.

From about 1880 to 1900 when the railroads became heavily involved in the business of hauling logs from forest to sawmill, the average cost of transportation declined. This era also coincided with the period of greatest timber abundance, so that supply was nearly equal to demand, and prices stayed low. Also during this interval, many of the large lumbering concerns were owners not only of the logging railroads, but also were the commercial carriers within the forested region, and therefore controlled their own freight rates. Later, commercial carriers were more frequently divorced from the logging industry, and therefore set rates commensurate with a wider variety of products that were then being carried on their lines. William Rector, who wrote an excellent monograph on log transportation in the lake states, claimed the logging

industry got an unjustly bad reputation because of high lumber prices from 1900 to 1930, although the true reason for this superinflationary rise was that railway tranportation costs had gone "through the roof". In some instances transportation costs had jumped more than a hundred percent during the period, and stumpage costs had also increased, but by a lesser percent.[2]

The role of superior transportation facilities for logging has often been mentioned as the root cause for the policy now universally condemned as reprehensible, the practice of clear-cutting a forest. Rector's observations on this subject are so interesting as to merit extensive quotation:

> In the late nineteenth and early twentieth centuries the logging railroad became a central factor in the logging plans of the Lake states lumbermen. Timber holdings were consolidated into blocks. Sometimes one firm would acquire the timber in an area, but quite as often a group of operators, who owned the timberland, would cooperate and log their holdings together. These syndicates would push a logging road through the forest and pursue the much lamented policy of "cut out and get out." When the land was stripped of its valuable resource, the engines were moved, the rails picked up, and the entire road was often transplanted to another area. In twenty operating years one lumber company picked up about 2,500 miles of trackage, but it never operated more than 200 miles of track at any one time. Between 1914 and 1929 another lumber company [the Virginia and Rainy Lake Company (V&RL)] picked up and laid more than 1,200 miles of trackage, but when the operation was finished in 1929 the company possessed only 138 miles of railroad trackage.
>
> The policy of cutting-out and getting-out has been almost universally condemned by the present generation [1953]. Many have blamed it upon the avariciousness of the lumbermen: others maintain that high stumpage prices were the cause, while many old lumbermen affirm that tax policies of local government units made the procedure a necessity. Forest fires, market fluctuations, and increasing production costs also entered the picture. Some have even thought that the logging railroad was a central factor and that its heavy capital requirements necessitated that it be used to its fullest capacity. All of these causes were probably influential but it must be remembered that in the conditions of the time, "cutting out and getting out" was deemed the most efficient method of logging. As late as 1918 the United States Forest Service approved the practice and in

> an official bulletin it advised loggers to keep "your cutting area compact, and when you make a skid road, take out all the timber tributary to it before you move to the next one."[3]

A mere discussion of transportation distracts the reader away from the object of that transportation, the timber itself. The curious observer well might ask why so much of the timber harvested in the nineteenth century was restricted to the white pine variety? The answer is that white pine was abundant, accessible, and very versatile in its uses. Having said this, one might falsely conclude that white pine was the only wood that had these virtues. As has already been touched upon, white pine was also floatable, and thus pushed all hardwoods and most heavier softwoods out of competition.

Once technology no longer required the floating of logs to the sawmill, white pine lost this advantage over the others. Rival species also lost out to white pine because entrepreneurs had not as yet found uses for them. Many trees were not merchantable because their trunks grew neither straight enough nor large enough to become potential boards. Such trees eventually became a fit raw material as pulpwood for paper. This latter use bloomed later into a major industry as technology advanced for the mass production of large quantities of paper that was mainly used for newsprint. This aspect of harvesting trees was a measure of market demand.

To illustrate the availability of white pine in Minnesota, one must analyze the acreage of its native forests. About sixty percent of Minnesota's surface was wooded. Of this forest, pine was only about eighteen percent of the total. Spruce-fir was more abundant at twenty percent; as were coniferous swamp trees at nineteen percent; and maple-basswood at twenty-seven percent. Bottom-land hardwoods constituted six percent, and aspen and scrub-oak together added up to about nine percent.[4] Thus, even though white pine did not predominate overall, it was the first species to be harvested en masse. This sequence of harvest was probably a function more of available technology than of any other factor. Minnesota was only imitative of the process that had

been used in Maine and the eastern states, and Michigan and Wisconsin. When the woodsmen migrated southward, it was only because of the greater presence of yellow pine, that it soon became a rival of white pine in the marketplace; and even then only because yellow pine was cheaper. Even here the lumbermen had to overcome the ingrained bias of the consumer, (mainly because it was a better quality pine wood), before they could successfully market the upstart new species. Similarly, with the lumberman's westward quest and discovery of new and abundant varieties, he had again to overcome consumer resistance to cedar and fir.[5]

The lumber industry of Minnesota can be said to have begun in 1820 and 1821 when the U.S. Army built Fort Snelling at the mouth of the Minnesota River where it flows into the Mississippi near the present day Twin Cities International Airport. The soldiers who were to man the post cut the logs some miles upstream on the Mississippi near the Falls of St. Anthony, the place which eventually became the burgeoning village of Minneapolis. The fort, of course, was more of an outpost on the frontier in the beginning; but its construction from native white pine, illustrates the point that the harvesting of timber had a close interrelationship with the advancement of the structures of civilization.[6]

The advance of white settlers into the wilderness was hampered by the ownership of the land by various Indian tribes; most notably the Chippewa in northern future-Minnesota and the Sioux in the southern portion of the territory. The first legal inroad of the whites came in 1837 with the cession of considerable acreage between the Mississippi and St. Croix Rivers by both the Chippewa and the Sioux. This triangle became the first area of forest exploitation in future-Minnesota during the years that followed, and there were illegal incursions by the woodsman beyond those confines as well.

Much of the white pine harvest was rafted down the Mississippi, a practice that developed into a legendary industry which survived more than eighty tempestuous years. Mark Twain's fiction immortalized

segments of this story in his Life on the Mississippi and his novel Huckleberry Finn gave the reader a cross-sectional view of frontier America from a raft much smaller than the logging rafts, but nonetheless an equivalent observation platform to that of the logging pilots.[7]

Meanwhile, on the upper Mississippi only about five million board feet of logs were cut in 1840 and much of this was sent downstream.[8] There was limited demand for boards in the Minnesota settlement during the 1840s, for as late as 1849 the population of the tiny settlements along the Mississippi was only 4,680. Lumber needed by the pioneers was cut at water-driven mills by muley saws, a stiff saw with vertical reciprocating motion. The muley saw was never famous for massive production, but it sufficed at that moment for a meager population.[9]

The coming of the railroad increased immigration to the Minnesota Territory which was established as such in 1849. Even though there was not a single foot of railroad track within the territory in 1857, three separate roads touched the Mississippi near Minnesota by 1854 at Rock Island, Illinois, and Prairie du Chien and La Crosse, Wisconsin. Of course river traffic still competed with the railroads in those days. But Minnesota population grew from six thousand in 1850 to more than forty thousand by 1855. Thereafter, the numbers swelled by leaps and bounds. In 1856 Minnesota territory had more than a hundred thousand people and a year later there were a hundred and fifty thousand settlers. This invasion gave tremendous impetus to the lumber industry, both to produce boards for the new homes inside Minnesota and to float logs downstream for new towns and villages on either side of the Mississippi all the way to St. Louis. With this expansion the rafting of logs burgeoned once again. During this era of growth, Minnesota became a state in 1858. By 1860 the populous portion of the state consisted of the southeast quadrant, extending up the Mississippi to west of Lake Mille Lacs and up the Minnesota River as far as Fort Ridgely. To this point in time, settlement was based mainly on river travel or access to the rivers. Needless to say, during the 1850s there had been four major cessions of Indian lands that opened up the vast majority of the state to immigrant habitation.[10]

Lumbering in the St. Croix country during the 1850s had its sawmill center at Stillwater. For a time that village was such a boomtown that prophets would have forecast it to become the capital or metropolis of the region. Concomitant with Stillwater's prosperity in the lumber trade, entrepreneurs were exploiting the white pine along the rivers of Wisconsin, particularly the Chippewa and the Wisconsin River itself. In the mid-1850s lumber from these trees was selling for about $16 to $25 per thousand feet, a high price for so young an industry. Many of the woodsmen in the St. Croix triangle had come from Maine, some were French Canadians, others were Yankees. In time there was a wider ethnic mix, including Scotch, Irish, Germans, Norwegians and Swedes.[11]

The decade of the 1860s was a rambunctious one for Minnesota. Despite the Civil War, people flooded in. The Homestead Act gave considerable impetus to population growth, so much so that by 1865 there were a quarter of a million people in the state. About the same time the railroad extended unbroken from Chicago to St. Paul, giving further encouragement to immigration. By 1870 there were 1,550 miles of track inside Minnesota, and Duluth was connected with St. Paul by two distinct lines. The success of farming in the rich black soil of the Minnesota Valley assured the new state of becoming an exporter of food staples already in 1860. Wheat was king, and farmers paid for the lumber for their houses and barns by means of the proceeds from their own holdings.[12]

The equally rich pineries of the St. Croix Delta flourished during the same decade. Eastern capitalists had moved in to run large-scale operations in the triangle, along with innumerable small-scale buyers who either paid cash for the land or used military bounty land warrants or were bonafide homesteaders. Some of the claims were fraudulent, but others were by genuine settlers who sold their stumpage to the large companies in order to get their land cleared for farming.[13]

The methods of the large companies were consonant with the technology of the period. It was a time of hand tools. The ax-wielder

was considered a skilled artisan and took in the highest wages among an entire crew, which consisted of twelve to fourteen men at a typical camp. A regular crew had two choppers with axes, two to three swampers who stripped the branches, two sled tenders, two barkers, two sawyers, one teamster, and one cook. The axman left a taller stump in those days and he could not cut the volume of wood felled by his heirs of a later time, hence the demise of his trade.[14]

Logs were skidded by oxen or horses in the early days. The ox had been mostly phased out by 1900 because of its slowness and its resulting lack of range. Logs were skidded to a landing near a river or lake by means of a device called a go-devil. The go-devil was a forked device made right in the forest from one of the trees. The log to be dragged was fitted into the fork and a chain or bar enclosed the log and was fastened to the two prongs of the fork. The go-devil was used until worn out and discarded where it broke.

Various forms of drays, sleds or sleighs that were a distinct advance over the go-devil were soon invented. Tools for maneuvering logs were many and varied. They started with a simple handspike which was little more than an unadorned pole that might have a metal spike on the end, or minimally a metal cup. The next advance was the cant hook which added a side hook to the straight pole. Since the side hook could dig into the bark or surface of a log, the cant hook could multiply a man's strength by permitting him to twist or turn over very large logs. The cant hook's major deficiency was the blunt end on the main pole which tended to slip. Joseph Peavey corrected this problem in 1858 in the Maine woods when he added a sharp spike to the main pole. This gave the pole a tighter grip on both prongs of the lever. Peavey's invention came to bear his name, but it took until the mid-1880s before the "peavey" came into general use and spread into the Minnesota woods. These and many more hand tools required the services of a blacksmith in the forest, both for the manufacture and repair of these metal tools.[15]

William Rector's monograph on log transportation has some interesting details on these woodsmen's levers:

> Another important improvement in the loggers' tools was the substitution of the peavey and the cant hook for the unreliable "swing dogs" and hand spikes. It has been claimed that the peavey was developed in 1858 by a Maine blacksmith named Joseph Peavey who subsequently had his idea stolen and patented by another as the result of a drinking bout. Whether the peavey was developed as early as 1858, or whether it was developed later, is probably a matter of antiquarian interest, since it does not appear to have been utilized in the Lake states until after the Civil War. In 1868 Isaac Staples served notice that his firm of Hersey, Staples and Bean had "purchased from the present owners of the patent, the sole and exclusive right, - for a certain district in the states of Wisconsin and Minnesota, . . . to manufacture, use and sell the "Pevy Cant Dog." It was almost ten years later before "pevey cant hooks" were displayed at the Minnesota State Fair and extensive sales were reported, while in 1878 and 1879 the manager of the Daniel Shaw Lumber Company wrote a number of letters describing the peavey to friends and business associates. The peavey was a much better tool than the "awkward and dangerous" swing dog which it replaced. A rigid clasp encircled the four to six feet staff and the hook, or dog, was attached to the clasp by a swivel-bolt. The dog could move up or down and thus automatically adjust itself to the size of each log, but it could not slip and move sideways to the possible injury of the worker. When equipped with a sharp spike driven in the end of the staff the tool was a peavey, generally used in the woods or on the drive; when there was no spike the tool was a cant hook and used for handling logs in mill or yard.[16]

Life for the crew in the earliest Minnesota camps was not as comfortable as it later came to be. The men had to make shelters for themselves as well as for the stock animals. These structures were barely a step above the primitive log cabins. The earliest cabins might have an earthen floor and the cooking was done in the same space where the men slept. Some lumberjack pioneers told stories of sleeping on such a floor under a common blanket while their breakfast cooked overnight in the "bean-hole."[17]

The bean-hole method of cookery survived for several decades, even when the crews became larger and a separate cook shed was built. In

the latter instance the hole or trench was dug either in the cook shanty or out in the open. The cooking process was begun before the bean kettle was ready. A huge fire, of either birch or maple logs was set going in the hole until it had banked into live coals. Meanwhile, the beans were soaked in water and then put into the kettle together with a goodly supply of salt pork as well as plenty of blackstrap molasses for sweetening purposes. The kettle was capped with its cover and placed in the hole; the coals were packed tightly against the kettle, and the fire was replenished with a fresh supply of wood. By morning the baked beans were properly cooked and declared to be delicious.[18]

The usage of the bean-hole makes the point that the menu of the early lumberjacks tended to be repetitious and of limited variety. A few variants of this diet included corned beef, dried apples, tea, coffee and such vegetables as potatoes, rutabagas, cabbage, and beets. The only thing the early fare had in common with the later diet was that there was an abundance of it, because the hard working woodsmen needed considerable nourishment to sustain their strength.[19]

Although provisioned with monotonous meals, the St. Croix woodsmen rapidly increased production in the delta from five million board feet in 1840 to ninety million in 1850, and a hundred fifty million feet in 1860. The figures continued high thereafter, with the exceptions of 1862 to 1864 when low water in the Mississippi hampered transit of logs to downstream sawmills. The peak year was 1872 when 180 million board feet of logs were scaled at the St. Croix boom.[20]

The era from 1843 to 1913 was the time of the big Mississippi log-rafting operation. Every city of consequence on the banks of that river became a sawmill town. Minneapolis had a natural advantage in being close to the forests and having waterpower provided by the Falls of St. Anthony. Early sawmills harnessed the falls and later technology permitted more numerous mills along the river both for cutting lumber as well as milling wheat. Minnesota population grew from about 172,000 in 1860 to 780,000 by 1880. Much of this growth was in the environs of

Minneapolis, so that city had a tremendous market for the lumber from the state's nearby forests, as well as from the farm produce from the Minnesota Valley. Minneapolis blossomed from 46,887 people in 1880 to 164,738 in 1890.[21]

There was equal demand for Minnesota white pine at every stop down the Mississippi. There were sawmills at Winona, Minnesota, Clinton and Muscatine, Iowa, and Hannibal and St. Louis, Missouri. Most of the timber was rafted as logs, but the modern reader might be surprised to note that some of the wood was rafted as bundles of sawed boards and washed off at its destination. George W. Dulany, Jr. told of his participation in this process when he rode a lumber raft down the Mississippi from the Chippewa River of Wisconsin to Hannibal, Missouri. The timber had been milled at Eau Claire, Wisconsin, packed into tight cribs that were lashed together into long strings, and floated downstream with boats fore and aft guiding the conglomerate to its destination. At Hannibal flatcars were lowered partly into the river to recover the lumber. The cribs of dirty lumber were washed by a pressure-hose and the boards were stacked in the yard in such a way that they would dry by natural air.[22]

The more usual way of transporting timber down the Mississippi was in the form of logs. The methods of lashing logs together became an artform that had its own vocabulary. Besides "cribs" and "strings" there were devices for holding the immense collection of logs together with names like "runners," "binders," "grub pins," "witches," and "courses." Much of this technology was later imitated on the lakes and rivers of northern Minnesota, as well as Lake Superior, when it became necessary to move legions of logs en masse.[23]

Methods of propulsion on the Mississippi were as inventive as the means for raft building. Rafting started with manpower. They had crews who used poles to keep the raft away from obstacles, plus a makeshift rudder to give it continuous guidance. Sails were tried to assist these early rafts through slow-flowing parts of the Mississippi,

such as Lake Pepin. A technique called "cordelling" was tried, using horses along the riverbank to pull a raft by one of its ropes or hawsers. Larson believed that 1851 was the first time a towboat was used to pull a log raft and that in 1855 steamboats got into the act. After 1863 the use of steamboats for towing rafts was general. As late as 1890 about a hundred sternwheel riverboats were still pushing log rafts down the Mississippi.[24]

There were nearly an infinite variety of methods for marketing the timber as it moved downriver. One owner might move it all the way, or sell fixed quantities under contract. Some loggers randomly sold a few logs here and a few logs there, running out of timber by the time they reached Iowa. Prices varied, but were usually cheap before the Civil War at about $6.50 for a thousand board feet, (an "M"), and as high as $40 per M after the Civil War. The trend in prices after that was downward because of abundant supply.[25]

From 1870 to 1890 the railroads became strong competitors with the rafters for distribution of lumber. Naturally the better markets for the railroads were away from the rivers, mainly on an east-west axis. Most of the expansion was westward out onto the prairies. Stillwater, Winona, and La Crosse were important rail distribution centers in this process.

This was also the era in which the great timber barons throve. One man who stood out among the others, because of the staying power of his family, was Frederick Weyerhaeuser. In 1856 he invested three thousand dollars in a small sawmill at Rock Island, Illinois. By 1887 he was the biggest lumberman in the U.S.A. In the beginning his partner was F.C.A. Denkmann, his brother-in-law. The reason for the continued success of their many enterprises seemed to be the intelligence and business acuity of family members. One of their secrets to success was their ownership of every facet of production, from the forests to the railroads to the mills to the lumberyards. The last mentioned aspect, the yards, was a semi-exception in that local businessmen would hold Weyerhaeuser franchises in what were called "line-yards." Usually the

syndicate did not come into a town that had an established lumber yard even though they could have blown them out of town with a price war. Integrity was the key to Weyerhaeuser operations. Surprisingly, the family seldom acquired cheap timber or cheap land at the going government price. They paid top dollar, being highly selective in finding the highest quality timber on the stump. As we shall see, Fred Weyerhaeuser was a key member of the Virginia and Rainy Lake Company that harvested much of the white pine in the environs of present-day Voyageurs National Park.[26]

The 1870-1890 period was also a memorable time for the Minnesota sawmills. When the railroads moved into the Duluth area, vast new tracts of white pine became accessible both along the north shore of Lake Superior as well as west of that city and south of it either in Minnesota or Wisconsin. Many of the new sawmills were built near Duluth, but this new expanse gave more fuel and life to the Minneapolis mills. Sawmill technology burgeoned with this development. The kerf of the old circular saws had been a full quarter inch, destroying vast quantities of wood by converting it into sawdust. As yet, no use had been found for the sawdust and the other so-called waste products of the forest. The new band saws had a kerf of only an eighth of an inch, immediately reducing sawdust by half. Some lumber companies introduced dry kiln drying of lumber, which on its face would seem to add to the cost of boards, but these mills often stoked their kiln furnaces partly with the waste sawdust. In addition, the fast-drying kiln method often readied lumber for market faster than the slower natural-drying wood.[27]

In the 1880s as the volume of lumber production increased, the corresponding need for larger and larger crews in the forest grew. From cruisers to log drivers on the rivers, jobs had settled down to greater specialization. Actually, the cruiser passed through the woods before the crew came onto the scene. Many cruisers travelled alone, traversing the wilderness for weeks on end, trying to find the acreage with the highest density of quality pine. As the trade of cruising developed, some specialist might bring along a compass man, a recorder, or even a cook.

In the twentieth century, the airplane has been used to speed up the timber estimate by a quantum-jump of efficiency.

The earliest cruisers seemed to make the most accurate estimates. There must have been a hundred different mathematical formulae for computing the number of board feet in a tract. One method was called "horse-shoeing a forty." The cruiser started at the corner of a forty acre tract, walked 125 paces along the forty line, turned into the forty at a right angle and walked 125 paces into the forty. Then he took another right turn and walked another 125 paces, coming out of the forty on the side from which he started.[28] During his trek, he observed the thickness of the trunks. From this he computed the number of board feet per acre. Scalers performed a similar function to cruisers, but they were always measuring felled trees. The scaler appeared at every major stopping place for timber; at the landing, in the log boom, and at the sawmill. While logs were afloat, he might have the assistance of a tally boy who marked the logs which were already counted.

After 1870 lumberjacks with crosscut saws made the highly skilled axman obsolete. The sawyers, too, were divided into specialties. Undercutters prepared a tree for felling by indicating the direction of fall with their first wedge-shaped cut. Regular sawyers felled the trees and cut them into sections, usually sixteen feet long. Swampers cleared off the branches or took out the underbrush. Teamsters managed either oxen or horses in skidding logs to a landing. Their equipment advanced from go-devil to drays to sleds to sleighs. When sleighs were perfected, a "jammer" was necessary even in the woods. A jammer was nothing more than a primitive hoist with a pulley for lifting the log atop a load. Single jammers were put together on the spot. Large sleigh loads frequently totalled 20,000 board feet and on occasion the lumberjacks tried for records, some of which exceeded 30,000 board feet. One variant record was a load of 54,000 board feet on two sleds pulled by six horses.[29]

All this hauling by sled, of course, could only be done in winter. Most anywhere in Minnesota the ground was too soft to sustain the

immense weights of wagons or sleighs at any season except winter. The sleighs or sleds therefore required specialized technology for icing the roads. A wooden tank sled carried water from the nearest lake or river to make the ice for the sleigh grooves. Almost all of the tanks had a bed of coals underneath to prevent the water from freezing en route. A rare few tank sleds had their own steam powered water pumps. Most of the time there was a pumphouse at the lake or river. "Road monkeys" supported the tank sled by conditioning the ice grooves. On steep downhill grades they would place enough straw in the grooves to prevent the load of logs from killing a team of horses with sudden excessive acceleration. In other places, the road monkeys cleared out stock manure to prevent sleigh stalling.

At the landing was another specialized crew of lumberjacks. There were several loaders on the ground who guided the logs with their peaveys or other hand tools, while a teamster directed a horse which powered the jammer. A top loader directed this crew, standing in danger's way at the top of the pile of logs, nimbly dodging each log as it came up and maneuvered it into position in such a way that it would balance and not topple the entire load. For this privilege the top loader received the best wage among the laboring men.[30]

From 1870 to 1890 the wages of the crew members in the woods varied from a low of about $1.25 a day for swampers, to $2.40 a day for a foreman.[31]

The major difference between the early logging era and the twentieth century was that during the former period most logs floated to the sawmill; whereas later they were carried by rail. River transportation necessitated all of the skills of the "river pig," the lumberjack who moved over a sea of logs wearing his caulked boots. It was an exceedingly dangerous operation that usually took place in the spring with the ice breakup. Some minor streams required the advance preparation of logging dams so that the river or creek would have a sufficient head of water to float the logs down. On some tributary streams in northern Minnesota, there still can be found traces of these early logging dams.

The typical spring drive would be managed by dividing the crew into three teams; the first leading the flow of logs and preventing or breaking up logjams; the second directing the main flow of logs; the third bringing up the rear with cleanup and having a wannigan boat for meals and a sleeping place for some of the crew. Agnes Larson interviewed many of the oldtime "river pigs" about the problem of logjams and the "key log." Their consensus was that the key log to a logjam was a myth, or that if there was a key log, no one knew which one it was, or that there might be several hundred key logs. The latter explanation meant that breaking a jam was back-breaking tedious work in which the jacks pried loose log after log until finally the mass of logs floated free.[32]

Agnes Larson told of the variant method used in floating logs along the Minnesota/Ontario border:

> The method of driving logs on the lakes was somewhat different from that used in river-driving. The logs were placed on the frozen ice in the winter. A boom framework was placed around them, and when the ice melted the logs lay on the water. The boom of logs was then towed across the lake to whatever stream the logs were to be turned into. Horse headworks provided the power which pushed the logs. This was a raft fitted with a windlass and a stall for two horses and a workroom for the men. Around the windlass was wound a heavy rope up to one thousand feet in length, and to this was attached a deep-sea anchor. A batteau carried the anchor out as far as the rope would go, and there the anchor was cast into the lake. Then the team hitched to the windlass was started, the rope dragged in, and the raft began to move. As the rope came in, a man sitting at the front of the raft coiled it neatly for another "shot." This method of towing logs through the lakes is still [1949] in use in Rainy Lake, the only difference being in the power. Horses have been replaced by steam power, and today the headworks is called the "alligator."[33]

Life in the woods during the 1870-1890 era differed from its antecedents mainly by its bigness. Larger shelters were needed for the men because of the increased size of the crew. All of the camp buildings were then built for greater permanency, and as the railroad came into the picture, the various shacks and sheds were made to be portable. The mess hall and cooking establishment was greatly expanded and the quality

of fare has been generally said to have vastly improved. The reason for this phenomenon was that the lumberjack chose his place of employment primarily on the basis of good food and a compatible foreman.

The lumberjack's day extended from sunup to sundown. Breakfast was eaten before it was fully light in the forest. Breakfast was a formidable meal for the lumberjack as were the other meals. Flapjacks were the mainstay for breakfast, but the other victuals might include fried potatoes, ham, bacon, or salt pork, bread or muffins, doughnuts, and coffee. Because of the extreme cold in the winter woods of Minnesota, the various companies made every effort to bring a hot meal to the men at noon. The meal might be a heavy soup of stew that was well fortified with some form of meat, potatoes, gravy, plus cornbread. There were no canned fruits in the early days, so that if fruits were available, they were in a dried format. Similarly with vegetables: peas, rice, beans, barley, macaroni and tapioca were of the dried variety. From very early times, many camps had fresh rutabagas, potatoes, cabbage and carrots. These were stored in a root cellar. The early meats were often bought from the Indians. These included caribou, moose, and deer. Their availability indicated the abundance of game at that period. The evening meal, of course, was the triumph of the lumberjack's day. It was substantial as well as rich in variety. There was a different soup every day, meat, potatoes, gravy, several kinds of vegetables and the pastries were always a strong category. Most cooks took pride in their baking, and were able to provide cookies, doughnuts, several kinds of pies or cakes, rice or bread pudding, as well as some dried fruit.

After the evening meal, there was little time for entertainment before lights out. Most jacks could only hang their wet socks or other clothing to dry before crawling into a bunk. Card games were usually discouraged, since they usually led to gambling. Similarly, whiskey seldom appeared in the camps because, when it did, the lumberjack usually quit his job to go to town for an extended "toot." Storytelling was a major pastime, but there was not enough free time for much of this during the week. So Sundays were the days when this famous folklore

was developed. Sundays too were the days when the loggers got to hear the "sky pilot," or itinerant preacher, and when they did their singing and got their haircuts, and washed themselves and their clothes.[34]

Medical care in the camps before the turn of the century was commensurate with the state of the medical arts anywhere at that time. There are conflicting tales about loss of life in the woods. Some say it was a frequent occurrence and that men were buried where they fell, whether crushed by a fallen tree or cut by a wayward ax. Others claimed that accidents were few since the men were healthy specimens and prided themselves in their skill with tools. Doubtlessly, there was considerable variation from company to company, depending on the care of hiring practices, the placement of men in jobs they could handle, and the methods of supervision. J.C. Ryan, who had considerable firsthand experience in the north woods between 1910 and 1970, also learned much from the previous generation of loggers. On medicine, he had this to say:

> Prior to 1919, a first aid kit was never found in a lumber camp. It was only after workmen's insurance laws were passed that insurance companies insisted first aid kits be in every camp. If a man got a scratch or cut, he would apply balsam pitch, or a chew of Peerless tobacco to it; and it would heal in a few days. The only medicines sold in the camp commissary were Hinkleys bone linement, Davis Vegetable pain killer, castor oil, Prunia, Vasoline, Jamaica Ginger, Cascara pills, carbolic salves, and in later years, aspirin tablets. Most camps had more medicine on hand for the horses than they had for the men.[35]

A. Decline of the Downriver Sawmills from 1890 to 1920

Several things happened along the Mississippi after 1890. First of all yellow pine was being cut in the south which was closer to St. Louis and many of the western markets for lumber. As we have seen, as well, yellow pine was abundant and cheaper than white pine. Also the towns and farms on either side of the Mississippi in Iowa and Illinois had developed to such an extent that their demand for lumber no longer was

what it once had been. By 1919 the southern forests were producing nearly fifty percent of the lumber made in the United States and the lumber coming from the Lake States then constituted only about 7.8 percent of total U.S. production. In early decades, between 1880 and 1890, the Lake States had once held about a third of the total market. So the supply of white pine in Minnesota was rapidly depleting; and what was left of it was becoming more and more remote in the upper boundary country of the state. This state of affairs finally brought an end to rafting down the Mississippi around 1915. During the interval from 1837 to 1915 about 47 billion board feet of logs had been floated down the river. This was about fifteen percent of all the softwood lumber produced by the Lake States during that era.[36]

Despite the decline of downriver sawmills and markets, the lumber industry in Minnesota reached its peak at Minneapolis during the period from 1890 to 1905, but there were signs that the big timber magnates were moving to greener pastures. For example, E.W. Backus of Minneapolis went personally into the northern wilderness in 1898 with one of his cruisers and found a location on the Rainy River for a new headquarters for his empire. He was thinking waterpower and timber when he beheld the Koochiching Falls on the border opposite Fort Frances, Ontario. He did in fact establish his fiefdom there in the years that followed. Similarly, Frederick Weyerhaeuser and his associates edged farther into the north country, establishing roots in Cloquet, Minnesota, just west of Duluth in the early 1890s. At about the same time, Weyerhaeuser and his first partner, F.C.A. Denkmann, bought into the Moon and Kerr Lumber Company at Virginia, Minnesota. This was his first step forward toward the eventual merger that produced the Virginia and Rainy Lake Company (V&RL), which has such close associations with the present-day Voyageurs National Park. Interestingly enough, Backus and his partner Brooks had to sell their Minneapolis interests to make the move north; and of all people, it was the Weyerhaeusers who bought them out in Minneapolis during March of 1905. There were other Minneapolitan lumbermen who went north, such as Thomas Shevlin. During the following years, Shevlin operated in northern Minnesota and at various

times was a partner with Backus, then with James A. Mathieu and C.W. Clarke. Shevlin also imitated Backus in establishing companies in Ontario and Minnesota, but eventually settled the bulk of his investments on the Ontario side of the line at Rat Portage and Fort Frances.[37]

As lumber production at Minneapolis declined after the turn of the century, Duluth took up the slack. As we have seen, Weyerhaeuser was well entrenched at Cloquet by 1897. At that time a lumberman's estimate of standing white pine in Minnesota came to twenty to thirty billion board feet. Most of this was believed to be in the northeast. At that moment, that sector of the state was the least logged, but not for long. Cloquet rapidly became headquarters for the region. And most of the lumber was shipped to market by barges via Lake Superior. Together with iron ore shipments and grain export, Duluth became one of the busiest ports in the world when lumber was added to it products. In 1900, the Duluth district, expecially Cloquet, aggregated a production of 675 million board feet. Two years later the area set its record. This region probably had the most lucrative profits because of the economy of transportation by boat. The cost per M sank as low as $1.40 in the 1890s. The average for 1897 was $1.58 per M and in 1898 $1.78 per M. This was accomplished even though many of the barges still had to be loaded by hand.[38]

ENDNOTES FOR CHAPTER ONE

1. William Gerald Rector, Log Transportation in the Lake States Lumber Industry 1840-1918 (Glendale, Calif.: Arthur H. Clark Company, 1953), 15-41, passim.

2. Rector, Log Transportation, 298-301. Use of the term "stumpage" applies to the cost of timber without purchase of the land on which it stands. Frequently homesteaders would sell only the timber on their land to a company for so many dollars an acre; this was a stumpage price.

3. Ibid., 289-290.

4. Ibid., 52.

5. Agnes M. Larson, History of the White Pine Industry in Minnesota (Minneapolis: University of Minnesota Press, 1949, reprint ed., New York: Arno Press, 1972), 397.

6. "Lumbering in Minnesota," Roots 4 (Fall 1975), 5.

7. Ibid., 8.

8. A board foot measures one foot by one foot by one inch. This expression of volume is used by lumbermen either when referring to timber cut into boards or timber still in the form of logs or timber on the stump. The term "M" is used to indicate a thousand board feet. The derivation of "M" is from Latin numeralogy "M" standing for "Mille", a thousand.

9. Larson, History of the White Pine Industry, 15-16, 23.

10. Ibid., 30-31; also Albro Martin, James J. Hill and the Opening of the Northwest (New York: Oxford University Press, 1976), and Samuel Trask Dana, John H. Allison, and Russell N. Cunningham, Minnesota Lands (Washington: American Forestry Association, 1960), 71, 74.

11. Larson, History of the White Pine Industry, 11-28, 75-6.

12. Ibid., 44, 48-50, 73.

13. Ibid., 53-70.

14. Ibid., 77-8.

15. Ibid.

16. Rector, Log Transportation, 206-8.

17. Larson, History of the White Pine Industry, 71-85.

18. Wright T. Orcutt, "The Minnesota Lumberjacks," Minnesota History 6 (March 1925), 8-9.

19. Ibid., 5.

20. Larson, Table I, 25.

21. Ibid., 86-104, 106, 120.

22. Interview with George W. Dulany, Jr., LaJolla, Calif., by the Forest History Foundation, September 21, 1956, Voyageurs National Park Files (VNP Files).

23. Larson, History of the White Pine Industry, 90-1.

24. Ibid., 93-4.

25. Ibid., 98.

26. Ibid., 127-141.

27. Ibid., 147-164.

28. Kenneth W. Perala, "The History of Logging in Selected Areas of St. Louis County" (MS Thesis, University of Minnesota at Duluth, 1967), 125.

29. J.C. Ryan, Early Loggers in Minnesota (Duluth: Minnesota Timber Producers Association, 1975-1980), III: 47-9.

30. Larson, History of the White Pine Industry, 165-191; Ryan, Early Loggers in Minnesota, I: 5-10, 12-14, 18, 19, 27-9, II: 58-60, III: 44-9, 52-4.

31. Larson, History of the White Pine Industry, 181-4.

32. Ibid., 185-191.

33. Ibid., 185-6.

34. Ibid., 192-219; Ryan, Early Loggers in Minnesota I: 15-7, 42-3, II: 24-9, III: 20-3, 38-40, 55-60.

35. Ryan, Early Loggers in Minnesota, I: 11.

36. Larson, History of the White Pine Industry, 220-8; statistics from pages 221 and 227. Total production figures for the Lake States between 1830 and 1918 are from a graph in Rector, page 217.

37. Larson, History of the White Pine Industry, 229-246; R. Newell Searle, Saving Quetico-Superior, A Land Set Apart (St. Paul: Minnesota Historical Society Press, 1977), 13, 35, 40, Leslie R. Beatty, "A Forest Ranger's Diary." The Conservation Volunteer (St. Paul: Minnesota Department of Conservation 1962-1968), printed in 34 parts, Part VI, 53; Ralph W. Hidy, Frank Ernest Hill, and Allan Nevins, Timber and Men, The Weyerhaeuser Story (New York: The MacMillan Company, 1963), 195-6.

38. Hidy, et al., Timber and Men, 182-206; Walter Van Brunt, Duluth and St. Louis County Minnesota, Their Story and People (New York: American Historical Society, 1921), I: 328.

CHAPTER TWO: THE LAST LOGGING FRONTIER IS OPENED AND MODERN TECHNOLOGY HASTENS THE CONQUEST OF THE NORTH WOODS

The last phase in exploiting Minnesota pinelands began in the 1880s with the survey and opening up of the border country but the volume removal of pine logs did not commence for nearly thirty years because of the inaccessibility of most of the land. Despite this, there was a certain amount of timber pirating on the border lakes by both Canadians and Americans. The technology-capability of the era, however, allowed only the removal of trees on the banks of streams and lakes, float them downstream via the Rainy River and ultimately to the Lake of the Woods, to several sawmills at Rat Portage on the northeast shore of that lake. Rat Portage, now Kenora, Ontario, had rail access to the west and the markets of the Red River Valley already in 1881.

A. LAND LAWS AND ENFORCEMENT

Minnesota was not the only place having difficulties with the U.S. Federal land laws. Since timber was a valuable commodity everywhere, it always produced a temptation for entrepreneurs to take it "for free" if they could get it in that way. With so much forest available on the uncharted frontiers, it was easy for the timber hungry businessman to cheat on the law.

From the beginning, however, it must be recognized that the land laws were designed more for the settlement of the continent rather than to provide incentives to the captains of industry. It is, therefore, not strange to note that the first law to make it a felony to cut and remove timber from public lands without permission was passed only in 1831. Thereafter, this law was mainly a dead letter either because there was an insufficient corps of law enforcement officials; or the wooded territory was too vast for any corps to patrol; or that custom and public opinion

was so rabidly opposed to any enforcement that it was impossible to achieve.[1]

Lucile Kane of the Minnesota Historical Society did a paper some years ago on the subject of trespass for timber on public lands in the upper Lake States, and noted evidences from the General Land Office Records in the National Archives of attempted enforcement of the laws during the 1850s in Minnesota. The few agents in the vineyard who labored to fulfill this Sisyphean task complained of the impossibility of executing their duties, so that the Secretary of the Interior, who had inherited this problem with the creation of his cabinet level post, decided in 1855 to transfer this responsibility to the registers and receivers in the General Land Office. In effect, this was conceding defeat to the timber trespassers, for the registers and receivers had enough to do, and insufficient money and time to send agents into the field. It was another instance of "benign neglect" that lasted until the arrival of Carl Schurz at Interior in 1877. Schurz assigned certain clerks under the title of "special timber agents" to go into the forests and make it unprofitable for the timber depredations to continue. Despite the zeal of Schurz and his men, they were as unsuccessful in making headway against timber thievery as their predecessors had been.[2]

In Minnesota, the problem of trespass was allowed to continue because of the negligence and collusion of the Surveyors General for the state. An 1877 state law required that the governor be involved in the sale of state timber lands by approving or disapproving bids in public auctions for said lands. During the interval 1885-1891, the Surveyor General did not refer a single bid to the governor and ran the auctions of state lands by himself, contrary to law.[3]

B. FEDERAL LAND LAWS AND NORTHERN MINNESOTA

A branch of the General Land Office in Duluth was doing a booming business during the 1880s. The lands of Itasca County, which then

included what is now Koochiching County, were opened for sale in 1882. The prices per acre varied between $2.50 and $6.00. It was, however, a time of flux in so far as the Federal Land policy was concerned.

While the U.S. Congress contemplated repealing the much abused preemption laws (written in the 1820s), during the 1880s, one Federal agent, Milton Peden, was active in hunting for trespassers in the Rainy Lake District. While he did catch a few violators, Peden merely acted as an inconvenience to numerous other loggers who had either to suspend operations while Peden was passing through their district, or carefully maneuver logs downstream and hope that Peden would miss them.[4]

Even though most influences pressured for the quickest possible exploitation of the nation's forests, there were forces at work that looked toward the preservation or conservation of a portion of these bountiful natural resources. In 1886, Dr. Bernhard E. Fernow came onto the scene as the nation's first trained forester. He and other farsighted individuals were able to prevail upon the Congress to enact the Forest Reserve Act in 1891. Even during President Benjamin Harrison's term thirteen million acres were set aside, but it was not until 1905 that the various national forests were placed under the Secretary of Agriculture.[5]

Most of northeastern Minnesota had been relinquished by Chippewa sessions of 1854, 1855 and 1866. More than half of this Federal land went into private ownership under preemption laws, either the Land Act of 1820, the Pre-emption Acts of 1830 and 1841, or the Graduation Act of 1854. Pre-emption was the legal confirmation of squatter claims on public lands as opposed to engrossment by nonresident purchasers. These various pre-emption acts came to be considered "speculators laws."

These various pre-emption laws were repealed in 1891. With repeal, there was no more sale of public land by auction; the land was no longer as cheap as it had been; and people in Minnesota came to depend more and more on the Homestead Act for the acquisition of land and timber. One writer expressed the opinion that nine-tenths of all the land entries

at the Duluth land office were fraudulent. In some cases the entries were "dummies," where large companies used fictitious names to grab parcels of land. In other cases, a private party would stake a claim for no other purpose than to sell the stumpage on land he never intended to improve. When he got his fee for the stumpage, he would move on west, perhaps to stake further homestead claims. A third method was to stake a genuine homestead claim, and use a lumbering company to clear the land, which in turn was cited as evidence that they had "proved up" the land. In this latter method, many genuine settlers made enough money to use commutation (paying $1.25 an acre) for getting a clear title to their land before their five years were up. They therefore had no further need to fulfill additional requirements of the Homestead Act and could attempt a variety of other options, such as selling further stumpage to companies, seeking minerals on their land, selling the land to speculators or actually farming the acreage. Selling stumpage was risky, as the homesteaders had to accept cruiser estimates of timber volume, and these might be off by as much as one-half.

During the 1890s and after 1900, E.W. Backus bought up a lot of land and considerable stumpage in northern Itasca and northern St. Louis counties. It was not as cheap as once it had been, but it was still a bargain. In 1898 the average stumpage price was $2.86 per M, and in 1900 it was $5.17 per M. At the same time, Backus was able to get his hands on a lot of stumpage on Indian lands. The Dawes Severalty Act of 1887 provided for the dissolution of the Indian tribes as legal entities and the division of the tribal lands among individual members. The individuals could not alienate the land itself for twenty-five years, but they could sell the stumpage.[6]

C. MINNESOTA LAWS AND THE PINERIES

In 1877 the Minnesota state legislature passed a law which mandated that state timber lands had to be sold at public auction in St. Paul. The enforcement of this law did not come up to the standards expected of it

by the legislators. Supervision of all of the state's financial transactions was the responsibility of the state auditor. The auditor could have prevented abuses in the sale of state timbers lands if he had been sufficiently knowledgeable concerning the lumber industry. He, therefore, defaulted his responsibility on the grounds that the Surveyor General of Logs and Timber had immediate cognizance of this field of expertise. The Surveyor General was probably more negligent than dishonest in permitting his men in the field, both estimators and scalers, to be taken in or duped by timber land purchasers. These lower echelon people merely accepted the word of prospective buyers as to the value and amount of timber on any given tract of land. Thus a sham auction took place, but the illegal part of the process occurred when none of these "auctions" were referred to the governor for signature during the interval 1885 to 1891. Thus a large percentage of the liberal land grants from the federal government for education, internal improvements, swampland drainage, and railroad construction were alienated from state ownership without sufficient revenue compensation. There were only a few currents contrary to this general trend: Reservation of mineral lands from sale was authorized in 1889 and required in 1901. Also the first state park was established in 1891 and the first state forest in 1900.[7]

It was practically too late, therefore, when the Minnesota legislature attempted, in 1895, to reform the abuses regarding state timber land. First of all, there was not much of it left in state hands, and, secondly, there was no enforcement agency to guard state forests against trespassers. Agents of the Surveyor General's office made some futile attempts to arrest trespassers during that era, but their efforts were frustrated in the same way as the federal agents had been. Minnesota sent out forest rangers in 1910 before a forest service was established. When the legality of these agents was challenged, the legislature saw fit to establish the Minnesota State Forest Service, effective July 1, 1911.[8]

The event that gave impetus or inspiration to a conservation movement in Minnesota was the forest fire of 1894 that destroyed the village of Hinckley and killed more than four hundred people in a single

afternoon. In the aftermath of this fire the Minnesota legislature created a forest fire prevention organization and the office of forest commissioner. The first forest commissioner, General Christopher C. Andrews, who had served as minister to Sweden and Norway from 1869 to 1877, brought with him from Europe many excellent ideas concerning the realm of modern forestry. Andrews, as both chief fire warden and forest commissioner from 1895 to 1911, tried to implement many conservation proposals. As early as 1902 he secured an agreement with the federal government through the General Land Office to withdraw from sale a half million acres of forested land in northeastern Minnesota. The catch was that this land had been devastated thrice by fire, in 1863, 1874, and 1894, and was not well thought of by the timber magnates. It was a shrewd move nevertheless, because Andrews foresaw this land's rejuvenation both by natural and artificial reforestation.[9]

In 1905 Andrews dreamed of a gigantic international forest reservation that would sit astride the boundary line near the chain of lakes, some of which are now within present-day Voyageurs National Park. Amazingly, at age seventy-six, Andrews canoed through the region that summer, so that he could speak from personal knowledge of the great natural beauty of that area. He was persuasive enough to get the General Land Office to withdraw from sale another 141,000 acres along Crooked Lake and Lac la Croix, just upstream from present-day Voyageurs. Four years later, perhaps goaded by the Chisholm Fire of 1908, this timbered acreage was included in the newly established Superior National Forest. Almost simultaneously the Canadians set up a Forest Reserve directly opposite in Ontario; and in 1913 this preserve was converted into Quetico Provincial Park.[10]

Of course, the idea of conservation in America was something still in a seminal or faltering stage. President Theodore Roosevelt had established a reputation as a great conservationist, but he loved nothing better than to take a jaunt off to Africa and shoot a wide variety of specimens so that he could decorate the walls of his mansion with stuffed animal heads. It was the era, too, of Gifford Pinchot, who created,

perhaps, the only memorable event of the Taft administration by getting into a front page fight with Secretary of the Interior Richard Ballinger over land reserved in Wyoming and Montana. Despite a growing awareness of the problems created by dissipating America's natural resources, there was a lack of precise or tabulated knowledge on the science of forestry. No one knew, for example, precisely how long it would take for a cutover region to recover, or that different species of trees in different soils had a variety of recovery rates. Then there were questions of the interplay of various species of trees. Some seedlings of one tree could not mature in the shade of another variety. In other cases, new trees of a different species would take over a cutover area. To define these interrelationships and the various natural and artificial influences on a forest would require a great deal of study and experimentation. Eventually, theory and hypothesis would blossom into favorable practical results, mainly reforestation and sustained yield.[11]

Another aspect of saving the national forests was that of taxation. Most observers now concede that heavy taxation, whether federal, state, county or local, tended to promote the lumbering policy of "cut out and get out." Agnes Larson cited Koochiching County in 1926 as a case in point. The county tax on the cutover land was 157.31 mills, the highest county tax in any of the cutover areas. None of the owners of this land could afford to keep it after its resources had been removed. Even though Minnesota inaugurated a new land law in that same year, it was too late to give sufficient tax relief to Koochiching County. With the onset of the Great Depression, most owners of cutover land defaulted on their taxes and the land reverted to the county. This was a significant problem in the state of Minnesota during the 1930s. Millions of acres of cutover land suddenly was dumped into the hands of the counties, none of it generating supportive revenue; and the counties were unused to administering such lands and had no idea nor sufficient revenue for making it productive again. The only remedy they could think of was to try to sell it to private parties as agricultural land. This effort was entirely futile, as few people had capital available during a depression to engage in a very dubious enterprise. The few farmers who did buy

land, lost their investments. Some counties even attempted to sell what little timber remained on this land, while a few attempted some forest planting on a very modest scale. As late as 1960, Minnesota counties still owned twenty percent of the commercial forested land in the state, so the problem has never been totally solved.[12]

In summation then, it can be seen that both the early state and local land laws and policy were no more effective nor coherent than the early federal legislation and policy, but a faltering start was made to preserve some of the forested land until means could be computed how to restore it and make it productive again.

D. LOGGING AND SAWING ADVANCES AT THE TURN OF THE CENTURY

Not all of the modern innovations were appearing in the woods and at the sawmill. Now a whole new bureaucracy, the middlemen of the twentieth century, were coming into the industry. There were wholesalers, commission merchants, and jobbers who might have no other interest in lumber other than their particular facet of marketing it. On the other hand, there were large vertically organized companies like the Weyerhaeusers who handled timber all the way from the stump until it became a beam in someone's attic. Even the Weyerhaeusers used local merchants for their line yards. Ownership of these yards was usually in company hands, and policy and pricing was set from a central office. It was one of the largest segments of the American economy that had to operate on credit. Companies made immense outlays of capital on all of their logging and sawing equipment before they got a return at the lumber yard, where the consumer finally laid his hands on the dried and finished boards.

Of course technology in the forest and at the sawmill made large strides forward after 1900. Not only had the railroad come directly into the wilderness, a number of other steam engines were put to work for

loading logs onto railway cars (steam jammers); steam skidders with highlines could clear as much as forty acres without moving the engine; and a few steam haulers with caterpillar treads were tested. There were a number of failures with the haulers before the breakdown rate was reduced within reasonable limits. Once they were perfected, they extended the range of the logger by twice, thrice or quadruple distance into the woods. One to four miles was thought ideal for horses; but beyond that, a team could hardly make two trips a day. So steam came into its own.

The steam skidder was used to some extent in northern Minnesota such as at Kelliher, Mizpah, Shooks, Northome, and Buhl, but it really found its home in the more rugged terrain of Idaho, Washington, and Oregon. There, in the west, it could string its highline from ridge to ridge and avoid all the friction of perpetual dragging. Later, when the nation became ecology conscious, oldtime loggers retrospectively considered the steam skidders very destructive of the ground cover and small uncut trees. J.C. "Buzz" Ryan, a retired logger, had the opportunity to go back and survey the old steam skidder sites he knew. Even though the old landing sites had once looked as if a tornado had hit them, Ryan was surprised several years later to find that white pine reproduction was coming in strong. "The skidding had scraped much of the debris from the ground and made a good seed bed for new growth to start in."[13]

At the sawmill as well, new machines and ideas were thriving. Some mills in the north country had added "hot ponds" to their repertoire, so that lumber could be cut in winter as well as in summer. "Hot ponds were enclosed with a planked wall and had steam pipes to keep the water warm, and a day or two supply of logs could be let into the pond and the frost taken out before they went into the mill." The hot ponds came into being as early as 1890.[14]

As we have seen, the sawmill had been using band saws with their narrower kerf for some decades. The anciliary carriage equipment now

was updated as well. Instead of the old man-powered drum and cable, there were now steam-fed carriages that still required two men to control them, a "setter" and a "dogger." The earliest setters had a control chair mounted directly onto the huge carriage, and with levers adjacent to their perch, would set the band saw for the proper thickness for each thrust of the carriage as it cut a board. The dogger merely set the hooking device that locked onto each log. Extra long carriages required a second dogger. One of the most famous carriages of the lumber industry was owned by E.W. Backus at his International Falls sawmill. It was called the "Cannon Ball" because of its massive size and the impressive sound of its juggernaut like proportions as it thundered majestically back and forth. "Buzz" Ryan boasted: "Leo Lemmer, the head sawyer on the Cannon Ball, was the best 'nigger' man and carriage handler that I knew."[15]

The device mentioned by Ryan, the "steam nigger," would turn logs in the carriage into the correct position for cutting. There was also a "steam kicker" that kicked the logs off the endless "bull chain" that brought them up the conveyor from the yard or hot pond.[16]

As time passed in the early twentieth century sawmill, even more refined machines, at first steam-powered, then electrical were added to the array at the *mill*. Such machines as edgers, trimmers, shingle machines, lath machines, hydraulic lifts, and automatic loaders made better quality lumber and did it more quickly. The introduction of the electric light preceded the electrical machines by only a few years. And at the end of the process, kiln drying was developed and perfected as early as 1892. This was useful both for lessening the freight bills on the railway by reducing weight, was faster than air drying, prevented warping and rotting, and produced stronger, harder and stiffer boards than ever before.[17]

It only took a few more years and the manufacturers of lumber found uses for sawdust and refuse wood. Previously much of the sawdust had been stoked into burners where it had some minimal usefulness, but a

great deal of it had been dumped into rivers and lakes to cause pollution. Eventually, lumber makers were converting it into useful products in the same way meat packers were said to package every part of the pig including the squeal.[18]

Despite the mechanization of the lumber industry, there was still a considerable need for manpower. The nature of the working man's job had changed though, becoming less physical and more mental. Unionism had a hard fight to catch on in the industry, perhaps because the wild and radical ideas of the I.W.W. made inroads at first, whereas the later unions had greater success by being more patient, asking for less and going more slowly with their demands. There was one major breakthrough for labor in the lumber industry when, in 1908, the Minnesota legislature adopted a workmen's compensation law.[19]

Consistent with America's long standing tradition, labor in the woods was relatively well paid in 1900. Common workmen received an average of $26.83 per month, and the lowly swamper averaged $27.90. Sawyers got about $30.10; teamsters $35.79; loaders $38.22; blacksmiths $45.59; cooks $51.90; and foremen $68.32. The ethnicity of these men was changing toward the end of the nineteenth century. In 1890 more than twenty-seven percent of the work force in Minnesota logging and sawing was Scandinavian. A survey of an 1894 Hinckley, Minnesota, camp roster showed how the Scandinavian names predominated; but there were also names of French, English, German and Irish extraction. Nonetheless, there was a newer immigration as well that included Finns, Bohemians, Serbians, Russians, Poles, Austrians, and even a few Greeks.[20]

Even though Minnesota reached a peak in lumber production in 1900 when it was third among the states in that category, it was a downhill slide from there on. Larson noted the zenith in lumber in this way: "Her mills ranked in first place among all the mills in the United States in the average output of product in each establishment, in total wages per establishment, and in the average product per wage earner."[21]

Despite this high status in lumber production, Minnesota was sustained only by its last Frontier, the remote wilderness of the northeast borderland. Itasca County, which then included what is now called Koochiching County, was largely unsurveyed in 1895, but was said to contain five billion board feet of white pine. The neighboring county to the east, St. Louis, was thought to have as much white pine as Itasca. Aside from a small amount of timber adjacent to streams and lakes, most of this wood had been inaccessible to loggers. Starting about 1890, logging railroads began to creep toward this immense pinery. The early railway endeavors continued to return the logs to Minneapolis for sawing. One enterpreneur hauled his logs by rail from the Leech Lake vicinity down to Brainerd, where he dumped them into the Mississippi for delivery to Minneapolis sawmills. Eventually, the point was reached when sawmills had to be built in the wilds to make the enterprise cost efficient. Virginia, Minnesota, had been linked by rail to Duluth as early as 1892. Bemidji acquired rail service about the same time; and these two lumber termini started sending fingers of steel rails northward toward the border, at first bringing the trees back for milling in the towns. E.W. Backus was a bigger gambler than his competitors, as he planned to establish himself on the Koochiching Falls just opposite Fort Frances, Ontario. He did this before rails had reached his Land of Promise. Backus spent several million dollars on sawmills, pulpwood mills, and a hyroelectric dam at the new town of International Falls, without any assurance that he would have a product or customers to buy it. As we shall see, Backus was the founder of a new industrial empire that would be rooted as deeply in Ontario as in Minnesota.[22]

Backus' venture was more of a gamble because of the state of the lumber industry generally. From the Civil War till the turn of the century, the general trend of prices had been downward. Backus could not foresee that lumber prices would be heading upward between 1897 and 1912 due to the growing scarcity of white pine. For in Minnesota alone, between 1900 and 1908, white pine production would decline by fifty-six percent. Backus had enough ingenuity not to bet on white pine only. He diversified into making newsprint paper; and he invested considerable

money in research and development to find uses for the so called waste products or unmarketable species of trees.[23]

During the era of American Progressivism, the lumber industry was under a lot of pressure because of the Sherman Anti-Trust Act. The Attorney General's office looked with jaundiced eye on the industry's efforts to gather data on lumber prices around the country as an attempt to fix prices to their advantage. The tariff on lumber was also a hot issue during this period. The Dingley Tariff of 1897, as it applied to lumber, tried to protect American timbermen from Canadian competition. People like Backus could sidestep this problem with a series of interlocking corporations, in which money removed from a Canadian pocket could be transferred to the American pocket across the border just opposite.[24]

Another area of risk for the twentieth century lumberman was the role of freight rates in his business. These men learned early that Chicago's rail connections as the crossroads of the country, gave it a natural advantage over other lumber centers. In 1892, for example, Chicago shippers could send lumber to most of the nearby rival centers at between ten and twelve cents per hundred pounds. Minneapolis, by contrast, charged twenty-two cents per hundred to Sioux City, and sixteen cents to Council Bluffs, Iowa. To other centers, Minneapolis was competitive with Chicago. Eventually the relatively new Interstate Commerce Commission had to step in to put limits on Chicago's natural monopoly. Larson thought that the disadvantageous imbalance in rates to Minneapolis' lumber manufacturers was to a degree due to the lack of organization on the part of these gentlemen. By 1900 the problem had alleviated, more because of the end to white pine in Michigan than to improved business acumen in Minneapolis.[25]

The Minnesota white pine manufacturer also had a problem with yellow pine competition because of freight rates. Agnes Larson explained the problem this way:

The yellow pine belt reached almost unbroken from the Atlantic to the western border of Arkansas. Yellow pine was worth only ten and twelve cents a thousand feet in stumpage when white pine stumpage was selling in certain places at $5.00 a thousand feet. In quantity it surpassed the white pine; in quality it could never match it. The white pine, however, felt its competition intensely because it was plentiful and therefore cheap. White pine producers looked to the railroads of their section for rate reducing into the contested territory. The northern rates were already lower than the southern rates into that territory, and the railroads of the North made even more liberal rate concessions, but yellow pine was still able to undersell white pine. The original price of white pine was too much higher than that of yellow pine for the difference to be made up by an advantage in railroad rates.[26]

So the stage was set for Minnesota to finish her last scene in the white pine drama.

ENDNOTES FOR CHAPTER TWO

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3. Larson, History of the White Pine Industry, 334-7.

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6. Larson, History of the White Pine Industry, 289-333.

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8. Ibid., 338-342; Beatty, "A Forest Ranger's Diary," Part I, 6.

9. Searle, Saving Quetico-Superior, 15.

10. Ibid., 15, 17, 66, 108, 125, 128, 216; "Andrews, Christopher," Dictionary of American Biography (N.Y.: Charles Scribner's Sons, 1964); Larson, History of the White Pine Industry, 340-1.

11. Hidy, et al., Timber and Men, 490-511; "Final Environmental Statement, Voyageurs National Park" (Denver: National Park Service, December 1979), 57-9, 80.

12. Dana, et al., Minnesota Lands, xvii-xviii.

13. Ryan, Early Loggers in Minnesota, III: 41-6.

14. Ibid., 28.

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17. Larson, History of the White Pine Industry, 354-5.

18. Ibid., 355.

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20. Ibid., 369-370.

21. Ibid., 360.

22. Searle, Saving Quetico-Superior, 34-6; Van Brunt Duluth and St. Louis County Minnesota II: 588-9, 594; History of the White Pine Industry, 349-371, especially 361-3.

23. Larson, History of the White Pine Industry, 372-398, especially 389.

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26. Ibid., 397.

CHAPTER THREE: EARLY LOGGING IN THE RAINY LAKE COUNTRY

A. The First Logging in the Rainy Lake, Namakan Lake, and Kabetogama Lake Environments

On June 17, 1882, the Canadian Pacific Railway line between Fort William on Lake Superior and Selkirk, Manitoba (just north of Winnipeg), was completed. At that moment it became possible to ship a great volume of finished lumber westward from Rat Portage (now Kenora) to the developing rich farm country along the Red River. Soon thereafter, several large sawmills were established at Rat Portage to satisfy this heavy demand for lumber. Earlier the Canadian Pacific Railway had found the right kind of spruce, tamarack and cedar for the ties on its roadbed within Canada, but for some reason red and white pine was less abundant in Ontario between Lake Superior and the new settlements. It was, therefore, only natural that Canadians would seek their pine from any of the connecting waterways in northern Minnesota. So pine was cut on either side of the boundary along every lake, river, and stream that drained into the Lake of the Woods. Most of the tributaries of the Rainy River were on the Minnesota side, such as the Winter Road River, the Baudette River, the Rapid River, the Black River, the Sturgeon River, the Big Fork River, the Littlefork River, the Bear River, the Willow River, the Nett Lake River, and so on. The technology of the era, assisted mainly by oxen and horses, was able to reach only about five miles from these bodies of water; and the logging had to be done mainly in winter and the logs floated downstream with the spring thaw.[1]

From the evidence available and from the logic of the situation, it seems that loggers had a preference to remove all the white pine that was <u>closest</u> to the Rat Portage or Kenora sawmills. Researchers have recovered ample evidence to demonstrate that quite a number of contractors concentrated on the area that is now Koochiching County, then northern Itasca County, during the two decades before the turn of the century. Names frequently mentioned in this regard were Loper and

Rumery, Dan Haley, O.W. Saunders, W.T. Bailey, and Kalard and Erie. Since it is known that the several sawmills at Rat Portage cut between 400 and 500 million board feet per annum during that period, it can be estimated that the loggers cited above cut about 150 million of that total; and certainly there were other loggers competing with them in northern Itasca County. It is probable that this area produced between sixty percent and seventy-five percent of the raw materials for the Rat Portage mills, and much of this timber removal was done at the expense of the two Chippewa Indian reservations at Nett Lake and Deer Creek. The Indians were either bilked out of the wood or much of it was removed without any consultation with them. Similarly, the rest of the Itasca County land, ceded by the 1866 session of the Bois Fort band of Chippewas to the United States, was plundered of timber by various logging entrepreneurs before 1900, even though most of it had never been surveyed or opened for settlement.[2]

Of the northern Itasca county loggers, Kalard and Erie appeared to have had the biggest operation. They had from six to eight camps with a hundred men each working nearly every winter. They produced more than fifty million board feet of lumber every year. To illustrate that neither Kalard and Erie, nor any of the other loggers in northern Itasca County were taking out timber legally, there were no records of log mark registrations under their names in the office of the Minnesota State Surveyor General of Logs and Lumber during the 1880s or 1890s. After 1900, when enforcement procedures improved, some of these loggers began to register their log marks. There is, for example, a registered log mark for the Rat Portage Lumber Company dating as far back as May 27, 1901.[3]

Further upstream, on the shores of Rainy Lake and above, similar trespass was going on during the 1880s. One name that stands out regarding the logging of this era and area was Pat Smith. Leslie R. Beatty, whose father worked for several of the borderland timber barons, gave a thumbnail sketch of Pat Smith:

> There was one lumberman of whom I had heard much down through the previous years, who was often spoken of by my father, by Dan Haley, and other pioneer loggers on the Willow and Littlefork rivers [then northern Itasca County]. He was Pat Smith, a Canadian residing at Kenora, Ontario, who was the head of the Rat Portage Lumber Company, with sawmills at Sleeman, Ontario, on the Rainy River, and at Rat Portage, now Kenora, Ontario. The Rat Portage Lumber Company was one of the very early lumbering outfits operating in the Rainy River watershed area. The company obtained saw logs from lands in Minnesota and Ontario tributary to Rainy River and Lake of the Woods, even from sources as far east as Kabetogama, Namakan and Sand Point Lakes [all, in part, within present day VNP].[4]

Grace Lee Nute, the noted Minnesota historian who wrote so much about that wilderness borderland, tells us more about the early timber trespassers there. She agreed that more trees were being cut on the Minnesota side than in Ontario, but she thought the annual volume of thievery was less than that guessed at by other authors on the subject, stating that perhaps eighty-five million board feet a year was being pirated in northern Minnesota. She cited government reports from as early as 1878 which described a sawmill at Fort Frances that was using American timber for construction purposes on a ship canal that was to be part of the mostly waterway Dawson Trail between Lake Superior and the Red River settlements.[5]

Grace Nute related as well how Webster Eaton, a U.S. special timber agent, reported in 1883 about the volume of depradations in northern Minnesota by saying that: "Year after year one, two, or a few agents - usually only one--went over the area afoot, on snowshoes, by sleigh, or by canoe, noting all the trespasses--all the while subjecting themselves to risks of being shot, of freezing to death, or of drowning. Then the illegal cutting was resumed as soon as they departed."[6]

Further reports of 1888, 1890, and 1892, cited by Nute, say much the same thing about the trespassers. The latter report is where Nute got her figure of 85 million board feet, and that is supposed to be the cumulative figure for the previous ten years. The estimate is much too

modest, and the better method is to seek the statistics from the Rat Portage mills and grant that more then half of that timber came from Minnesota, but the reports are probably closer to the truth when they surmise that the heavy trespass commenced about 1880.[7]

Not only Canadians were guilty of trespass; but Americans also took every opportunity to remove "free timber" that they could. The Americans moved the logs downstream during an era when there was no tariff for exporting forest products, but in any case they made no application to either government to inquire whether or not their exports were legal or illegal.[8]

Nute ascribed the solution to the trespass problem to legislation by the United States Congress. She wrote that the Nelson Act of 1889 failed to stop timber depredations on either Indian lands or government lands, but the Morris Act of 1902 succeeded because of better enforcement procedures. Leslie R. Beatty, a Minnesota Forest Ranger during the State Forest Service's earliest existence, told how federal agents in 1912 were still searching out trespassers from the 1880s. He said that U.S. General Land Office officials from Duluth came through the Rainy Lake country, and with the assistance of state forest rangers and local officials were to "uncover and collect many thousands of dollars in timber trespass claims from loggers and others, sometimes even from trustees of long liquidated companies."[9]

Beatty also was a witness to the discovery of the old artifacts from the "era of trespass." Once, in mid-summer 1929, in the woods near Pelican Lake (well south of present day Voyageurs), he and a companion stumbled across "a many tiered deck of white pine logs, greatly reduced in size by time and rot." Piecing together this discovery with conversations by several old-timers, he concluded that the pile was part of the Saunders and Bailey operation and that an early spring breakup had prevented the floating of this timber down the Willow River. Beatty and his companion saw that the logs were all butt cuts felled by saws, though many had been severed by axe at the top ends. He concluded:

"Nearly a half century after they were cut, the inner sections of the logs were sound."[10]

Another Beatty story, from 1924, told of his observations regarding the fine quality of timber then being harvested along the Moose River. Some of this area is now inside the present confines of Voyageurs National Park. Beatty's narrative ran:

> One interesting feature observed in the Moose River country was the large amount of mature pine timber remaining in good growth after the lands had been initially cut some thirty to forty years prior to 1924. During the 1880's the Rat Portage Lumber Company, the Randolphs and the Knoxs, all Canadian operators, had made the original cut, long before the Virginia and Rainy Lake Company had acquired the lands. The only plausible explanation for the presence of the large remaining volume was that the Canadian loggers had taken only the very large trees; furthermore the lands had been free of slash fires down through the years. Nature left uncursed by fire brought forth the second profitable crop of timber.[11]

It is interesting to note the occurence of the names Randolph and Knox in Beatty's story of the nineteenth century interval, especially since several islands and bays of the lake chain are named after family members. As if to display the unity and integrity of the territory, Randolph Island is on the Canadian side of the boundary, while Randolph Bay is on the American side of Namakan Lake. As a monument to the 1880s Canadian trespassers, there is a Pat Smith Island on the American side of eastern Namakan Lake. Knox Island is in eastern Kabetogama Lake.

In 1975, Nobel Trygg, a retired forester, told another story about the Beatty family and their connection with the 1880s logging in the present Voyageurs area. Trygg identified the first logging camp of Leslie R. Beatty's two uncles, Tom and George, as being at Government Lot 3, Section 27T69N R19W, on Moose Bay. According to Trygg, the two Beattys came through the wilderness from Tower by horse team in late 1886 and crossed the ice on Lake Vermillion together with a crew of loggers. They passed the portage to Buyck and proceeded via Johnson

Lake and Junction Bay to Moose Bay where they set up their camp in the dead of winter. They lined up their logs on the ice of Moose Bay, and in the spring floated them over Kettle Falls, across Rainy Lake and down Rainy River eventually to Rat Portage where they sold them to Pat Smith, getting six dollars for every thousand board feet. It was lucrative enough so that they decided to return the following winter. When they reached their old campsite, they found that Indians had burned their year-old log cabins. Rebuilding the shelters every winter was not considered worth their while, so they abandoned the project.[12]

The removal of timber so far up the lake chain, of course, added to the difficulty and labor of transporting the logs to the mills at Rat Portage, or even Sleeman, in Ontario. Loggers on Crane Lake or Sand Point Lake could not rely on current alone to move their logs to Kettle Falls. There was an elevation differential in those days between Crane Lake and Sand Point Lake, before the dams were built, so the spring thaw and freshets helped to move the logs through such barriers as the King William Narrows, the Harrison Narrows, and the Namakan Narrows; but moving across open lakes, the logs could get lost in a thousand cul-de-sacs. The loggers must have used bag booms, as they did farther down on the Lake of the Woods, for we do know that steamers and other boats were available along the former Dawson Route. After traversing the chain of lakes, the logs had to be sluiced over Kettle Falls or its Canadian companion, Squirrel Falls, and thence through Rainy Lake and over Koochiching Falls at Fort Frances. After that there were several sets of rapids on the Rainy River, and finally some sorting was done opposite the mouth of the Rapid River just above Sleeman, Ontario, twenty miles above the mouth of the Rainy River on the Lake of the Woods. The charge for sorting was fifteen cents for every thousand board feet of logs. Once the logs were sorted, those destined for Rat Portage were sent on down the Rainy River to the Lake of the Woods where they were enclosed in bag booms for towing across the lake.[13]

Sorting of the logs near Sleeman, Ontario, was doubtlessly a bigger problem before 1900 than afterwards. The reason for this is that as time

passed, more and more sawmills were built closer to the standing timber. J.A. Mathieu for example, built his first sawmill at Rainy River, Ontario, opposite Baudette, Minnesota, in 1905. The following year he added a mill at Baudette and shortly thereafter a third mill at Fort Frances, Ontario. So as he progressed, his logs did not have to be floated as far, some of them only across Rainy Lake. As we have seen, Pat Smith did the same thing when he added a sawmill at Sleeman, Ontario. E.W. Backus followed the same procedure by establishing his major mill at the new town of International Falls, well up the river; but like Pat Smith he hedged his bets by keeping his downstream investments as well.[14]

Before 1900 most of the companies providing logs to Rat Portage must have had a private arrangement for marking logs, for the names of the Minnesota trespassers naturally do not appear in the records of the Surveyor General's registration books in St. Paul. Since their doings were illegal, various contractors did not inform the State of Minnesota about the shapes of their end marks on the logs; but they must have informed Pat Smith for he had to have some accounting method for paying loggers the six dollars per thousand he would owe them for logs.[15]

After 1900 the Minnesota Surveyor General did get a better record of logging activities along the border when pressures from federal agents made it clear to the loggers that they had best conduct their operations in some other way than the earlier clandestine fashion. For this or other reasons they came in to register their end marks and bark marks with the Surveyor General. The Shevlin-Mathieu Company, for example, registered at least thirty different marks between 1903 and 1909. The International Lumber Company, (Backus and associates), registered more than sixty marks between 1904 and 1920. Pat Smith and his Rat Portage Lumber Company started to appear on the rolls only in 1901, but he quickly had more than forty marks registered. This was from a company whose principal interest was in Canada; yet it had considerable dealings inside Minnesota. In any case, logs floating along a waterway that was half in Canada and half in the United States, had to be taken note of by both nations.[16]

One influence for producing lumber further upstream was the gold strike on Little American Island in 1893 and the consequent need for mine shaft timbers and housing lumber at the nascent boomtown of Rainy Lake City. Little American Island was in the western portion of Rainy Lake, just northwest of the Black Bay Narrows that almost made the Kabetogama Penisula into an island. Rainy Lake City was on the northwestern-most edge of that peninsula, and after five hectic years started to deteriorate into a ghost town. For a sparkling heyday it had great cravings for lumber, mining supplies, foodstuffs, and the host of necessities of life that Americans craved in the 1890s.[17]

There was also a goldstrike just across the border in Ontario at Mine Center, another future ghost town on Shoal Lake on the Seine River, about twenty-seven miles northeast of Rainy Lake City.[18] This, too, attracted speculators, adventurers and settlers. When these two bubbles burst, the residual settlers had to blend into a more mundane, humdrum existence that would fall under either the production or consumption of lumber. Most of the survivors of Rainy Lake City wandered about a dozen miles westward to form the village of Koochiching which was renamed International Falls in 1905. With the coming of the Duluth, Rainy Lake & Winnipeg Railway in 1907, International Falls acquired a satellite village named Ranier at the point where a new trestle was built across the Rainy River to join rails with the Canadian National roadbed on the other side.[19]

The short-lived existence of Rainy Lake City brought into being a newspaper that made observations on all of the phenomena of the borderland environment. The Rainy Lake Journal of July 5th, 1894, for example, speculated on the volume of usable timber in the area by estimating that there was not less than two billion feet of timber standing in the area around Black Bay, about seven hundred thousand feet on Lake Vermillion and its tributaries such as Hunter's Island, Kabetogama Lake, Crane Lake, and Namakan Lake. The Journal thought that Rainy Lake, Lac La Croix, and their tributaries had another 1.3 billion board feet of marketable pine.

ENDNOTES FOR CHAPTER THREE

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2. Nute, Rainy River Country, 51-60; Perala, "The History of Logging," 38-50, especially 38-41.

3. Perala, "The History of Logging," List of Bark Marks and Stamp Marks Registered to Various Companies, Derived from the Office of the State Surveyor General of Logs and Lumber, Voyageurs National Park Files.

4. Beatty, "A Forest Ranger's Diary," VI: 53.

5. Nute, Rainy River Country, 54-57.

6. Ibid., 54.

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9. Ibid., 58; Beatty, "A Forest Ranger's Diary," VI: 48.

10. Beatty, "A Forest Ranger's Diary," XXII: 63-4.

11. Ibid., XIX: 55.

12. Interview with Nobel Trygg, retired forester of Duluth, Minnesota, by Mary Lou Pearson, August 29, 1975, VNP Files.

13. Perala, "The History of Logging," 43.

14. Interview with J. A. Mathieu, lumberman, Fort Frances, Ontario, by the Forest History Foundation, August 4, 1957, VNP Files: Searle, Saving Quetico-Superior, 34-9; Beatty "A Forest Ranger's Diary," VII: 62-4.

15. List of Bark Marks; Trygg interview.

16. List of Bark Marks.

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19. Searle, Saving Quetico-Superior, 36; the following have data on the rail lines around International Falls, Ranier and Fort Frances: Interview with Alex Gerber, Orr, Minnesota, by Mary Lou Pearson, August 7, 1975; Interview with Nick Carter, Gleen, Minnesota, By Mary Lou Pearson, Ausust 19, 1975; Interview with Ethel and Patrick Donahue, International Falls, by Mary Lou Peason, June 23, 1976; Interview with Fred Hilden, International Falls, by Mary Lou Pearson, June 17, 1976; Interview with Lester Pollard, International Falls, by Mary Lou Pearson, June 25, 1976; Interview with Joseph Miller, International Falls, by Hiram C. Drache and Mary Lou Pearson, August 20, 1976; Interview with Ephraim Fults, Fort Frances, Ontario, by Mary Lou Pearson, November 18, 1976, VNP Files.

20. Nute, Rainy River Country, 46-51; Garnet Wolseley, The Story of a Soldier's Life (London: Archibald Constable & Co. Ltd., 1903; reprint ed., New York: Kraus Reprint Co., 1971), especially map of the Dawson Route opposite page 164.

21. Berton, The Impossible Railway, 35-40, especially map on pages 38-9.

CHAPTER FOUR: RAILROADS BREAK THE ISOLATION OF THE BORDER COUNTRY, AND THE LAST HARVESTS OF MINNESOTA WHITE PINE TAKE PLACE

A. Backus Approaches the Border Country from the Southwest

As we have seen, Edward Wellington Backus made his famous trek into the borderland wilderness in the winter of 1897/1898, but it took him some years to mobilize his resources to exploit the territory properly. Nevertheless, he started with amazing speed in getting the U.S. Congress to approve his scheme to build a hydroelectric dam across the source of the Rainy River at the Koochiching Falls. The legislation passed on May 4, 1898, only a few months after Backus and his timber cruiser made the snowshoe round trip of four hundred miles from Brainerd to the falls and back. Even though Backus was able to buy considerable wooded acreage along the chain of lakes within St. Louis County and in old Itasca County, his major problem was accessibility to his land. When he started in 1898, there was only a water connection with Rat Portage.

A few steamers were already plying the Rainy River and carrying passengers and freight between Fort Frances and Rat Portage. The latter place, which by 1900 had come to be called Kenora, had access to the Canadian Pacific Railway since 1882, when that section of the line was opened between Fort William (now Thunder Bay) and Fort Garry (now Winnipeg). There were a number of lumber mills at Rat Portage before Backus came on the scene and they had a considerable market for their product in the Red River Valley.

Because of the isolation of the Koochiching Falls, Backus repeatedly failed to make his deadlines with the U.S. Congress for the completion of his hydroelectric dam. He, nevertheless, continued to seek renewals for his authorizations. On May 4, 1900, he got his first time-extension which expired in May 1903. Making inadequate progress at the damsite, he was obliged to seek further legislative extension for his permit in 1902. Once

again Backus was successful and received new legislation that permitted completion by May 4, 1907. At the time of the 1902 request he was operating under the aegis of one of his many companies, the Koochiching Company. Backus frequently created new entities for special purposes. He might dissolve them in a year or so when their paper existence had served their purposes, or allow them to endure even though inactive, or have them join his thriving empire with more than a dozen other companies.

Thus in 1905, when construction on the dam at the Koochiching Falls had dropped well behind schedule, Backus had to resort to revised tactics both in his approach to the United States Congress as well as his logistical methods for construction. In the former problem, he pretended that the Koochiching Company had inadequate resources for bringing materials to the damsite, and constituted a new corporate entity, the Rainy River Improvement Company, as the agency for completion of the dam. Under this new name he was able to get the Congress to approve another extension for dam completion until May 4, 1908. Aside from this paper adjustment to his problems, Backus made a drastic change in his corporate empire by selling his sawmills in Minneapolis in order to build a railroad that could bring in the volume of construction materials he needed at the falls.

Backus was wise in retaining his old Minneapolis partner, William F. Brooks, who would give the requisite expertise in engineering, for Brooks had a background in railroading and water power. Additionally, Backus teamed up with several gentlemen who later became his rivals on the Canadian side of the line. These were Charles William Clarke and Thomas Shevlin (who later formed Shevlin-Clarke), E.L. Carpenter, and James A. Mathieu. With these men, Backus immediately commenced logging operations astride the boundary. They operated briefly as the Rainy River Lumber Company. Backus obtained a pulpwood concession from the Province of Ontario and promised the Canadians he would build a pulp mill at Fort Frances. In addition he bought a sawmill at Kenora, so his operations were even more international than heretofore.[1]

But the major feature of this new Backus gamble was the formation of a syndicate called the Minnesota and International Railway. The syndicate sank four million dollars into the building of a railroad line from Brainerd, Minnesota, to the newly named village of International Falls. While this line was under construction and approaching the border town from the southwest, a rival enterprise was building a line from the southeast. This was the Duluth, Rainy Lake and Winnipeg Railroad, built under the aegis of the Virginia and Rainy Lake Company, in part a Weyerhaeuser company. Both Backus and Weyerhaeuser would reach the border with their rails in 1907, but Backus and his associates would have the advantage of holding most of the ground along the boundary, and Backus would boast ever after that he had single handedly opened up that region. Later, when he was struggling to get further governmental concessions to expand his empire, he proudly exclaimed: "When a man goes into a wilderness, where the property is not worth $100 for a million acres...and builds mills and spends every dollar that ever was spent to open it up, I say to you that we are entitled to a very different consideration than we would be if all we had to do were to get on a railroad train and ride up here and start building our dams."[2]

Even under the label of the Rainy River Improvement Company, Backus was unable to meet the newest dam completion deadline. When he applied for a final extension, President Theodore Roosevelt was going through a conservation scrutiny stage that compelled him to veto the new legislation in early 1908. Backus immediately mustered a corps of political supporters, several of whom were members of the Roosevelt administration, to convince the president that the veto was a gross injustice that would render a $750,000 investment by Backus and associates utterly futile. Roosevelt reconsidered and let a substitute bill pass. This time Backus completed the dam on time, in 1909, and was now ready to reap the profits of his gamble.[3]

B. The Approach of the Railroad from the Southeast: The Coming of the Virginia and Rainy Lake Company (V&RL) to the Borderland

The railroad to the southeast had come as far north as Virginia, Minnesota, as early as 1892, but it took some years before entrepreneurs ventured to take the risk of building further into the wilderness. Similarly, the railroad had reached Tower, Minnesota, in 1892; but it was unlikely that this line would ever continue further toward the border because there were too many terrain obstacles intervening. As it was, the lumbermen who reached Virginia at first thought in terms of floating their logs into the Mississippi drainage toward Minneapolis for sawing; or, to saw them at Virginia, which was almost at the dividing point between three major water drainages: Great Lakes, Hudson Bay, and Mississippi. So every venture further northward was against the pull of nature, where the cheapest transportation, before 1900, was to let the logs float northward to Rat Portage in Ontario. Thus, after 1900, when Minnesotans at last were fighting against the trend of Canadians using all of their borderland timber, the obvious move for them was to build a railroad into that wilderness and bring the logs southward for milling.

The development of Virginia sawmills was a gradual process. John Owens, an unpretentious operator, brought in a small portable mill, "which he placed on the shore of Virginia Lake, near where the Primary school building later stood."[4] As often happened in those days, Owens' mill burned down a year later, but he quickly rebuilt and took on a partner, Robert McGruer. Though demand was high, the partners did not have the capacity to supply the lumber needs of the entire community.

At this point, 1893, Finlayson and Company of St. Paul, came in to provide a bigger mill, employing a hundred men. Eventually this mill was incorporated with Moon and Kerr, a much larger organization. Virginia had other lumber mills, such as W.T. Bailey, who came there in 1895. Bailey lasted until 1907, when his operation was also subsumed under the larger entrepreneur. Another temporary competitor in Virginia was

Plummer and Ash, who lasted from 1902 until 1907. Then they were taken over by the Virginia Lumber Company, an intermediate step to becoming the Virginia and Rainy Lake Company (the V&RL).[5]

The V&RL came into existence in this way: during the 1890s Frederick Weyerhaeuser and his partner F.C.A. Denkmann bought into the Moon and Kerr Lumber Company of Virginia, holding altogether 27½ percent of its stock. When Moon and Kerr was devastated by a fire in June 1900, Weyerhaeuser and Denkmann bailed it out, liquidating the former company and incorporating it within their Northern Lumber Company, based in Cloquet, Minnesota. Basically all the larger company got was Moon and Kerr's logging outfit and much of its stumpage.[6]

Next, in 1905, Weyerhaeuser and Denkmann looked around Minnesota to find capital for expanding the Virginia operation. They found William O'Brien, of Marine, Minnesota and Wirt Cook of Duluth, partners in another mill at Virginia (Cook & O'Brien). The third portion of the new entity was held by Edward Hines of Chicago. Thus Weyerhaeuser and Denkmann owned a third, Cook & O'Brien owned a third, and Hines owned a third of the new company, the V&RL. Actually Hines was the instigator of the scheme and at first the V&RL was capitalized at two million dollars. In a few years they raised their capitalization to $10.7 million. They started with the Cook & O'Brien mill in Virginia, to which Hines added a second mill. The two mills had an annual capacity of a hundred million board feet.[7]

The combine had some internal dissensions - Hines felt threatened by the physical presence of Wirt Cook and hence carried a pistol in his pocket. Cook thought Hines to be somewhat crooked, explaining his dislike for the latter. Other members of the consortium thought some of Hine's business practices were unwise, as Hines liked to run things pretty much as a lone wolf, and inclined to the practice of "cutting clean," thus cutting a lot of worthless timber at high cost. At any rate, the group stuck together for twenty years.[8]

Early on the syndicate acquired the services of Frank A. Gillmor to become logging superintendent of their northern woods branch. At first Gillmor was more of a railroad man than a logger. He had been with the Mesabe and Southern Railway, mainly a logging line, but located west of Virginia, Minnesota, since 1901. Gillmor did some timber cruising too, and it was in 1907 that Weyerhaeuser sent him to inspect the northwest corner of St. Louis County, south of Kabetogama Lake and Namakan Lake. On that trip Gillmor ran into cruisers for E.W. Backus. Both sets of observers liked what they saw, and each commenced to exploit the merchantable white pine from their separate bases. The Backus-Brooks interests were compelled to take their timber out of the area mainly via the waterways, while the Weyerhaeuser consortium attacked it by rail. In this facet of his operations, Backus operated under the name of the International Lumber Company between 1909 and 1937; while the Weyerhaeuser group called themselves the Virginia and Rainy Lake Company between 1905 and 1929.[9]

Frank Gillmor eventually set up his headquarters at Cusson, Minnesota, to attack these large tracts of white pine, but first he had to bring the railroad to the trees. Together with his boss, Edward Hines, they were able to persuade the directors of the Canadian National Railway to build a spur line between Virginia and Fort Frances, Ontario. The Canadians accepted the scheme, with the proviso that the new line would have a monopoly as carrier of the timber from northern St. Louis County down to Virginia for milling. So the roadbed was laid between 1905 and 1907 and reached the border almost at the same moment as Backus' Minnesota and International Railway. The Canadian backed line was at first called the Duluth, Rainy Lake & Winnipeg Railroad, and it crossed the Rainy River at Ranier, Minnesota, on a trestle that connected it with the main line of the Canadian National at Fort Frances. It should be borne in mind that the Duluth, Rainy Lake and Winnipeg did not connect with Backus' trackage at International Falls, and that it had a certain advantage over Backus' line in that it had access to Canadian business.[10]

Once it had completed its main line trackage, it took two full years before the V&RL was able to commence heavy logging operations. During the winter of 1909/1910 the new combine felled and sawed into lumber 114,720,770 board feet. The sawing, of course, took place in Virginia, where the two huge sawmills were whining twenty-four hours a day. Weyerhaeuser and his associates had twelve hundred mill hands in Virginia alone and twenty-eight hundred men in the woods during the cutting season. From May 1 to September they cut back to seventeen hundred men in the forest.[11]

As has been stated, the logging and railroad headquarters of the V&RL was at Cusson, Minnesota, under the direction of Frank A. Gillmor. Cusson was a company town, named after one of the company cruisers, S.J. Cusson. One story has it that the town was built at a cost of $83,000. The town had V&RL

> headquarters buildings, a coal dock, icehouses, a boiler house, a warehouse, a hay shed, a timber shed, a pump house, a doctor's office, residences, a general store, a schoolhouse, a theater, rooming houses, a recreation building and a machine shop where locomotives were repaired, cars were made and repaired, and similar work performed.[12]

Among other branch or logging railroads, a major segment departed from Cusson in a northeasterly direction into the forest. Since the amount and direction of silvan trackage was ever in flux, a map of the trackage for a given calendar year would not coincide with the map for the following year. There is a freehand map, for example, drawn by an old logger, Franklin A. King, that depicts the logging railroads of northern Minnesota at some unspecified date. The segment we are interested in, near Lakes Namakan and Kabetogama, shows a V&RL spur line paralleling the main line toward Ranier, but being eastward of the main line and partly coinciding with the road bed of present day Highway 53 near the village of Kabetogama.[13] This segment does not appear on other maps, probably because this area was logged over early and the track removed. All maps agree on another spur of the V&RL railroad which passed between Ash Lake and Elephant Lake in a generally

northerly direction toward Hoist Bay on Lake Namakan. Charles M. Oehler drew such a map in 1948, depicting his recollections of the shape of the major spur lines in 1928. Beside the line abutting on Hoist Bay, he drew an eastward spur from Cusson ending on Echo Lake, with a branch coming off it in a southerly direction to connect with Elbow Lake. Oehler stated that the practice in 1928 was to have a hoist camp on every lake which the rail spur met. In that way the loggers could use the natural transportation of waterways to assist them in clearing out a wider area and getting the logs to the sawmill.[14]

To illustrate the changing nature of the forest rail spurs, one has only to consider the feverish activity of the steel gangs headquartered in Cusson. In the course of twenty years' time the two steel gangs had laid and picked up nearly two thousand miles of branch railroads. That averaged out to a hundred miles a year. Road monkeys in the woods probably graded another hundred miles of sleigh roads every year. These two sets of crews had "fourteen standard locomotives, ten steam log haulers, and numerous gasoline boats, besides three loading cars, fifteen handcars, a sliding log loader, a Bucyrus steam shovel, three hundred and forty-five flatcars, snow and gravel plows, a pile driver, other cars, and cabooses."[15]

The necessity to have all of this equipment, tended to make logging more expensive. It was all overhead and all of it had something to do with transportation. It was a far cry from using oxen and horses to haul the logs to a landing, float them downstream to a mill, and hoist them out of the water at their destination. But the new ways had to be adopted, as all of the formerly accessible timber had been harvested, and only the isolated timber was left.

Despite the cost, the V&RL cut a tremendous volume of lumber. From 1909 to 1929 they sawed more than two and a half billion board feet; but their costs for logging and railroad operations amounted to $30.5 million dollars. Halfway through their clearing of northern St. Louis County, Hines' cohorts reprimanded him for sawing his lumber "fat." His

overrun was only 44.8 percent as compared to the company's Cloquet mills which had overrun figures of 69.71 and 72 percent.[16] Hines cleaned up his operation in 1918 and brought the figures more in line with the Cloquet operation. Despite all this logging activity, and during their life the V&RL mills at Virginia were the largest in the world, the venture as a whole was unprofitable. As they were getting ready to close up shop in 1928, the younger Fred Weyerhaeuser wrote to an associate: "The outcome of our Virginia and Rainy Lake investment is something of a wallop between the eyes."[17]

C. State Forest Ranger Leslie Beatty as Observer of V&RL Operations

Although V&RL operations predominated in northern St. Louis County, they were not alone in taking out the timber. Backus' International Lumber Company was in the area as well, but he got most of his logs out via the waterways. Then there were the Finch Brothers, Martin Brothers and quite a number of twenty to fifty man-strength jobbing camps working the district. State Forest Ranger Leslie Beatty was surprised in 1912 how many different small independent logging camps existed there.[18] Pat Smith, the Canadian from Kenora, was also still working the boundary region, and not all of his timber was cut on the Canadian side. Often small subcontractors in Minnesota were selling their logs to him.[19]

In 1913 the V&RL extended its main line of logging trackage from Camp 9 at Section 23, T67N R20W, just south of present-day Voyageurs National Park, to its final terminal on Hoist Bay at Section 34, T69N R19W. As Beatty described it,

> Along the new extension, several logging camps were built to supply the mills at Virginia with logs. At Hoist Bay on Namakan Lake, the company constructed a long trestle out over the water on which logs in boom storage coming from winter time cuttings were hoisted to railroad flat cars. When the hoist became operative, full train loads of logs were railed to Cusson over the company line, then on to the mills at Virginia over the Duluth, Winnipeg, and Pacific Railroad, a total hauling distance of some eighty-six miles by rail.[20]

Most years the V&RL had at least fifteen logging camps going, each of them having about a hundred and fifty lumberjacks and eigthteen teams of horses. The totality of camps consumed about $150,000 worth of food every year and they cut enough logs to provide more than twenty-five cars of logs per camp per day.[21]

Beatty went on to tell about some of the surroundings, in 1913, near Hoist Bay:

> The new railroad right-of-way was cut through nearly solid stands of tall white and Norway pine which made it an avenue of stately beauty. Above the crossing at Ash River, the palisades on its south bank reminded one of some of the far western logging streams because of the timbered canyon walls. Further east towards the new hoist, the railroad had to skirt an Indian burial ground adjacent to the Moose River Indian village where resided Joe Pego, Joe Whiteman, and other Indian families. The closest white man living near the railroad was Jim Gannon, lumberjack, trapper, and gambler, who shacked in an abandoned Rat Portage Lumber Company camp building on Ash River. Around nearby Kabetogama and Namakan Lakes, Frank and Mike Bowman, William Randolph, Neil Burger, and others operated commercial fisheries. It was an exciting area in which to work - and sadly, the last frontier of the Middle West."[22]

Beatty told, too, of the intensification of activity near Kettle Falls on the eastern end of Rainy Lake during 1913. Backus was building two rock-masonry water storage dams across the two channels on either side of Kettle Island. The northernmost, or international channel, at Kettle Falls proper, had four regular sluices, one of which was intended for sluicing logs. The other dam, entirely in Canadian territory and south of Kettle Island, was built across Squirrel Falls. It, too, had a log sluice and four sluices total. Both dams had fishways, but these were allowed to fall into disrepair in a few years. From the very beginning, Backus got complaints from his logging competitors on the upper lakes because he alone had the say who was authorized to sluice logs over his dams and when they could sluice them. Later, once the International Joint Commission decided to excercise its mandate for regulating water levels along the boundary, Backus' adversaries became more vocal and active in fighting for their interests.[23]

The object of Backus' two storage dams was to provide him with a reserve pool of water that he could send down to International Falls when a relative shortage of water at his dynamos might otherwise compel him to cut back his electrical generation. With these two storage dams he had produced a much larger reservoir than hitherto. The new system held Kabetogama Lake, Namakan Lake, Sand Point Lake, Crane Lake, and Little Vermillion Lake at roughly the same level. Previously there had been a slight variance in levels among these lakes because of the various narrows connecting them. The dams affected quite a bit of wild rice swamp as well, particularly at the west end of Kabetogama Lake and on Black Bay or the Rat Root River on Rainy Lake. The effects of higher average water levels went unmarked at first for the most part, but eventually a vocal group of environmentalists and others were able to partly redress the grievances that Backus had instigated. Basically, in the beginning, Backus escaped adverse criticism because there were so few inhabitants or observers in the watershed. Also, whatever rivals were present on the upper chain of lakes, were mostly interested in floating their logs downstream, and had little or no concern for growing wild rice or preserving wildlife or protecting recreational interests.[24]

Leslie Beatty's diary provides a running commentary of V&RL activities during its entire existence. He saw, for example, that the dry winter of 1913-1914 hampered logging operations somewhat, particularly the smaller loggers who failed to ice their hauling roads by sprinkling water from horse-drawn sleigh tankers. These people got stuck with a lot of their logs still on the skidways in the woods when the spring breakup came. The V&RL, on the other hand, together with the short-haul skidding operators, thrived on the mild winter weather, and had a heavy output.[25]

Beatty and his fellow forest rangers had a symbiotic relationship with the loggers. Under the Minnesota slash-disposal laws of 1911, the rangers had a supervisory role vis-a-vis the companies. Unfortunately, the early law contained an unthoughtful notion about forest fire prevention and rigidly proclaimed that companies must burn slash during

a fixed interval in the spring whether the ground was wet or dry. Strict compliance with the law tended to cause forest fires, not prevent them. Beatty concluded very early that these logging slash fires which got out of control, had a profound effect on the way a forest was reseeded and regenerated. Often the second growth of trees was a mere matter of chance, with undesirable species of trees replacing the valuable white pine acreage. Beatty's heart sank when he saw the depressing results of a completely cutover district, and the sight was even worse where logging slash fires added to the grim barrenness.[26]

Beatty's duties threw him together with V&RL crews on an almost daily basis. In early 1914 he was issued a new motor boat which he docked alongside the hoist on Namakan Lake. In his travels among the islands and through the channels, he saw a lot of the dam construction activity near Kettle Falls and the movements of company steam "alligators," propelling rafts of logs from lake to lake. There were steam tugs as well, pulling barges with equipment and supplies. There were a lot of other craft, too, some being commercial fishermen. This was before the outboard gasoline motor came into general use. Timber cruisers used canoes, as did the Indians, boundary survey crews, and a very few early tourists. This was the era when Kettle Falls became a beehive of activity. "Ed Rose and Nellie Bly were constructing a large frame hotel building there to accommodate the increasing number of travelers between the upper and lower lakes."[27] Beatty said that practically all of this traffic was industrial, that is, connected with logging.

Beatty dealt frequently with the officials of the big logging companies in the area. He had a good working relationship with S.J. Cusson at Virginia, the general manager for the V&RL. He was less successful in hitting it off with Frank H. Gillmor, the logging superintendent at Cusson, Minnesota. Beatty described him as "a stocky man, handsome, well groomed, a possessor of a fine tenor voice with quite a flare for male group songfests. Besides these qualities, he had an industry-wide reputation as a cost-conscious and profit-making logging superintendent, who was an excellent judge of men. During his twenty

odd years as a logging manager, the turnover among his skilled staff of walking bosses, camp foremen, and other key personnel was very light."[28] Beatty related in detail how Gillmor's subordinates carried out their boss' cost accounting procedures. One thing they did not scrimp on was the quality of food served in the camps and the comfort of the men in their sleeping facilities. Beatty said the V&RL always exceeded state legal requirements in these matters.

Beatty did not see eye to eye with Gillmor on fire control practices. Gillmor thought some of the suggestions would multiply logging costs, but, after an expensive forest fire, Gillmor came around to Beatty's views.[29]

To retrace our steps a moment to 1914: that was the year the V&RL put a gasoline powered luxury guest boat, the City of Virginia, onto the waters of Namakan Lake. Similarly, Backus had a boat on the same waters, but his was intended mostly for business. This boat was under the sponsorship of the International Lumber Company, and was named the Mary Mac for the wife of the walking boss who used it, Charles McManiman. Everett Harrison was the pilot. The usage of this boat illustrated that Backus was transporting most of his borderland logs via the chain of lakes and rivers to his mill at International Falls.[30]

The completion of the two new storage dams on either side of Kettle Island almost predictably contributed to the spring flood of 1916. Because it was a new experience, Backus' people did not anticipate the combination of spring breakup and heavy rains by releasing water early. Instead, when the water was far out of its usual banks, they released all the water they could. It was not enough. The V&RL hoist trestle was completely submerged at Hoist Bay, but unharmed. "Along Ash River the main line railroad track and bridge was also covered with water. The facilities had to be diked with sand bags to prevent complete washouts. Many points on Kabetogama, Namakan, Sand Point, Little Vermilion, and Crane Lakes became islands after high water eroded their connection with the mainland. High gravel and clay banks around the shorelines were

reduced to ugly slopes marked by the uprooted or partially submerged trees still standing on the shores."[31]

During the high water, steam tugs and alligators were able to go up the Loon River all the way to the Camp 56 Rapids, a previously impossible task. About this same time the V&RL constructed and ballasted a branch line of railroad along the Vermilion River. This area is south of the southeast corner of the present Voyageurs National Park. The V&RL built this branch because the Vermilion River was too wide and sluggish for floating logs downstream and eventually bringing them to Hoist Bay.[32]

Beatty made further observations on the 1916 flood:

> At Kettle Falls the flood waters caused by heavy rainfall along with the stored water above the dams flowed over the tops of both control dams to record heights. Gold Portage at the northwest shore of Kabetogama Lake resembled the path of a tornado, with a mass of uprooted trees toppled over by the raging floodwaters rushing downgrade to Black Bay on Rainy Lake. The dikes at Bear Portage [in Ontario] on the north shore of Namakan Lake were also breached by the flood water rushing over the natural rock ledge hump into Rainy Lake. The high waters caused no damage to logging railways, docks or hoists, as those facilities had been rebuilt on higher ground following the 1915 flood stage. The shorelines of the flooded lakes were not so fortunate. The 1916 crest ate further into the banks and took a heavy toll of standing timber within reach of the water.[33]

Boat traffic was intense on the boundary lakes during 1915 and 1916, either in connection with the V&RL's hoist or sluicing logs past Kettle Falls. At the latter place, Backus did not have a total monopoly of the logging activity. Pat Smith's Rat Portage Lumber Company was still active, as was James Mathias for the Border Lumber Company of Fort Frances, Ontario. Oliver Knox was an independent boat operator in the Kettle Falls environs who did most of his log raft towing on the Canadian side of the line. The Army Corps of Engineers had a crew of water survey people plying the area as well. They were tabulating data for the Lake of the Woods Reference for the International Joint Commission (IJC).

Their work would eventually have a spinoff effect that inaugurated the Rainy Lake Reference for the IJC.[34]

During the first World War the State of Minnesota started to sell some of its timber stumpage to the highest bidder, but this auction was different from previous experiences. The state had added for the first time a clause to the legislation that was intended to enforce selective cutting. The law preserved trees with less than a six-inch diameter at twenty-four feet above ground level. The forest rangers were the enforcers and each of them went through a one-day training course that had them stumbling around with a cumbersome bamboo pole-caliper device that measured the tree tops. After this training, the rangers would use eyeball observations based on their pole experience. They then marked the eligible trees for cutting with a special tool.[35] Some of the stumpage was in the present day Voyageurs National Park area.

During 1917 and 1918 demand for lumber slackened off because of the United State's participation in World War I. Less homes were being built. As a result the timber market slackened and many logging camps in the north woods closed down. Once the war was over, the V&RL camps revived. S.J. Cusson died in 1918 and was replaced as general manager by Thomas S. Whitten, who also kept his headquarters at Virginia, Minnesota.[36]

D. IWW Agitations in the North Woods During 1919-1920

During the winter logging season of 1916-1917 the northern Minnesota lumber camps were overrun by agitators from the I.W.W., or International Workers of the World, or "Wobblies." The Wobblies were practically all outsiders to the area and used various forms of persuasion, coaxing, wheedling, threatening, and intimidating to get lumberjacks to join their union. The Wobblies also picked on new immigrants to a considerable extent. Thinking that the Scandinavians were ignorant of American ways, it was felt they would more easily be persuaded that they

were oppressed by their employers. For the most part the lumberjacks were susceptible neither to threats of violence nor actual violence because working conditions in the woods had improved considerably in recent years.[37]

The IWW trouble repeated itself in the 1919-1920 logging season. The effects of this agitation on Backus' camps is well documented because the National Guard was called out and the adjutant of the company made a very detailed report on it. In addition, the army received data from three secret operatives who spied on the Wobblies and advised their superiors of IWW activities. These spies were actually hired by Backus, but he passed the reports to the army.[38]

The trouble arose when about forty railroad men of Backus' Minnesota and International line struck and Backus started to bring in strikebreakers in November 1919. There were threats of violence, some actual sabotage, and a few incidents of minor violence that prompted the Koochiching County Sheriff, H.T. McIntosh, to telegraph the Minnesota governor for military help. Company M, 5th Infantry, out of St. Cloud, Minnesota, was sent under the command of General Walter F. Rhinow to keep the peace. Company M had seventy men and half a dozen officers.[39]

Coincidental with the railroad strike at International Falls was a movement by the IWW to get Backus' logging camp workers to join in the strike. Stories were circulated on a scale that ran from full grown revolution to a modest demand for higher wages, shorter hours, and better living conditions. The IWW leaders had almost no success among the lumberjacks and word of the army's arrival scared the IWW agitators into fleeing to Canada. Their original play for a major strike on Christmas was thwarted by the army's arrival nearly two weeks beforehand.

Meanwhile, at International Falls, the army adopted a perfectly neutral stance, but the various parties to the dispute at different times

demanded that the soldiers act as their personal body guards. The army kept its distance, however, and only handed lawbreakers over to the sheriff after some incident took place.[40]

The reports from Backus' secret operatives were quite humorous, in that even their identification was hidden in the best cloak and dagger tradition. There were agents #29, #41 and #70. None of them could have been professional detectives, judging by the context of their reports.[41]

All three of the agents kept their eyes on the Backus camps along the rail line between Northome and Gemmell. Agent #41 had the most gossipy narrative of the three. It never occurred to the agents' superiors that they might end up spying on one another. Agent #41 cast the IWW leadership in the most unfavorable light, asserting that they were bent on every conceivable violent act, including theft of all the firearms in the Gemmell hardware store, sabotage of every sort, and general mayhem against the local citizenry. Agent #41 also portrayed the Russian and Finnish immigrants as being universally duped by the IWW and that all were carrying red cards of membership. Agents #29 and #70 had an opposite mind on the Finns and Russians, thinking them to be less susceptible to anarchist agitators, after they, as immigrants, had escaped the chaotic labor conditions of Europe. Agent #41 also portrayed the IWW as advocating radical labor reforms. He said they were after a six-hour day when a lot of laborers were still working ten and twelve hour days. But agent #41 said the lumberjacks generally assessed the IWW promoters as lazy, radical, and corrupt. Wobblies were seen getting drunk with the dues money collected from the few gullible woodsmen who joined. To counteract the propagandists, Backus made a show of conditions in camps 48 and 59 to the state inspectors, demonstrating that IWW charges were baseless. Agent #41 quoted a man who heard a Finn in Mizpah, Minnesota, say: "One Big Union [O.B.U., the Canadian equivalent of the IWW] means more money, short hours or one big fire."[42]

Agent #70 made observations that tended to support #41, but would be more precise in quoting statements made by the Wobblies. He talked

to one man on the street named James Clancy who gave his estimation of the IWW members: "They are no good to themselves, much less to anyone else. They are trying to put this country on the blink and if they are not stopped pretty soon they will do all they can to make things bad for the working class of people throughout the country." Another observer said: "Part of their platform is to go out and kill their neighbors and take away from them whatever property they have."[43]

In fact, the impact of IWW presence had little effect on events at International Falls, but often the illusion of what might have happened could be as fear-inspiring as the actuality. Potential disaster is often as formidable as real disaster. At International Falls the populace feared that the rail shutdown might eventually paralyze the community. The depletion of coal supplies might have caused cutbacks at Backus' mill and thrown more people out of work. Such an eventuality would have hit the town hard. Adjutant Frankel believed this when he wrote: "If we [the National Guard] were not here I am confident the reds would pile in here and start something. This is a hundred percent unionized town and there is fertile soil for revolt and redism here. If the red leaders ever got in here with the strikers in a revolt and hot frame of mind, it would not take long for the flame to spread and hell generally let loose." Around Christmas 1919 Frankel reported that the pulp mill and power plant at International Falls had only four days supply of coal left. If they shut down, not only would the local 1,200 workers be affected, but conceivably ninety-six American newspapers could have been paralyzed for want of newsprint paper. Among those using Backus' paper were the Minneapolis Tribune, the Minneapolis Journal and the Chicago American. The coal came from Superior, Wisconsin by rail and only the introduction of strikebreakers on the locomotives prevented the shutdown. The strikebreakers were terribly inefficient, however, and the strike ended early in January 1920.[44]

In contrast to these fears was the fact that the I.W.W. leadership had made an effort at recruitment in International Falls. Captain Frankel's report showed that several important Wobbly leaders, such as

Joe Karkas, Joe McDermott, "Slap-Eyed" Simpkins, Conny Casey and "other notorious leaders" had all appeared in the Falls at one time or another, but they quickly crossed the border when word was passed that the National Guard was on the way. Canadian authorities intercepted some I.W.W. communications during their stay in Fort Frances, and told the army that the Wobblies intended to "get hold of" the entire Backus properties and also the Shevlin-Carpenter properties both at Virginia, Minnesota and at Fort Frances, Ontario. According to the larger outlines of this scenario, the Wobblies would be setting up a large Bolshevik/Anarchist type Soviet in northern Minnesota and the adjacent portions of Ontario. The Minnesota part of this fantastic kingdom was to include the Iron Range and the lumber districts and the timing of the "blow-off" was originally scheduled for December 23, 1919; and was postponed twice to New Years Eve and January 7, 1920, but finally abandoned altogether. Supposedly, this planning was done at meetings in Minneapolis.[45]

Despite the exaggerated fears, most of them residing in the mind of E.W. Backus, the I.W.W. never achieved any great revolutionary success. Often their efforts were more laughable than serious. Captain Frankel, the National Guard adjutant, for example, told how the I.W.W. tried to expand its membership in the logging towns along Backus' Minnesota and International line:

> In most of these places there were resorts conducted by women. These resorts were favored hang-outs for the delegates [I.W.W.] who by spending money in the resorts and by bootlegging, obtaining liquor for the women in the resorts to sell there, gained a powerful hold over these women of the under-world. These women immediately became allies of the I.W.W. and I personally spoke with many men who were denied admission to the resorts, or denied liquor there, until they had shown their [I.W.W.] cards, and that in a number of instances that the red card was sold to them by the women-keepers of these resorts before they were permitted to enter there.[46]

E. Beatty Observes V&RL Operations in the 1920s, Including the Company Shutdown in 1929

Returning to a discussion of the logging operations proper, Minnesota finally modified its slash disposal laws in 1919. The change was somewhat more sensible in that it no longer required that all slash be burned before May 1 regardless of wet or dry weather. Now the law was selective and allowed some leeway. Only that debris which, by reason of its location, was perceived as a fire hazard need be burned. Despite this change, the logging companies were slow to comply with the new law.

In 1920 there appeared a sudden demand for the formerly despised poplar or aspen logs. The McDonald interests first built a box factory at Angora (near Virginia), Minnesota, and then a bigger mill at Orr. The V&RL management helped the new company by sending circulars to the area farmers and small logging operators who had poplar acreage and cared to sell it at $21 per M. All of a sudden the lowly poplar tree was referred to as "silver pine."

In the following year, 1921, the State of Minnesota started construction of a highway, #11 between Virginia and International Falls. This became U.S. Highway #53, and today passes within a mile of the southwest corner of Voyageurs National Park.[47]

Returning to the subject of forest fire prevention, we have seen how some logging companies were very cooperative with the State Forest Rangers in joining forces either to prevent, control or fight fires. Leslie R. Beatty consulted with many company heads in this regard, but he had a difficult time gaining access to the E.W. Backus offices in International Falls. It was not until 1921 that Beatty wheedled his way into the great man's presence. By that time the forest rangers were making use of private organizations to promote good forestry practices. In the Orr, Minnesota, District they formed the Kabetogama Forest Protective Association and succeeded in getting several large lumber companies to subscribe to their traditional cooperative agreement. The V&RL signed,

but Backus would not sign. Beatty went to see Backus personally. Once in the magnate's office, Beatty had a good arguing point in the frequent and widespread forest fires of the summer of 1921. The cost of providing paid auxiliaries and their tools to fight fires was Backus' objection. When Beatty completed his argument, Backus said: "Beatty, my companies will never be short of timber because of fires; furthermore, I do not believe that any state or federal agency is capable of controlling fires."[48] With that he dismissed Beatty. It was, therefore, a major surprise to Beatty when, a few days later, he received a terse telegram from Backus, asking for a copy of the fire control agreement for signature.

In 1921 the State Forest Service hired more forest patrolmen for preventing and suppressing fires in the Kabetogama/Namakan area. Their capabilities were enhanced by the acquisition of a twenty-four foot motor boat named the Kabetogama which was stationed at Gappas Landing, now identical with the Village of Kabetogama at Section 21, T69N R19W. While this port is outside the present boundaries of Voyageurs National Park, it is one of the more important access points, by water, to the immense chain of lakes and rivers.

Besides the boat, the foresters also added a series of new lookout towers in 1921 and 1922. Beatty does not tell of the construction of any towers within what is now the park at that time, but he did tell what was happening in the surrounding area.

> After 1922, as construction funds were available, modern steel towers were erected on the Nett Lake Indian Reservation [to the southwest] and at other locations, such as, Vermilion River [southeast], Crane Lake [southeast], Elephant Lake [south], and near Ash River [adjacent to the park]. We had another site selected on the Kabetogama Peninsula, but the tower was never erected because of the difficulties of running a telephone line to it. In more recent years [the 1960s], after short wave radio communication became practical, the Minnesota and Ontario Paper Co. [Backus] built a high steel tower on the peninsula equipped with radio communications.[49]

Today, 1986, there is the Shoepack Lookout Tower at Section 4, T69N R20W that may be the tower referred to by Beatty. The Kabetogama Lookout Tower, of course, is outside the park at Section 27, T68N R21W.

In 1923 the Kabetogama Peninsula had a serious forest fire that began near Nashata Point at Section 12, T69N R21W. A lone watchman there apparently set the fire by carelessly burning a rubbish pile on a dry, windy day. The fire quickly spread eastward and eventually burned out at Squaw Narrows on the eastern end of the Peninsula. Only the several hundred feet of water at the narrows prevented the fire from devastating more timber in Ontario. Beatty and his patrolmen got help from V&RL lumberjacks on the second day of the fire, but all of their efforts were fruitless and the fire fighters were totally defeated.[50]

During that same year of 1923 the nature of life around Namakan Lake and Kabetogama Lake changed qualitatively with the completion of Highway #11 (now U.S. 53) between Virginia and International Falls. Previous to that technological advancement, the few people who wished to use automobiles near the Falls, had to bring them in on flatcars by rail. The road made the lakes accessible to tourists, fishermen and hunters and encouraged the establishment of private resorts. It also inspired bootleggers and moonshiners to cohabit more closely with the logging industry by giving isolated woodsmen easier access to the outside world. Forester Beatty stated that the watchmen on the lookout towers could see and pinpoint the distillery fires of moonshiners. He reported: "As the State Forest Service was not a Prohibition law enforcement agency, and the moonshiners were not operating their stills on state land, we usually did not report these finds to the prohibition people. Instead, the corn sugar distillers were warned that if their illegal stills ever caused a forest fire, or if they supplied their brew to fire crews, they would be immediately run out of the country. As a matter of fact, they never caused our force any trouble."[51]

While the forest service looked down serenely from their towers for more forest fires, the V&RL continued to move into new sectors of the woods. The main line of the logging railroad, of course, abutted on Hoist Bay where the huge hoist trestle stood in the water. From there the trackage wound around in a generally westward direction to the point where a railway bridge crossed the Ash River near its mouth on Sullivan Bay, Kabetogama Lake. At this point, in the summer of 1924, the V&RL steel gangs sent off a branch in a southeasterly direction, roughly paralleling the Moose River. Beatty did not describe the exact course of this fifteen miles of ballasted track, but did say that it touched upon the shores of Marion, Johnson and Spring Lakes. At the latter lake, another log hoist was built.[52] Most of this trackage is outside the present park, except for the first several miles near the mouth of the Moose River.

While the V&RL worked the Moose River sector of the forest during 1924, logging activities on the surface of the adjacent waters continued unabated. This was the era of the Roaring 20s when the Kettle Falls Hotel was the hub of that borderland's activities. Various companies were sluicing their logs over the two storage dams on either side of Kettle Island and Beatty said that Shevlin-Clarke of Fort Frances was doing a lot of the sluicing there during the summer of 1924. Doubtlessly, most of their timber came from the Ontario side of the border, as they were by then a wholly Canadian firm. There was a new mix of tourists, VIPs and lumberjacks congregated at the hotel to take advantage of the excellent seafood meals there. Any number of fishermen marketed their catch near the dam or sold them directly to the hotel run by Bob and Lill Williams. Moonshine whiskey was available in the Kettle Falls area, and it is said that girls transported via Minneapolis and Duluth were engaged in prostitution in this same hectic environment. There were "blind pigs" or whiskey dispensing places dispersed here and ubiquitously among the islands. One island in eastern Namakan Lake even carries the name of Blind Pig Island to this day.[53]

It was an era too when a small number of hermits with clouded backgrounds inhabited the wilds both winter and summer and graced the

locality with the stories of their curious adventures. There was "Dutch" Messenger, the brawling bully boozer who got extremely violent when liquored up, and was said to have had several dark secrets in his past, including murder. Contrasted to him was "Catamaran," alias Bert Upton, a gentle philosopher, small in size, who was famous for his eccentricities. Catamaran was often paranoic, thinking his food was poisoned, so that he would sift through garbage, believing that no one would poison their refuse. He was also noted for his great mobility, moving among the lakes and islands seemingly in a speedboat, but really in a small lapstreak factory-built rowboat that was especially suited to Upton's tremendous rowing skill. In this boat Upton would materialize nearly anywhere, moving swiftly over the surface, with five inches of water in the bottom of the boat, because as he said, this kept his feet cool in the heat of the summer. Catamaran/Upton had a shack and root house near Squirrel Narrows about a mile west of Kettle Falls and was found dead in the 1950s near Ash River, his heart apparently having given out in the dead of winter.[54]

The 1920s saw a lot of traffic that included VIPs on tour. There were distinguished guests of the big logging companies who were courted to solidify a business deal. There were Backus' politician guests whom the magnate wanted to approve of his gigantic industrial projects. For several years after 1925 Backus had built some power dams in Ontario on the Seine River and he wanted to do the same with the chain of lakes that extended along the boundary all the way from Namakan to Gunflint and North Lake. He was eventually thwarted in this because environmentalists joined battle with him before the International Joint Commission, the relatively new arbiter of water problems along the Canadian/U.S. border.

Another category of visitors during the 1920s were politicians who were guests of environmentalists. Beatty singled out Fred Bessette in this category, because Bessette had come from the state forest service and had gone into politics. Ernest Oberholtzer was probably more prominent than Bessette, but he operated more on the national/

international scene. Bessette became a state senator and frequently brought newsmen and colleagues into the north woods to persuade them that something had to be done to reconstruct or rejuvenate the logged over areas. Beatty credits Bessette with being the mover in the Minnesota Legislature who ramrodded much of the beneficial conservation legislation there until 1932, when he was defeated for re-election. Some of the bills he co-sponsored were those creating state forests, permitting auxiliary forests, requiring burning permits, and so on. Bessette had done well in a decade of legislative work.[55]

Nineteen twenty-six was a bad year for the V&RL as well as the State Forest Service. A dry spell started in June and widely scattered fires followed thereafter. One fire in particular started south of what is now Voyageurs National Park, and spread northward to the Kabetogama Narrows, jumping the water and actually burning some timber on the peninsula. Fire fighters were able to bring this one under control there, but only after several million board feet of merchantable trees were damaged. This result so angered Thomas S. Whitten, General Manager of the V&RL, that he nearly declared war on his own supervisors and walking bosses for allowing careless and unthinking men to create the conditions for fires. Whitten railed: "Since 1924 our yard at Virginia has been stacked with millions of board feet of fire killed, wormbored timber which is not salable at a profit. I do not want to hear of another fire on the operations from now on." This was another indication of the unprofitability of V&RL operations; but at least Whitten's tirade had the desired effect for the last three years of the company's operations.[56]

During that same period there was a movement underfoot to establish an international park along the boundary; but both the state and federal foresters opposed the move because they felt that tourists would bring forest fires in their wake. The push for such a park died at that time more through public apathy and ignorance rather than because of any concerted opposition.

In 1928 the V&RL prepared for their last cutting season in the boundary region. That year's harvest was mostly located to the south and southwest of what is now Voyageurs National Park. There was one area, however, on the western end of the Kabetogama Peninsula, that still had marketable white pine. These areas constituted the last cut of the V&RL. Beatty stated that some of these areas were giving a second cutting since 1907-8 and prayed that the region might provide perpetual timber harvests if the forest was safeguarded against fires. Writing in the early 1960s, Beatty considered his dictum proven when he noted that George Biondich & Son were taking out pine for the third time from land along the Moose River. As for the Kabetogama Peninsula logging: there were four large logging camps along the south shore of Rainy Lake. The company put up a new log hoist a short distance east of the town of Ranier to rescue the floating logs for rail transport to Virginia. This tract of land where the hoist stood was later deeded to the village of Ranier and became a public park.[57]

While the V&RL was still cutting timber on the Kabetogama Peninsula and points south and southwest, in 1928, the company was also lifting and removing trackage elsewhere, most notably on the Vermilion River branch of their logging roads. In the latter half of 1928 they commenced the removal of all portable structures and equipment in the area, preliminary to total closedown of all V&RL operations. Some cabins that could not be removed were dynamited. The company missed or forgot a lot of structures, particularly root cellars that were almost totally buried in the earth. The state forest rangers came in after the wrecking crews left and proceeded to demolish these. The thinking of all concerned was that transients might move into abandoned structures and create a fire hazard.[58]

In the spring of 1929 the V&RL intensified its efforts to remove all steel rails that were not part of their main line between Ranier and Virginia. The V&RL had a good working relationship with the state forest service in this dismantling process. Beatty had met with Frank H. Gillmor, their logging superintendent, and both men saw eye to eye on

demolition procedures, but once the company had pulled out, the rangers were left with some problems. It was impossible to obliterate the ballasted railroad grades and there were a number of transient families from the mid-southern states in the area waiting to move into the cutover territory even though they had no visible means of support or employment. This made it necessary for the rangers and local game wardens to close off the access points to these railroad grades. They therefore erected a considerable number of barriers or heavy gates with padlock and chain attachments. In addition to this, the forest service people were obliged to eliminate a lot of timber bridges and culverts. This they did mainly with dynamite. In some cases the state officials even restored some trapper-breached beaver dams adjacent to trackage which permitted upstream water to submerge low lying right of ways. They also blasted the west section of piling on the long span of the bridge across Ash River on the Cusson-Namakan main line. This made it impassable for all time.[59]

In a few places hunters and resort developers were able to outflank the foresters' posted gates; but the rangers kept after them with occassional arrests and added variants to their barrier methods. The intent of all these security measures was to keep the cutover districts roadless and unsettled for enough years to allow all of the logging slash to decay sufficiently to eliminate all threat of forest fire. Beatty thought that this system was largely successful, except for the major fire of 1936 on the Kabetogama Peninsula.[60]

Even though the V&RL closed down in an orderly fashion in 1929, there were some repercussions that had an indirect relationship with the demise of the company. Since most of the lumberjacks had left the wilderness, the exploitive industries that preyed on them moved to where the people were, along the main rail line between Virginia and Ranier. These industries were bootlegging and prostitution. Suddenly the town of Orr had a crime wave. Abruptly "girlie houses" and "blind pigs" were quite visible on the Orr-Cusson highway. The sponsors and aficionados of these establishments were so blatant in the demonstrations of their

debauchery that the irate law-abiding citizens of Orr declared a holy war. They had to light a fire beneath their sheriff and he had to get moral support from the governor for the cleanup to succeed, but succeed it did.

Another aspect of the V&RL closure was the disposition of certain lands and facilities belonging to the company. As far as timbered land went, the V&RL had not owned the vast majority of it and had only stumpage rights. Already in 1929 the General Logging Company of Cloquet expressed an interest in the V&RL facilities at Cusson with an idea that a spur rail could be built westward from that point to gain access to some Indian timber in the Nett Lake Reservation. Eventually that plan fell through because of the terrain; but General Logging did build their spur westward from Gheen. Beatty's impression of the government's opening up some Nett Lake land for bids, was that General Logging won the lion's share of that bidding. General Logging was interested mainly in pulpwood for paper, but Backus did win one bid at Nett Lake, because in 1937 he made his last cut for lumber on that reservation.[61]

Not only were other organizations interested in the inanimate accoutrements belonging to the V&RL, but also the skilled manpower they employed. The Minnesota Forest Service actively recruited these men, including Alex Gerber of Orr, Minnesota, who had been a locomotive engineer for the V&RL.

The last step in terminating V&RL business at Cusson was the hauling off of cedar products under the direction of A.K. Berger, and the trans-shipment of some frame residences from Cusson to a point twenty-five miles southward. Frank H. Gillmor directed this movement and closed Cusson down, leaving it as a ghost town that had a few abandoned buildings that were later used by the CCC in 1933 and thereafter. These remaining structures had been the company headquarters and a number of boarding houses.[62]

Just when it seemed that V&RL operations were altogether terminated, word came from Charlie Lowe, one of the company walking bosses, that a million board feet of logs had been floating idly along the south shore of Lac La Croix in a boom for the past three years, waiting for transportation. Perhaps at one time there was a plan to send a rail spur in and build a log hoist on the shore of the lake. But the logs were forgotten and a watchman guarded them faithfully for three years, taking no initiative to remind his employers of their existence, lest it terminate his job with bountiful perquisites including superb fresh water fishing.

So in the summer of 1929 the company had to put together one last rafting crew to float the logs down to Ranier, their only existing log hoist, as the one at Hoist Bay on Namakan Lake had been dismantled. The logs were slowly shepherded by several "alligators" down the Namakan River (in Canadian territory), through Lake Namakan to Kettle Falls, sluiced over the dam there, and towed the east-west axis of Rainy Lake to the hoist at Ranier. Then the V&RL was at last finished so far as field operations went. The logs had only to be hauled by rail to Virginia for milling.[63]

F. Life in the Camps of the V&RL and Backus-Brooks

J.C. "Buzz" Ryan was a Minnesota state forest ranger for forty-seven years who wrote a number of essays concerning his association with Minnesota logging. Ryan could describe both his own experiences as well as vicariously relay the memories of oldtimers from the nineteenth century to us. Ryan was an amateur archaeologist of sorts too when he would note that the finding of an old ox shoe told of the location of a campsite prior to 1900, or that a snuff jar demonstrated that a camp had been there before 1912. The foundations of log structures were also tipoffs of early camps. Ryan knew about the various types of old liniment bottles, vegetable compound bottles, extract bottles, Hinkley bone liniment bottles, whiskey bottles, and various types of metal objects that would help to date an old campsite.

Ryan contended that there had to be a great number of camps for the lumberjacks, because most companies could not afford to allow their men to walk much more than three miles to work. Each camp was usually used only for a season. Thus there had to be a camp site every few miles to cover all of the territory of a pine forest. Perhaps the camps were more widely spaced when the era of the railroad spurs came to the forest, but the logging engines were used primarily for transporting logs to the mill and not for moving personnel. Yet quite frequently when train trips coincided with the time-frame for men going into or out of the woods, the men would ride the cars.[64]

So Ryan set the scene by telling generically who logged where: "North from Northome to International Falls [Koochiching County] was Backus and Brooks...North of the [Iron] Range, Cooke & O'Brien, Virginia Rainy Lake Lumber, Moon & Kerr, Namakan Lumber Co., Shevlin-Clarke and R.R. Bailey." Cooke & O'Brien, Moon & Kerr, of course, had been integrated into the V&RL; R.R. Bailey had been an early entrepreneur who faded away; and Shevlin-Clarke eventually evolved into a wholly Canadian firm as Shevlin-Clarke-Carpenter. The Namakan Lumber Company had been an interim stage in the evolution of the latter company. It existed under the Namakan label from 1903 to 1912. For a time, 1903 to 1907, Backus and Brooks also owned a part of the Namakan Lumber Company.[65]

The early camps consisted largely of log buildings. When such camps were abandoned, the structures were left to crumble and rot. Often forest fires blotted out their locations. Twentieth century camps were made mostly of crude lumber and tarpaper. When such camps had served their purpose, the structures were either torn down board-for-board or removed intact on flatcars by rail. Ryan said that invariably one small lumber building was left at a campsite, as if to mark the location. Frequently a root cellar was difficult to obliterate, its continued survival evidencing the location of a kitchen or a mess hall.[66]

Most companies numbered their camps each year starting with number one. Thus, over the years, there would be several "number five" camps. The larger companies, such as the V&RL, numbered their camps consecutively, and could run the numbers up into the hundreds. While there are evidences of three digit camp numbers in the Kabetogama/ Namakan area, there is a Camp Forty Creek near the village of Crane Lake and a Camp Ninety Creek that drains into the Ash River.[67]

Around 1900 the largest company camps had a hundred men. Later, and by the time the V&RL was in its heyday, some camps might have as many as two hundred men. The usual buildings in a camp were the kitchen or mess hall with its adjoining root cellar, the bunkhouses, a barn for the horses, a blacksmith shop, a shack for filing saws, and an office that might be considered the camp headquarters with space for a foreman, a scaler, the camp clerk, and others. Of course, there were several outhouses as well.[68]

The bunkhouses would have the bunks aligned usually in two rows, using either the "muzzle loader" alignment or the "side delivery" pattern. The former variety had each bunk pointing toward the center of the building so that the lumberjacks had their feet toward the center. This mode was not so popular with the men as it tended to emphasize the odor of feet to those who were awake and walking past the bunks. The "side delivery" bunks allowed the lumberjack to get in from one side and supposedly permitted better access to fresh air. With both styles of bunks there was an accompanying bench extending the length of the rows, called the "deacon seat," where animated conversations took place or tall tales were told.[69]

The early bunks varied from board frames to pole frames. The latter were said to have more spring in them and hence were more comfortable. Also the early bunks were softened by a variety of substances including hay, leaves, small branches from a variety of evergreens such as spruce, balsam, or cedar. The latter two were preferred as they had the property of repelling insects such as bed bugs

or "cooties." This was a very significant remedy and even made the early bunks hygienically superior to the later bunks with mattresses, as these were still vulnerable to lice and bed bugs. Sometimes this problem was a matter of personal cleanliness and it is known that the lumberjacks collectively would drive a filthy comrade out of their midst if he did not come up to their standards of cleanliness.[70]

G. The V&RL Camps, the Role of Hoist Bay, and Recent Archeological Research

Of the 143 V&RL logging camps between the town of Virginia, Minnesota, and Rainy Lake, 31 of them had a close geographic relationship to the present day confines of Voyageurs National Park. Of the 31, 18 were located on the Kabetogama Peninsula and 13 on the mainland. Of the latter, three are in close proximity to the modern park boundaries, but are not inside the park. One of these latter three was a construction camp and did not export any logs. Similarly, one of the camps on the Kabetogama Peninsula was also a construction camp with no log production. Therefore, in sum, there were 29 productive V&RL camps closely associated with the area of the park as it stands today.[71]

The 29 camps mentioned above removed 224,935,030 board feet of white pine logs between October 1912 and September 1929. This figure constituted only 12.3 percent of the V&RL total production of 1,819,292,828 board feet from 1909 to 1929. As has been mentioned before, the entire V&RL operation was not an especially profitable venture, and some of the terrain associated with present day Voyageurs National Park is a partial explanation for that unprofitability. The company's average cost for extracting a thousand board feet (an M) was $12.02 over that twenty year span. While it is somewhat unrealistic to compare early costs with later costs, because of the inflation toward the end of World War I and into the 1920s, yet it is useful to use the statistics because the camps within the Voyageurs confines were active in both periods, before and after the inflation, as were the V&RL camps generally.[72]

Across the board, the 29 Voyageurs logging camps were relatively inefficient as regards cost effectiveness. It cost an average of $16.64 per M to extricate the pine there. Yet there is a certain distortion in that figure, because the camps on the Kabetogama Peninsula were the major cause of driving up the cost of harvesting logs in the area. The Kabetogama camps cost averaged $20.40 per M, while the mainland camps were near the company average at $12.09 per M. The reasonable explanation for this difference in cost was the greater distances hauled; more terrain obstacles, and the concomitant increase in man-hours and team usage.[73]

The routes used for removing most of this Voyageurs timber clarify the costliness of this northerly logging. The statistics provided by Frank Gillmor, superintendent for the V&RL, show that 16 different camps sleigh hauled their logs directly to Namakan Lake or were located on Hoist Bay itself. It is safe to say that all logs from these camps left the area by rail from the entrepot at Hoist Bay. Since the statistical inventory always states that the Voyageurs camps transported their timber by "sleigh haul," we know that most of the logs were delivered at Hoist Bay in winter over the ice. It is also well-known that the rail cars at Hoist Bay could not or did not remove all of these logs before spring broke. For this reason, a considerable volume of floating logs had to be hoisted out of the bay after the spring thaw. In addition, many logs from remote locations had to be towed by steamers on the lake's surface in log booms to get them to Hoist Bay after the ice went out.[74]

Besides the sleigh hauling over Namakan Lake, there were nine other camps that brought logs to Hoist Bay across some of the frozen waters of Kabetogama Lake. At first glance it would seem that the V&RL bosses would have had another entrepot at the west end of Kabetogama Lake to remove timber by rail from that area. Camp #29 is the key to this puzzlement, since it was the camp farthest west on the lake and closest to a rail connection near Ray, Minnesota. Nonetheless, the intervening terrain must have been deemed impassable, because Gillmor's statistical inventory stated that this camp's production was removed by "sleigh haul

to Kabetogama Lake." Eight other camps followed this example and doubtlessly all used Hoist Bay as their destination. So, cumulatively, from October 1912 to September 1929, 25 different camps fed Hoist Bay, bringing a grant total of 202,734,720 board feet to that one gathering place alone. Aside from these, only four Voyageur camps sent logs out via a different route. Three camps on the Kabetogama Peninsula sent out 15,772,090 broad feet by sleigh on Rainy Lake in 1928 and 1929. These logs undoubtedly left the area by rail from Ranier, Minnesota, on the west end of Rainy Lake. The only other exception to the Hoist Bay usage was Camp 46 on Crane Lake north of Harding, Minnesota, which shipped out 6,428,220 board feet by rail on a spur near that place.[75]

The data on the individual Voyageurs logging camps is as follows:

Camp #	Dates	Location		Production	Remarks
21	Oct. 1912-Nov. 1913	SW-NE Sec. 27	69-20	6,601,340	mainland
22	Oct. 1912-Nov. 1913	E½-SE Sec. 31	69-20	5,643,140	mainland
23	Sept. 1913-Aug. 1915	SE-NW Sec. 5	68-19	15,823,940	adjacent to park
24	May 1913-Apr. 1914	SE-SE Sec. 34	69-19	13,856,740	Hoist Bay
29	Sept. 1913-Oct. 1914	NW-SE Sec. 17	69-21	6,460,490	adjacent to park
30	Sept. 1913-Oct. 1914	SW-NE Sec. 24	69-20	7,075,380	Kabetogama Penin.
31	Oct. 1913-Oct. 1914	SW-SE Sec. 35	70-21	7,044,490	Kabetogama Penin.
35	Aug. 1914-Sept. 1915	SE-SE Sec. 28	69-17	9,607,910	mainland
36	Sept. 1914-Sept. 1915	SE-NE Sec. 17	68-17	6,419,210	mainland
46	Sept. 1915-Dec. 1916	E½-SW Sec. 2	67-17	6,428,220	mainland
53	May 1916-June 1916	Lot 1 Sec. 35	70-19	418,010	Kabetogama Penin.
66	Dec. 1917-Feb. 1918	SW-SW Sec. 33	69-19	construction camp	adjacent to park
75	Nov. 1919-Dec. 1925	NE-SE Sec. 34	69-19	13,615,685	Hoist Bay
80	June 1920-Aug. 1923	NE-NW Sec. 18	69-19	6,050,060	Kabetogama Penin.
84	July 1920-Aug. 1923	NE-SE Sec. 16	69-20	6,348,100	Kabetogama Penin.
85	July 1920-Sept. 1923	SE-NE Sec. 12	69-21	5,140,980	Kabetogama Penin.
99	Mar. 1923-Oct. 1926	NW-NW Sec. 3	69-20	14,074,390	Kabetogama Penin.
100	Mar. 1923-Oct. 1926	SW-SW Sec. 32	70-20	10,586,240	Kabetogama Penin.
103	May 1923-Dec. 1925	SE-SW Sec. 2	69-20	8,370,420	Kabetogama Penin.
111	Oct. 1924-May 1925	SW-NW Sec. 32	69-18	1,680,170	mainland
113	Mar. 1925-June 1925	Sec. 30	70-19	construction camp	Kabetogama Penin.
115	June 1925-Sept. 1927	NW-NE Sec. 7	68-18	7,586,370	mainland
118	Oct. 1925-Oct. 1928	S½-SW Sec. 32	70-19	8,945,230	Kabetogama Penin.
119	Feb. 1925-Oct. 1928	N½-NW Sec. 16	69-19	8,144,695	Kabetogama Penin

Camp #	Dates	Location		Production	Remarks
129	June 1926-Sept. 1927	NE-NW Sec. 14	69-19	5,660,460	Kabetogama Penin.
130	June 1926-Oct. 1928	SW-SW Sec. 3	68-18	7,999,930	mainland
131	Mar. 1927-Sept. 1929	SW-SW Sec. 35	70-19	12,741,600	Kabetogama Penin.
133	May 1927-Sept. 1929	NW-SW Sec. 28	70-19	6,706,740	Kabetogama Penin.
136	Mar. 1928-Sept. 1929	SW-SE Sec. 24	70-20	5,122,970	Kabetogama Penin.
137	Mar. 1928-Sept. 1929	N½-NE Sec. 22	70-20	4,801,340	Kabetogama Penin.
143	July 1928-Sept. 1929	Center Sec. 16	70-20	5,847,780	Kabetogama Penin.

Although several surveys have been done in the present area of Voyageurs National Park, the Midwest Archeological Center (MWAC) at Lincoln sent a team of researchers to the park in 1979 and 1980 to do a more thorough examination for archeological data. Much of the team's work was concentrated in a shoreline survey along Crane Lake, Sandpoint Lake, Namakan Lake and some of its islands, and the eastern and northeastern coasts of the Kabetogama Peninsula. Other discreet sites beyond this area were visited in 1979 and 1980, but on a selective basis. Among other activities in 1980, the team recorded for the first time data on four of the Virginia and Rainy Lake Company logging sites, camps numbered 129, 111, 137 and 35. They also failed to find two other camp sites that they looked for. In addition, they did considerable research at the head of Hoist Bay.[77]

The MWAC researchers established more precisely where the camps were than in the brief legal descriptions given by Gillmor in his statistical tabulations. Thus, the new, more precise location for Camp #129 is stated as SE½, SE¼, NE¼, NW¼, Section 14 T69N, R19W. For Camp #111, it is given as "the southeast tip of Sheen Point in Junction Bay." Since the geography at this latter place is so restricted by contours of the shoreline, the specificity of a legal description is unnecessary. The location of Camp #137 is given as SE¼, SW¼, NE¼, NE¼ Section 22 T70N R20W. The location of Camp #35 is given as "in Hammer Bay of Namakan Lake;" which is nearly as specific as Gillmor's SE SE Section 28, 69-17.[78]

At Hoist Bay, the MWAC researchers had severe problems in trying to distinguish artifacts associated with logging, from artifacts associated with a onetime resort and other human activities at that place. They were unable to state categorically where Camp #24 was located. Using the guidance provided by Gillmor's data, it seems that in reality, Camp #75 should have been close to the area where they searched, instead of Camp #24. Gillmor placed Camp #75 at NE-SE Section 34 69-19. Admitting the imprecision of this Gillmor description, it is still possible to speculate that Camp #75 was further along the shore of Hoist Bay to the northeast of the MWAC shovel tests, or perhaps merely further east from their June 1980, shovel tests toward the higher ground at the eastern edge of Section 34. Part of the eastern side of Hoist Bay, as seen on a USGS map, can be considered as fulfilling Gillmor's description in the northeast part of the southeast quadrant of Section 34. The MWAC shovel tests, as shown in Figure 72 of their report, extended no more than 130 feet to the east of the old railroad bed leading to the old dock and hoist.[79]

It seems hardly likely that camp planners would have placed bunkhouses, a dining hall, and other buildings so close to such a hub of logging activitiy, where a wide berth was needed for maneuvering horse teams; where space was required for stacking some logs on the ground; where room should have been allotted for placing loaders, jammers, or other associated equipment. So many things had to be positioned in the immediate vicinity of the terminal for the largest timber-moving operation in the region, that it was unlikely for V&RL bosses to place the lumberjacks living quarters so close at hand.[80]

Once it has been established where the actual location for Camp #75 was, it remains to be seen whether the correct location for Camp #24 can be established? Gillmor stated that Camp #24 was at SE-SE of Section 34 69-19. This position, the southeast portion of the southeast quadrant of Section 34, would be nearly a half mile due south of the shores of Hoist Bay. Because of the overriding importance of Hoist Bay, since it exported more than two hundred million board feet of white pine timber, there should be further archeological research done there, to establish

with better certitude exactly where Camps #24 and #75 were. The Hoist Bay complex could be used to interpret best the theme of logging in Voyageurs National Park.[81]

H. Effects of Twentieth Century Logging Practices on the Ecosystem

Another class of structures that did not relate directly to the daily lives of lumberjacks, but had considerable impact on the environment, were the logging dams that honeycombed nearly every drainage system in northern Minnesota. According to some observers, these dams, which were used to ease and expedite the spring float of logs downstream, modified forever the ecosystems of thousands of square miles of forested land. One irate citizen of Hibbing, Minnesota, testified before the International Joint Commission during the 1950s that old logging dams, some more than fifty years old, were so influential in holding back the rapid drainage of the Rainy Lake system, that they were the sufficient explanation for massive flooding during springtimes when heavy snow cover combined with rainy weather. He said that these dams would throw Rule Curves into cocked hats because the territory was supersaturated with water and thus the whole system was releasing its surplus all at once. He said further that beavers were perpetuating the effects of the early logging dams by substituting their dams for the originals when the latter became structurally weak or rotten.[82]

While some critics of the logging industry saw the logging dams as one more instance of the destructiveness of the trade's policies, J.C. Ryan defended the early loggers, showing how they protected the purity of their men's water and food supply, how waste products were biodegradable, and that even the manure of the dray animals brought in desirable clover or other grasses. Ryan said that the best fishing was beneath the log hoists, the fish probably attracted by insects in the wood. He argued that the cutover areas attracted new types of game such as deer, ruffed grouse, sharptails, rabbits, and other creatures. The deer were attracted to the new cedar which had been seeded in

former pine areas. Ruffed grouse came to the new aspen stands and prairie chickens were attracted to the grain left in the horse manure even on the iced lake surfaces. Ryan, like Beatty, faulted the well intentioned Minnesota conservation laws that required immediate burning of slash. As both men said, these fires often resulted in uncontrolled forest fires, and insured that the less desirable types of trees, like aspen, birch, and balsam, replaced the pine stands in many locations. Eventually, Minnesota corrected this, and second growth areas of pine came in to fill the cutover lands.[83]

There had been some claim that there were more conservation violations along the lines of trespass rather than with wasteful logging practices. As we have seen, most trespass violations occurred before 1900, when not all the land was surveyed. After that, company cruisers were continuously running lines between the government survey-marked corners, for both townships and sections. In fact, these cruisers went over the land again after the cutting, so that they could report to the counties that certain areas were cut and thus reduce company taxes on that land. This practice applied only to land owned by the company and not to land on which the company had only stumpage rights. Even then the county tax assessors were interested, because whoever owned the land was due for a tax break. So St. Louis County, for example, had its own timber cruisers for this purpose. J.C. Ryan thought that whatever trespassing took place after the turn of the century, most of it was done by small independent loggers or homesteaders who were selling their timber to the companies.[84]

I. Transportation and Forest Access During the Twentieth Century Heyday of Northern Minnesota Logging

As we have seen, the railroad and its ever changing forest spurs was the principal means for removing the timber in St. Louis and Koochiching Counties by both the V&RL and the Backus conglomerate. There were other means of access to the woods, the principal ones being tote roads. These were all weather roads used in conjunction with the

rail spurs, over which horse drawn wagons brought food and work supplies to the camps. Since these roads had to be accessible at any season, they ordinarily surrendered to the topography. That is, they were not routed across frozen swamps in winter, but dodged around soft ground and wound around mainly on the crests of hills. Even so, in Koochiching County, the tote roads had to contend with extremely muddy conditions. In St. Louis County the tote roads had to contend more with rocks than mud, but regardless of conditions, J.C. Ryan thought the teamsters and their horses on the tote roads were the hardest workers connected with logging.[85]

We have also seen the importance of rivers as a mode of transportation in the logging industry. It is a mistake to think that the advance of technology in the twentieth century had eliminated them altogether as a means for moving logs. The last big drive of logs for lumber in the border country took place in 1937 on the Littlefork River. It was a Backus operation and the logs had to be shipped by rail for the last ten miles after the logs were caught at the mouth of the river at Pelland, Minnesota.[86]

Most of the transport problems by water that occurred in the boundary realms now associated with Voyageurs National Park, were related to lake floating, alligators, sluicing and bag booms. As we have seen, logs came from a host of lakes directly connected to Namakan and Kabetogama. They had to be shepherded across the open lakes, usually in bag booms, towed by steamers or other boats.

On larger lakes, such as those that surround the Kabetogama Peninsula, "alligators" or "gators" were used to move large rafts of logs. The gator would get its leverage by casting an anchor far in advance along its line of travel. Then, while attached to both anchor and bag boom, the gator would use a winch to pull itself and the island of logs toward the anchor. Thus, slowly like an inchworm, it pulled its burdens across a lake. A lesser version of the gator was the "horse headworks," which propelled smaller quantities of logs over water by means of a raft

that used two horses circling endlessly around a capstan to reel in a line that pulled the logs. The horse headworks had a "sacking boat" that went ahead to place the anchor in ceaseless repetition. Both large and small methods of propulsion had serious difficulties against a stiff wind, but it is said that the gator could cross certain areas of low lying land, such as near Kettle Falls, so as to be useful in either Lake Namakan or Rainy Lake.

J.C. Ryan describes the bag booms in this way:

> Boom logs usually were white pine, as they floated high in the water. Trees were selected that were straight and the size usually was held to 24 inches at the butt end and no smaller than 12 to 14 inches at the top. Both ends of the boom logs would be flattened for about two feet, and a foot and a half from each end a two-inch hole was drilled through. The boom logs were joined by chains--lengths of about eight feet. Some chains had a large ring on one end and a flat link on the other; the chain was pulled through the hole in one log until held by the ring and then secured to the next boom log by inserting it through the hole, turning the flat link so it wouldn't pull back through and then driving a wooden plug into the hole to hold it tight. Some chains had a flat link at each end and were secured to both logs with plugs. A tow was ready when a full circle of boom logs was made up around it.[87]

This constituted the "bag" of the bag boom.

Not only did water transportation survive as long as logging for lumber lasted, but the use of horses also continued until the very end. Even though the automobile had proven its utility on the battlefields of France, the truck or lorry had not as yet grown to the necessary size and strength essential for logging. In the 1920s a few of the earliest trucks played a small role in connection with logging, but they were not the mainstay or "workhorse" of the logging camps. The first inroads of big machines into the forests were the tractors, steam log haulers, or caterpillar wheeled vehicles used for hauling and skidding. In fact, it has been said that the early versions of these vehicles, introduced between 1880 and 1910 in the Minnesota woods, may have been a partial inspiration for the British when they tested the first battle tanks in Flanders at Bapaume and Cambrai, France.[88]

J.C. Ryan said that steam haulers and skidders were always in a subordinate role to the horse and that the last steam hauler used in Minnesota had completed its part by 1921. The closest place to the borderland logging area that used the steam hauler was in Koochiching County northwest of Gemmell. They usually worked best on flat ground and the territory close to Lakes Namakan and Kabetogama had too many topographical obstacles.[89]

To contradict the general rule, there is a story from the Ranier Chronicle that tells us that Henry Keyes was using a ten-ton Holt tractor in 1925 to help fill his V&RL contract for saw timber. His driver, Oswald Johnson, almost waited too long in the spring to bring the cat ashore before the final ice breakup. Johnson had been logging on the west end of the Kabetogama Peninsula and had to move the cat from there to the mainland at Bancroft Bay. He nearly headed into open water, but maneuvered onto safe ice to reach his destination. These cats variously had either seven, eight or nine foot widths between the sleigh runners and the bunks were either fourteen or sixteen feet wide.[90]

Yet horses were still king through the 1920s. C.M. Oehler, a young clerk who got to see the decline and demise of the V&RL in 1928, related that the company still relied heavily on horses in the woods.[91]

J.C. Ryan believed that most of the horses used in the north woods were leased by the companies from farmers in southern Minnesota. He thought that perhaps ten percent of the horses were company owned. One spring he saw thirty rail cars of horses being shipped back to the farms. Horses were "paid" well, between ten and thirty dollars a month. This writer knows that in the 1940s horses leased to pull corn wagons in southern Minnesota were "paid" eighty-five cents an hour, while boys working at the canning factory were paid only seventy cents an hour. Ryan, too, contended that horses were nearly as vital to logging as the lumberjacks were.[92]

Many of the horses used were Percherons, because of their size and strength. About half of the horses were used for skidding, half for hauling. A large camp might have a hundred horses. A skidding team commonly consisted of two horses, but sometimes one horse worked alone. The ordinary hauling team was four horses, with an added pair, called a "snatch team" helping near hills or difficult inclines. Ryan described the harnessing in this way: "In making up teams, the lead team was usually a little smaller than the pole team. The lead team wore a long tug harness without a breeching, while the pole team wore a breeching harness with side straps and twin neck yokes. The whiffletrees and spreader of the lead team hung on the end of the sleigh pole to keep them off the horses' heels when going down a grade. The pole was held up by a rod attached to the beam of the sleigh."[93]

The usage of the horse in logging carried with it an element of romanticism that would never be duplicated later in the modern age of the machine. No one today can speak with affection of a machine that has, say, two hundred horsepower. Then, in the horsedrawn era, there was a difference when the teamster considered one horsepower at a time. Each horse was a living, breathing thing, and the most accomplished teamsters dealt with these animals almost as if they were human. At the beginning of the logging season, the company horseman who managed the animals season after season, would greet each horse he remembered as if the creature were a member of his own family. There was a great deal of individuality in horses, and the teamsters or barn bosses who cared for them had to consider this when feeding them. Many horses needed a half dozen quarts of oats twice a day. Others varied from that norm; and the teamsters had to know their animals, because is was possible to kill a horse through overfeeding.[94]

Caring for the health of camp horses could be a problem too. Larger companies had a veterinarian come into camp regularly to float the horses' teeth, for if a horse could not grind his grain properly, he might not be able to pull his share of the load. Most of the time a vet was not available, and the teamster would apply the standard remedies for injuries

or sickness. Turpentine or kerosene was often used for their ankle abrasions. When horses got older and their pulling power had declined, their keepers lessened their burdens and used them for lighter odd jobs close to camp. Most such company horses were kept till the end of their days near their camp's pasture rather than sell them for mink or fox food.[95]

The daily workload for a horse was adjusted to fit the animals' abilities and strength. As Ryan said:

> The usual sleigh haul was four to five miles for a two-trip road. A six or seven mile road was considered a horse killer for two trips. A haul of eight miles was considered a one-trip road, and sometimes one team took the load half way and was met by another team to finish the trip.[96]

The difference between horse and machine was often shown in tight uphill situations, when a little coaxing in a horses' ear seemed to bring out more than just one horsepower. Whether you might call it a horse's nobility or his stupidity, he might pull his shoes right off, with the nails breaking loose from his hoofs, if pressed to perform some nearly impossible chore.[97]

There were a few specialty chores among the horses. There was a driving team for the foreman, a tote team for hauling camp supplies, and once and a while the teamsters had to put together a special unit for snow-plowing. After a heavy snow or a blizzard the teamsters might need as many as a twenty-horse team to pull a snow plow. Then, too, there were teams that pulled water tanks for icing the roads.[98]

Only the larger camps had barn bosses, where the horses were numerous. Otherwise the teamsters managed the animals. A good barn boss had to look after his horses from 4 a.m. until as late as 9 p.m. He had to have nearly all of the skills of a veterinarian, knowing when and how to use horse liniment, colic medicine, and how to find injuries such as collar galls or harness rubs on the animals. He had to watch the horses for lameness; often after re-shoeing a horse could not work for a

day. As has been seen, the barn boss, like anyone who cared for horses, had to know their feeding habits. Often, on Sundays, horses had to be given roughage, like bran. The horses were also curried on Sundays. During the week horses had to be watered morning and night. The water had to be heated somewhat in winter, to prevent the animals from catching a chill. Also, at the end of a workday, the barns had to be ventilated for a time to dissipate the horse sweat. Once the animals were dry, the ventilators were closed so the horses could maintain their body heat. The more horses there were, the more a barn boss needed one or more helpers. Helpers cleaned the barns every day and kept the lanterns trimmed, cleaned their chimneys, and filled them with kerosene. With one lantern for every two teams, an average barn needed about four kerosene lanterns, which were strung on a wire the length of the barn.[99]

The two most important chores the horses performed in the woods were skidding and hauling. About half of their numbers were used for each chore, though some camps tried to get as much skidding out of the way already in January. Usually though, skidding horses were not as skilled or as well trained as hauling horses, for the latter had to be well gaited, particularly during the difficult moments on a downhill grade when as much as fifteen tons of timber was bearing down on them.[100]

The skidder horses worked in teams of twos mostly, but there were occasional times when a team of four was needed for a large log. The skidders, of course, worked near the place where the trees were felled, and skidded them to some marshalling place, sometimes a river landing. If feasible, a skidding trail would go through the center of a forty on ground that was level. One of the oldest skidding devices, the "go devil," survived into relatively recent times. The reason for its longevity was that in a pinch it could be jury-rigged with native materials in the woods, that is, from a fork in a tree branch. The log was then hauled between the prong of the fork, lashed on by chain or some other device. As technology advanced, various forms of tongs or skidding chains were substituted for the go-devil. When a log was skidded some distance a single-bunk dray was utilized. Relatively light loads of ties,

pulpwood, or posts were skidded with a two-bunk dray. With particularly large logs, one side might be peeled to facilitate its sliding across the ground. A good team of horses could skid as many as 150 logs a day, skidding each log halfway across a forty, that is, a distance of about forty rods each.[101]

The art of hauling seems to have impressed the lumberjacks themselves, for that was the favorite subject for photography of the logging operation. Photo after photo depicts immense loads of logs, piled toward the sky, and quite often there is a number on the butt end of one of the logs, telling the weight of the load. If the number is not shown within the picture the weight is certainly available with the picture. One photo from 1909 has the accompanying claim that the two-sled load contains 54,000 board feet of logs.[102]

When the haulers got through with the logs, they were either dumped at the lake or river landing, in the early days. A later generation turned the log over to the peculiar skills of the loading crew who transferred them to rail cars.[103]

ENDNOTES FOR CHAPTER FOUR

1. David L. Fritz, "Water-Level Regulation on Rainy and Namakan Lakes, Ontario/Minnesota" (Denver: National Park Service, 1982), 1-55.

2. Searle, Saving Quetico-Superior, 51.

3. Fritz, "Water-Level Regulation," 36-9.

4. Walter Van Brunt, Duluth and St. Louis County Minnesota, II: 588.

5. Ibid., 588, 594.

6. Hidy, et al., Timber and Men, 195.

7. Ibid., 195-6.

8. Ibid., 196.

9. Nute, Rainy River Country, 91-2.

10. Ibid., 92.

11. Nute, Rainy River Country, 92.

12. Ibid., 93.

13. Ryan, Early Loggers in Minnesota, I: 33.

14. C.M. Oehler, Time in the Timber (St. Paul: Minnesota Historical Society, 1948), 4.

15. Nute, Rainy River Country, 93.

16. "Overrun" was the amount by which lumber volume actually exceeded the estimates made in log scaling.

17. Hidy, et al., Timber and Men, 196.

18. Beatty, "A Forest Ranger's Diary," V: 63.

19. Ibid., VI: 53.

20. Ibid., VIII: 59.

21. Nute, Rainy River Country, 93-4.

22. Beatty, "A Forest Ranger's Diary," VIII: 59.

23. Ibid., VII: 63, VIII: 59, IX: 64; Fritz, "Water-Level Regulations," Parts 2 & 3.

24. Fritz, "Water-Level Regulation," passim.

25. Beatty, "A Forest Ranger's Diary," IX: 63.

26. Ibid., II: 15, 19.

27. Ibid., IX: 64.

28. Ibid., X: 63.

29. Ibid., X: 63-4.

30. Ibid., IX: 63, XI: 61.

31. Ibid., XI: 61-2.

32. Ibid., XI: 62.

33. Ibid., XIV: 63.

34. Ibid., XI: 62-3.

35. Ibid., XIII: 60-1.

36. Ibid., XI: 63-4.

37. Ibid., XV: 61.

38. Captain Hiram D. Frankel, "Report on Labor Disturbances in Northern Minnesota, December 1919-January 6, 1920" (St. Paul: Minnesota Historical Society, Archives and Manuscripts Division). The Frankel Report is twenty-six pages long with an additional forty-seven pages by "secret operatives".

39. Ibid.

40. Ibid.

41. Ibid., Agents #29, #41, and #70 enclosures.

42. Ibid., Agent #41 enclosure.

43. Ibid., Agents #41 and #70 enclosures.

44. Ibid.

45. Ibid.

46. Ibid.

47. Beatty, "A Forest Ranger's Diary," XII: 44.

48. Ibid., XIII: 57.

49. Beatty, "A Forest Ranger's Diary," XVI: 64.

50. Ibid., XVIII: 59.

51. Ibid., XVIII: 62.

52. Ibid., XIX: 55.

53. Ibid., XIX: 55-61.

54. Interview with Ed Nelson, resides on Moose River, by Mary Lou Pearson, July 18, 1977; Interview with Don Bowser by Mary Lou Pearson, August 23, 1977; Interview with Oliver Knox by Mary Lou Pearson, August 22, 1977, VNP Files.

55. Beatty, "A Forest Ranger's Diary," XIX: 59.

56. Ibid., XX: 60.

57. Ibid., XX: 63.

58. Ibid., XXI: 63.

59. Beatty, "A Forest Ranger's Diary," XXI: 63.

60. Ibid., XXI: 64.

61. Ibid., XXII: 63.

62. Ibid., XXIII: 59-60.

63. Ibid., XXIII: 60.

64. Ryan, Early Loggers in Minnesota, II: 48-9.

65. Ibid., II, 50. Company evolutions are based on Nute, Rainy River Country, 59, List of Bark Marks.

66. Ryan, Early Loggers in Minnesota, II: 48-51.

67. Ibid., 50.

68. Ibid., I: 24-6.

69. Ibid.

70. Ibid.; Interview with Leonard Costley, International Falls by the Forest History Foundation, August 3, 1957, VNP Files.

71. A complete inventory of the production figures for V&RL camps was found in the Frank Gillmor Papers, Volume 2, Archives and Manuscripts Division, Minnesota Historical Society. The inventory consists of 54 unnumbered pages that are mostly typed, with a few penned entries. Entries are missing for camps numbered 1, 15, 16, 18, 25 and 120. These numbers may have never been used, as for example, #25 would have occurred in the middle of a page where the log skipped from #24 to #26. Or the missing camp numbers could have been construction camps, like numbers 66 and 113, which were listed because of the expenses they incurred. Camp #1 could have been the headquarters for V&RL operations, the lumber mill in Virginia, Minnesota. Gillmor's inventory went up to Camp #143. Gillmor was superintendent of V&RL logging operations from 1909 to 1929. Hereafter his inventory will be referred to as Gillmor Inventory.

72. Gillmor Inventory. The entries in the Gillmor inventory gave considerable data in a small amount of space. He provided the active dates of a camp's operation, the camp's location, where the logs were hauled, the costs and the number of board feet of timber harvested. The costs were broken down into man-days of labor, the cost of the labor, the cost of boarding the lumberjacks, the cost of maintaining the horse teams, the cost for "outfit," and the totals for all costs. Gillmor also tabulated the "scale" or number of board feet for each camp, the number of "pieces" or logs, and the number of logs per M. In addition, to keep track of a camp's efficiency, Gillmor computed the average daily wage for his workers; the cost per M of the following items; labor, board, team, outfit and total; and finally he figured the daily per capita productivity of the men and the daily per capita cost. With all this, Gillmor nevertheless did not provide grand totals for production, grand totals for costs at all camps together, and average cost per M for the entire operation; these had to be computed by the author from Gillmor's figures.

73. Gillmor Inventory. See also Hidy, et al., Timber and Men, 196, where the author explains the V&RL difficulties: "Much of the stumpage had been priced high, the timber was scattered, and the logging costs were greater because of the remote work areas. Finally, transportation in general was more costly."

74. Gillmor Inventory.

75. Ibid.

76. Ibid.

77. Mark J. Lynott, Jeffrey J. Richner, and Mona Thompson, Archeological Investigations at Voyageurs National Park: 1979 and 1980 (Lincoln, Nebraska: National Park Service, Midwest Archeological Center, 1986), 45-8; herafter cited as VOYA Archeology.

78. VOYA Archeology, 49-61. The MWAC researchers also cite the production figures for these four camps, giving statistics derived from Perala's thesis on "The History of Logging in Selected Areas in St. Louis County" (MS Thesis, University of Minnesota at Duluth, 1967). The present writer only obtained certain selected pages of this thesis and thus did not get the statistical tables of production figures for the V&RL camps that he presented. At any rate, the MWAC researchers repeated his statistics, which are incorrect in two particulars. The production figures for Camp #111 were given as 1,680,000 board feet, when they should be 1,680,170; while the production figures for Camp #137 are altogether wrong, citing 3,653,360 board feet when the correct number is 4,801,340 board feet. The error brings out the fact that Perala was using Gillmor's statistics, but copied them incorrectly. In the latter case he was giving the numbers for Camp #138 instead of #137. See Gillmor Inventory. The point is, the researchers should have used a primary source instead of a secondary one. In addition, the researchers also cited the active period for Camp #138 instead of #137, citing March 1928 to March 1929, when it whould have been stated as March 1928 to September 1929.

79. VOYA Archeology, 249-257, especially Figure 74 on page 251. See also USGS maps, Namakan Island Quadrangle, Minnesota, 7.5 Minute Series, Topographic, Washington,D.C.: USGS, 1967; and Ash River NE Quadrangle, Minnesota, 7.5 Minute Series, Topographic, Washington, D.C.: USGS, 1968.

80. Ryan, Early Loggers in Minnesota, I: 8-10, 12-14, 15-17, 22-6; II: 24-6, 48-51, 61-3; III: 32-46.

81. Gillmor Inventory.

82. See Fritz, "Water-Level Regulation", Part Four.

83. Ryan, Early Loggers in Minnesota, I: 39-41.

84. Ibid., III: 24-6.

85. Ibid., I: 46-7.

86. Ibid., II: 8-10.

87. Ibid., II: 30-2.

88. Ibid., III: 41-3; R. Ernest Dupuy and Trevor N. Dupuy, The Encyclopedia of Military History From 3500 B.C. to the Present (New York: Harper & Row, 1970), 961, 970.

89. Ryan, Early Loggers in Minnesota, III: 41-6.

90. Oswald Johnson "Bringing Home the 10 Ton Cat," Rainer Chronicle, March 26, 1978; Ryan, Early Loggers in Minnesota, III: 41-6.

91. Oehler, Time in the Timber, 35.

92. Ryan, Early Loggers in Minnesota, III: 34.

93. Ryan, Early Loggers in Minnesota, I: 23.

94. Ibid., I: 22.

95. Ibid., I: 23.

96. Ibid.

97. Ibid.

98. Ibid.

99. Ibid., II: 42-4.

100. Ibid., I: 5.

101. Ibid.

102. Ibid., III: 47-9.

103. Ibid., I: 8-10; II: 61-3.

CHAPTER FIVE: DEVELOPMENTS IN THE NORTHERN MINNESOTA FOREST FROM THE 1930s TO THE PRESENT

A. Edward Wellington Backus and His Conglomerate as Associated with the Present Voyageurs Area, 1908-1934

Although the V&RL did the heaviest volume of timber cutting for lumber in what ultimately became Voyageurs National Park, Edward W. Backus was the second largest timber enterpreneur who had an association with that same territory. Actually Backus' principal source of lumber on the American side was in Koochiching County; so in that sense he had a lesser influence on the land that became a park. Backus also derived a tremendous volume of timber for lumber out of the Ontario side of the border, probably more that he cut in Minnesota, and all of this under a variety of company names. Having said this, it is nevertheless true that his two most famous industrial units were the Minnesota and Ontario Paper Company (MANDO) and the International Lumber Compamy (ILC), both based at International Falls. The ILC owned some land on the Kabetogama Peninsula and had stumpage rights on a lot more acreage there during the era 1908-1934. However, concentrating on Backus' place in the lumber industry is to get a distorted notion of him as an industrialist. His real fortune was made in paper, paper products and wallboard; and he began his focalization on this realm about 1915. Backus has often been characterized as a Robber Baron who helped despoil the national forests, and while he may have contributed considerably to the depletion of the Minnesota woods, he nevertheless had a progressive notion of utilizing trees for paper. He wanted to manage his forests in such a way that they would produce a certain volume of paper per annum in perpetuity. He also thought his ideas about clear cutting white pine were equally progressive in so far as he was providing cleared acreage for farmers who would reap a bonanza. This was the collectively shared fallacy of his time, but Backus, in holding this notion showed that he was not a man with a closed mind and fixed ideas.[1]

As we have seen, Backus got his start as a lumberman in Minneapolis before he discovered the border country. Once he decided to build a kingdom up north, he liquidated his assets in Minneapolis and tried to take total control of the assets along the Minnesota/Ontario boundary. He had to go into rails to get there and he had to have electrical power as the basis for an industrial empire. He more or less founded International Falls while building a hydroelectric dam there. To satisfy the Canadians he had to put some of his plant on the Ontario side at Fort Frances. But then his kingdom became as much a Canadian enterprise as it was American. He had another power dam built at Kenora near the Lake of the Woods at an early date and ran this under the aegis of the Keewatin Power Company, Limited. His companies in Fort Frances had names parallel to the opposite Minnesota entities, only he put "Ontario" first on the masthead, such as the Ontario and Minnesota Power Company, Limited, of Fort Frances. Later, during the 1920s, he built a series of hydroelectric dams along the Seine River in Ontario. Most of this power was directed toward Fort Frances.[2]

Before developments on the Seine, Backus had diversified his business in many ways. His very grabbing at all the modern utensils like railroads and dams, illustrate the fact that he wanted to be a thoroughly modern progressive man. The earliest environmentalists faulted him for despoiling the forest, but Backus did not see himself in that way. True, he was a stern looking serious businessman. But from his lumberjacks in the woods to his laborers in the mills, from his walking bosses, to foremen, to plant executives, most thought that Backus paid them a fine wage and that he strove to let them work under the best possible conditions for that era. He was open to all the modern ideas and brought in the first college graduates to manage his system and bring in new ideas for improving and sustaining his operation. The best illustration of this principle is his company's development of Insulite in 1914.

B. The Development of Insulite, 1914

In a recent (1975) interview, Fred Boeckh, a retired executive for one of Backus' old companies, told the story of the development of Insulite. The paper mill at International Falls began operations in 1910. At this time MANDO used "stock" or "furnish" from the groundwood process and sulphite from the chemical process to make paper. At first, when the stock was screened, the coarse fibers or "shives" were left over as waste. For a while there was some polluting of the Rainy River when these shives were dumped into it. Backus, however, set up a committee to figure out what to do with the coarse fibers. In the interim, MANDO started to stockpile the shives. One of Backus' committee members was Paul Kinports, his brother-in-law. Kinports made contact with a man named Carl Munch who was involved in the process of making flax-lynum. When Backus learned of Munch's talents as a chemist, he lured him away from his former employer with an attractive offer. Munch set to work armed with the knowledge he had derived from making flax-lynum, a paper product that had the undesirable properties of being uneven in thickness, and not rigid enough so that it needed paper backing. Other manufacturers were tinkering with various forms of wallboard, most of which had no insulation properties, but Munch came up with a solution to these problems first.

It was 1914 when Munch invented Insulite, the first structural wood fibre insulation board in the world. Munch even coined the word "Insulite." At first Backus wanted to call it "insuloid." Another company in the east latched on to that term, and even though Backus went to court and won the right to use it exclusively, the word eventually died from lack of use.

Munch's main problem in developing Insulite had been with the machinery for making it. His first forming machine, a fourdrinier type, had a travelling wire that moved uphill, the latter aspect being the feature that removed most of the moisture from the product. Even though this forming machine could turn out 1,500 feet of four-foot wide

board per hour, its companion drying machine was not fast enough, taking more than twice as much time. Until this problem was solved, the forming machines would shut down until the dryers could catch up.

In the beginning Backus could make only five thousand square feet of Insulite per day which he marketed locally. It was 3/8 inch thick and as Carl Munch himself declared, it was "a good product, rigid, with a nice rich color and good insulation."[3] For construction technique, Insulite was intended to be a replacement for old fashioned laths, a narrow thin board nailed across the studs in a house and covered with plaster. When Insulite came along, there was no immediate demand for it. Lumber was still abundant and cheap and the public would take some time getting used to the idea. Backus never gave up on it. Fred Boeckh said that the gigantic Cloquet forest fire of 1918 made a few people realize the forests were not inexhaustible and they began to consider alternatives to lumber, like Insulite. By 1920 demand for Insulite had picked up to the extent that MANDO made 60,000 square feet of it per day, about three-fourths of a boxcar load. Backus adjusted to demand by authorising the making of a forming machine that was twice as wide, eight feet.

In 1923 Backus acquired the services of George "Pop" Ellis for the Insulite Division. Pop Ellis was credited with being the most inventive and innovative man in the field of wallboard, so much so that some have called him the father of insulation board." Pop redesigned many of the old machines, now twelve feet wide; found a way to waterproof insulite; came up with a new type of masonite in 1925; made "movie board" for deadening sound on Hollywood sets; invented a tile board, for room ceilings in 1926; and invented an anti-termite board called "graylite" in 1934. As time passed more and more uses for these varieties of wallboard were discovered. Marketing was an uphill business, but every publicized new usage helped sales. In 1928 insulite was used for the hanger of the Goodyear Zeppelin; in 1929 it was used for portable houses used by Admiral Byrd at the South Pole; in 1930 Backus built an insulite mill at Kotka, Finland; and in 1934 the CCC used insulite for its camps. Even

after Backus' passing, the Insulite Division continued to come up with new variants like duralite, acoustilite, fiberlite, weavelite, smoothlite, fissurelite, and so on. When Boeckh was interviewed in 1975, he claimed that Insulite was the second largest insulation board manufacturing company in the world. Only Celotex was larger, and Boeckh thought Insulite would have surpassed them with more advertising.[4]

C. The Decline and Fall of Backus

In spite of these successes, Backus did not always make the right business decisions. During the 1920s he expanded his empire when he should have been consolidating or retrenching. He was particularly unwise in the realm of newsprint manufacture. To support the expansion of his paper mills in Kenora, Fort Frances, and International Falls, he sank eight million dollars into a capital development program in 1926, most of which went for three hydroelectric dams on the Seine River, Ontario. Thus Backus was near the center of the industrial miscalculation that helped to bring on the Great Depression. In some quarters it is thought that the newsprint manufacturers started the dominoes toppling for the general disaster. Perhaps the tremendous expansion of newsprint volume that accompanied the daily needs of North American newspapers to tell the horror stories of World War I, gave the false impression that the newspaper industry was going into a perpetual boom. So Backus and the other newsprint moguls, most of them based in Canada, overproduced to the extant of nearly killing demand. In 1924 newsprint cost $79.30 a ton; by 1927 it was down to $70 a ton and sinking. Advertising fell off at about this point, further killing demand for paper. A ton of newsprint cost $67.50 in 1925, $62.00 in 1929 and 1930, $48.00 in 1923, and $40.00 in 1934.[5]

These dropping prices and demand were the death knell for Backus. MANDO and its sixteen subsidiaries fell into receivership in 1931. At first Backus was one of the receivers; but he tried to manipulate the other receivers by having them accept <u>his</u> strategy for saving the

conglomerate. By the end of 1931 he was forced out as a receiver. After that he waged open warfare on the second set of receivers. His brand of psychological war was waged on the front pages of the big city newspapers and in front of committees of Congress. He tried everything to regain custody of his empire, eventually wearing himself out in a vain effort to get credit. At last he collapsed and died alone in a New York hotel room on October 29, 1934, aged seventy-five. After his death MANDO and some of the subsidiaries came out of receivership in 1939 and was a successful concern again until it merged with Boise/Cascade in 1965. The mills in International Falls continue to run under that latter company, but the soul of it remains the spirit of E.W. Backus. For so many years most of the working people of International Falls had depended on Backus for a livelihood, and many of them still feel beholden to the Old Roman. There is to the present a residue of gratitude there, shown in modest terms such as naming the local high school after Edward Wellington Backus.[6]

D. The Kabetogama Peninsula During the 1930s

Backus' passing nearly coincided with the cutting of the last white pine in northern Minnesota. Perhaps because he had decided early to manufacture newsprint, Backus' conglomerate transitioned from sawlogs for lumber to harvesting trees for pulpwood before many of the other large combines. Through the 1920s the proportion between sawlogs and pulpwood steadily tilted toward the latter. Finally, in 1937, MANDO gathered up the last of the white pine along the upper reaches of the Littlefork River in Koochiching County, harvesting more than twelve million board feet there.[7]

Some timber for sawlogs was cut on the Kabetogama Peninsula during the 1930s, but not much. Several of the oldtimers interviewed by the park historian told of sluicing logs over Kettle Falls during that decade, but they did not specify whether the logs were for pulpwood or for lumber. Nobel Trygg, a longtime federal and state forester who retired

to Duluth, told something about the character of timber from the Kabetogama Peninsula: "The peninsula did not have the heavy stand of timber that was south of the lake, although some areas were very good. . . . When you get up further north there is more rock outcropping and a different type of soil. It did not have the heavy stand of pine. It was more jackpine, birch and aspen."[8] Despite this, there had been some heavy timber such as pine in the Cruiser Lake area. Much of this had been hauled by sleigh to Brown's Bay on Rainy Lake and floated down to Ranier. Some timber was hauled south and east to Namakan Lake and sluiced past Kettle Falls. Without giving a precise date, but in the 1930s, Trygg said that the last sawtimber removed from the Kabetogama Peninsula was taken out by the Bailey Lumber Company of Virginia, Minnesota from Section 16, T69N R19W, just east of Tar Point on Namakan Lake. Trygg was sent up there as an appraiser and saw some of the logs floating in a boom. He said there were 750,000 board feet in that one boom alone that he saw, implying that there were other booms and a considerable volume of other timber that he did not see. Trygg said that after the above incident, the logging on the Kabetogama Peninsula was scattered among a number of small jobbers, like Henry Keyes, and that this wood was mainly pulpwood. So these jobbers worked under contract with MANDO, and either hauled the pulpwood out by truck over the ice in winter, or by ice by way of Gappas Landing, or over to Black Bay by way of the Gold Portage.[9]

Because of the Great Depression, much of the harvest of timber for pulpwood on the peninsula had slowed to a crawl for most of the 1930s. For this reason, the state foresters set up a game refuge on the eastern two thirds of the peninsula, cutting a picket line north and south between Range 20 and 21 from Kabetogama Lake to Rainy Lake. The area was heavily populated with deer and other game at that time.[10]

In recent times the local newspapers around International Falls have done a lot of reminiscing about the old logging days. One such article talked about this transitional period of the 1930s:

In 1934 the Backus and Brooks mill in International Falls had become the International Lumber Company and it was already breathing its last. The Great Depression of the 1930s and the rise of labor organization may have hastened its demise, but in fact the rubber-tired truck and a more portable logging technique made the sprawling mill obsolete. The sawmill went down in 1936-7 [after the Littlefork River operation] and the machinery eventually made its way to the Weyerhaeuser operation in the far northeast. The planing mill hung on for about a year and then was packed off to Big Falls.[11]

So the transition to more and more pulpwood continued apace. From eyewitnesses of the scene, we know that Henry Keyes' most active years in gathering pulpwood were from 1924 to 1940. Keyes got some pulpwood from the Kabetogama Peninsula, but also owned quite a bit of land along the Ash River, according to an observer, Ed Nelson. Keyes must have been closing down his operation in 1940 since he sold some of his land to Nelson then. Apparently Keyes was a contractor supplying pulpwood to MANDO at International Falls. His logs were sluiced past the dam at Kettle Falls. Keyes also used the camp system to harvest his timber.[12]

Besides Keyes, another of the early cordwood/pulpwood jobbers was Alfred Johnson. His family had come to International Falls in 1921. By 1932, at age twenty, he tended bar in Ranier for Bob Williams (who also had a similar business at Kettle Falls). This job brought him into logging. Williams needed cordwood to heat his establishment and Johnson heard of some tax-forfeited lands near Black Bay. So he went into logging gradually. By 1936 he had become a serious contractor, cutting for MANDO. At first he cut along the Littlefork River, but later he did some harvesting on the Kabetogama Peninsula. Eventually, in his pulpwood operation, he revived the old camp concept believing that it gave him better control of his men, fed them better, and motivated them for greater production.[13]

E. The CCC and the Kabetogama Peninsula in the 1930s

Despite the revival of pulpwood logging, the larger story relating to the forest for the 1930s was the contribution of the Civilian Conservation Corps (CCC) to the Kabetogama Peninsula and its environs. Once again Leslie R. Beatty was a witness to these events and was even occupied in adminstering the CCC program in the area. He was directly involved in the establishment of CCC Camp S-81 at the Village of Kabetogama or Gappas Landing in June 1933. This was in Section 27, T69N R21W. Here they built permanent structures for CCC Company 724. Despite attempts by higher echelons to remove the boys from the place for the winter season, Beatty fought long, hard, and successfully to keep them year-round in the north woods. The buildings at Kabetogama were made for all-weather service and Beatty went to Chicago to get winter-issue army clothing for the boys. So they were in good position for the summer of 1934 fire season and did excellent service at it. Among the other chores they performed were forest timber stand improvement, thinning of trees and tree planting in other areas.[14]

Beatty summarized what the CCC boys were doing at Gappas Landing during the summer of 1934:

> At the Kabetogama ranger station, a boat mooring basin was excavated inland from the shore line and its banks protected by piling and planking. The basin, long needed to shelter the state boats, provided dock and mooring space for some 20 large and small craft. Three camps operated portable saw mills producing lumber from logs salvaged off state land, the lumber being used for forest service buildings and other structures.[15]

In addition the CCC supervisors looked for the more skilled enrollees to perform specialized jobs such as:

> conducting timber type surveys and mapping, retracing government survey lines and restoring lost corners. They further supervised the crews on forest stand improvement and tree planting jobs as well as on fish and wildlife research and improvement operations.[16]

Other enrollees were given training for clerical work during the workday, and some, on a volunteer basis after hours, were given training at various crafts working with wood or metal, or as auto mechanics or blacksmiths. The CCC also hired many old hands, now unemployed, from the old company lumber camps, and put them to work in some supervisory capacity.[17]

The CCC boys contributed a great deal to forest management in the Kabetogama area for nine years, from 1933 to the end of June 1942, when they were disbanded, but their most exciting interval was the great forest fire of 1936.

Nobel Trygg, who had been both a United States and a Minnesota Forest Ranger was then directly in charge of the CCC boys, Company 724, at Gappas Landing when the fire broke out. Trygg had acquainted himself with the Kabetogama Peninsula from the start in 1934, and spent that summer with the lads brushing out trails that he had marked in various places. One trail along the south shore of the peninsula extended from opposite Cutover Island all the way over to Mica Bay. The latter place was within three miles of Kettle Falls. They cut one trail generally oriented in a north-south direction from Lost Bay on Kabetogama Lake to Brown's Bay on Rainy Lake. They also cut another north-south trail between Shoepac Lake in the interior of the peninsula to Lost Bay. In the fall of 1934 Trygg and his people set up camp at the Kabetogama Narrows and used an old logging camp site there for winter work. This had been a Backus-Brooks camp which that firm had abandoned in 1931. Trygg and his people used this place as his base of operations on the peninsula for two and a half years and it was from this place that he organized his fire fight in 1936.[18]

F. The Kabetogama Fire of 1936

The dry summer of 1936 produced a number of fires. The first on the Kabetogama Peninsula that came to Trygg's attention broke out on the

1st of July near the west end of Mica Bay. Trygg took about a dozen men and dug a fire line which pretty much got that outbreak under control. Two days later another fire in the same area burst forth and burned sixty acres of timber on the first afternoon. Trygg's men cut a fire line south of it, because Beast Lake would stop the fire on the north. Despite this strategy, the wind changed on the 4th of July and started to blow the fire toward Kettle Falls. One of Trygg's subordinates, Eino Kaukola, took twenty-five men to cut the fire off on the east, hacking a fire line between Mica Bay and Rainy Lake. Another crew tried to hem the fire in on its west side; so they cut a fire line between Brown's Bay southward. Again, a wind shift fooled them and it blew the fire to the southeast, moving south of Mica Bay toward the Squaw Narrows. There it jumped into Canada and continued eastward. Trygg had sent for reinforcements and evacuated whatever people he had in the Mica Bay area to try to meet the people coming from Brown's Bay. Eventually, by late August, these combined forces had completed a sixteen mile fire line between Brown's and Johnson's Bay.[19]

Meanwhile, a more virulent fire had broken out to the west near the southwest side of Cruiser Lake. This fire moved in a northeasterly direction, propelled by southwest winds. It crept around the west end of the lake and the CCC bosses feared it might endanger some camps owned by a Mrs. Coleman on the north side of Cruiser Lake. The boys were set to work building a fire line around those camps; but a sudden windshift from the northwest, and at gale force besides, brought the fire down on the CCC boys. Trygg had twenty-six people there and he ordered them into the lake. They kept low with only the tops of their heads showing, ducking beneath the water surface frequently to keep the inferno off their persons. The fire swept over their heads and past them. When it was all over, the cook, Tony Clark, checked the brewing stew pot on the shore. It had boiled dry and their intended meal had turned to ash. Trygg withdrew his crew and sent them to help eastward near Mica Bay. Trygg took Otto Eggart in the opposite direction, toward Eks Bay, to learn what was happening there.[20]

Trygg and Eggart used a raft to cross Lost Bay on the south-central portion of the Kabetogama Peninsula, and proceeded after that to Eks Bay, where 150 CCC boys were cutting a fire line diagonally from Shoepac Lake to Jorgens Lake to Ek or Leif Lake. Along that line the crew did some backfiring. Then they started a cleanup that consisted of putting out smudges, and smoldering logs and stumps. At last nature itself took a hand on September 28, 1936, when a generous rainfall of four inches descended upon the Kabetogama forest. There had been three continuous months of fire, burning up to 18,100 acres. Trygg and his men were close to collapse from exhaustion. They looked like skeletons, many losing thirty pounds of weight or more. They had worked feverishly with only hand tools. The biggest piece of equipment at their disposal was an International crawler trailor, and it had no bulldozer blades, but was used mainly for hauling supplies.[21]

G. The CCC Leaves Gappas Landing, 1942

Nobel Trygg and his CCC boys continued the fire watch and forestry activities on the Kabetogama Peninsula until June 30, 1942, when the CCC disbanded because of the war. In fighting the 1936 fire there, the CCC had established a half dozen temporary camps whose locations had been determined solely by their proximity to crucial points in the fire's progress. These were on Shoepac Lake, at Lost Bay on Lake Kabetogama, at Johnsons Bay, and Mica Bay on Rainy Lake, and at Cruiser Lake in the interior of the peninsula. These places caused little problem to the dismantlers when the CCC closed down. Trygg's main base at Gappas Landing or Kabetogama Village was more of a problem. The government required that he dismantle the structures in sections and ship them to storage points or to places where they were to be reassembled. Some of the materials were shipped away to help the war effort, some to Greenland, some to Alaska.[22]

H. Logging in the 1940s

During the decade of the 1940s, forestry continued to modernize its practices. One executive of this era, George W. Dulany, Jr., a self-made man in the timber industry, tried to give the nation some perspective when he was interviewed in 1956. Dulany tried to depict the old Lumber Barons in a kindlier light than historians of his era shined on them. He opened his argument by trying to minimize the accusation about timber-wastage by saying that the lumber was put to good use, housing the Middle West and the Great Plains inhabitants. He added: "There was so much timber in those days that no one could enter into reforestation because there was a surplus of timber and they never could have gotten their investment back."[23] Beyond that, he said that his contemporaries did not have the technology to produce other forestry products, until someone like Backus found men to invent Insulite. Even then it was an uphill fight to market the new products, because they were competing with the abundant and cheap primary product, the lumber itself. Dulany said that the use of concrete was also resisted by the consumer both because of the buyer's unfamiliarity with it and its competition with the cheap lumber.

Dulany also singled out some of the early Timber Barons for honorable mention. He gave high praise to Frederick Weyerhaeuser for his forward-looking viewpoint and his explanation for his prosperity: "He always laid his success to his abiding faith in the value of the growing tree."[24] Dulany also saw Weyerhaeuser as the inventor of the American chain store. Weyerhaeuser, at first, was only a logger. Then he expanded vertically by buying lumber mills. His last step was to own lumberyards on the distribution end of the business. This was his famous system of "lineyards" or chain stores. Dulany praised Weyerhaeuser for the tactful way in which he set up the local lumberyards. He did not go into a town that had an established yard and seek to destroy it. He only went into towns that needed such a business and would thus bring some new employment to the locals and integrate his organization into the community as a friend. Dulany

admired, as well, the way Weyerhaeuser financed his expansions, expressing the view that it was safer to borrow from banks than to float bond issues, implying that this latter method was the sort of thing that ultimately destroyed lumbermen like E.W. Backus in the Great Depression. Dulany lauded Weyerhaeuser for plowing his profits back into the company, as well.[25]

Dulany thought the National Lumber Manufacturers Association was a progressive forward-looking enterprise. They were innovative and financed forest research. Among the lumber giants, Dulany extolled the virtues of Arthur A. Hood, who guided his product every step of the way to the consumer; and a man named Crossett in Arkansas for hiring the early college-trained forestry people. Crossett had a town in Arkansas named after himself and hired one of the finest managers for his company in the person of John Watzek. The net result of bringing educated foresters into the field was the development of two concepts, "sustained yield" and "selective cutting." Over the years these generic concepts have become more and more refined and sophisticated through studies done by college experimental stations. From them the scientists learn the specific features and characteristics of every type tree and forest, tabulating the data so as to learn the total growing cycle of any species. This data finally yields the ideal harvesting cycle and produces the maximum yield without waste. From this outlook, Dulany did not see lumbermen as despoilers of the forest, but rather as farmers of a crop. "Timber is a crop," he said, "It gets ripe over a period of years and when its ripe, it should be harvested and used. If it isn't harvested when it's ripe, then the bugs get it, fire gets it, wind blows it down, and it is lost to the great consuming public."[26]

The intrusion of academicians into forestry also inspired a re-examination of the role of forest fires. Some scientists were postulating that fires were not always and everywhere harmful to the forest. George Neils of Libbey, Montana, a partner with his brother John in the J. Neils Lumber Company, utilized a Professor Meyer from Harvard in plotting their forest strategies. In some cases Meyer would

have them remove all of the overmature trees in a stand so that the young trees could get their fair share of moisture. At other times Meyer would recommend limited controlled burn to eliminate bark beetles. In still other cases Meyer claimed that new seedlings had to make contact with a more mineral type soil, so that a fire was the only way to get past the old organic topsoil. The burned off area would be re-seeded by the wind. The burn was conducted by blocks, so that only a fixed square was burned. From experimental burns they learned that tree seed blew in from miles away. Meyer started his experiments with the Neils brothers in Montana during 1941. His first test species was the ponderosa pine. From it he learned that a ten-year cutting cycle was best; but he stressed that every species called the tune for its own harvesting cycle. These modern foresters leaned on every conceivable modern innovation including surveys and scaling by airplane.[27]

Among the loggers who practiced the philosophy and science of forestry on the Kabetogama Peninsula during the 1940s was Alfred Johnson. Johnson was one among more than forty subcontractors who cut pulpwood for Mando during that decade. Alfred Johnson, however, was something more, because he was in the vanguard of the movement to bring new machines to the forest. In 1945, he invented the "pulpwood slasher." Johnson described the machine in this way:

> It has a set of arms for each cut on the tree and it picks this tree up from the ground and feeds it through a bunch of chain saws and then it goes into a conveyor and the conveyor runs it out either way. You can sort it one way or the other. It was all hydraulically operated, so you could run two kinds of wood north and south.[28]

The pulpwood slasher was sixty-four feet long and could cut eight "sticks" of pulpwood at a time. A stick was a piece of wood eight feet long. The inspiration for the invention was twofold: labor was getting too expensive and the trees used for pulpwood tended to get smaller and smaller year by year. Without machines, the gathering of pulpwood by hand tended to multiply the labor costs. So some kind of more efficient machine became a necessity.[29]

Johnson had gotten into the pulpwood business by garnering a Mando contract in 1936-7 through Lester Pollard, then chief of the logging division. In the early days Johnson was told to harvest anything that would make three sticks or more with a four-inch top. Later, when sustained yield was inaugurated, the trees were marked with paint, both the trees to take and the trees to leave. In the beginning this type of logging was only done in the winters. With improved technology it became a year-round enterprise.[30]

I. Logging Since World War II

The vagaries of forest maturity determined the movement of contractors from one geographic location to another from year to year. During his career Alfred Johnson had harvested pulpwood both in Koochiching as well as in St. Louis County. For example, in June 1961, he was back on the Kabetogama Peninsula and set up camp on Hilke or Snowflake Bay not too far from Kettle Falls. He had forty-five men total in the camp with five bunkhouses and several cooks. They were cutting spruce, balsam, jackpine and poplar. Their operation was nearly totally mechanized with caterpillars, tractors, trucks, and sleighs. Their camp had many of the modern conveniences such as electricity that powered their walk-in refrigerator. By then, still newer machines converted the sticks into chips right in the woods for greater ease of hauling. It took only a single machine to cut the trees, debark them, and feed the thirty-two inch pieces into the chipping assembly. A blower fed the chips directly onto the truck. Perhaps because of the machines such as these in the 1960s, there was need for less contractors than previously. When Johnson quit cutting in the mid-1960s, he knew of only eight contractors supplying Mando/Boise Cascade with pulpwood. Because of the immense cost of these machines, it also became more difficult for new entrepreneurs to break into the field. Thus it also tended to become a family business, where the younger generation inherited its equipment from the older generation.[31]

Contemporaneous with Johnson, Victor J. Manilla of International Falls was another pulpwood subcontractor for MANDO. Manilla got into logging as early as 1924 and was an independent sawmill operator in Koochiching County for quite a few years before throwing in his lot with MANDO in 1949. Even after that, part of his operation was separate from the larger company. While Manilla's experience is mostly associated with Koochiching County, his knowledge of technological advances is analogous to the mechanized advances used on the Kabetogama Peninsula.[32]

In 1949 Manilla got a twenty-year contract with MANDO to provide at least a million board feet a year in pulpwood. In actuality he stayed with the company for twenty-seven years and provided sixty-eight million board feet. In 1965 MANDO had merged with Boise-Cascade. Manilla's operation was every bit as mechanized as Johnson's, but he told more about the interim-machines that complemented Johnson's pulpwood slasher. There were tree fellers, limbers, debarkers, bunchers, feller-bunchers, tree farmer-skidders, regular skidders, and grample skidders. The feller-buncher sheared off the tree, lifted it off the stump, and gathered it into a bunch of six or seven trunks. The grample skidder picked up such bunches, three and a half cords of wood at a time, and loaded it onto a truck. Manilla had all the other modern motorized equipment as well, caterpillars, tractors, carry lifts, and rubber-tired skidders. He also used an airplane for cruising timber, and like Johnson, had adopted the forty-man camp concept.[33]

Manilla thought prices for wood on the stump went down from 1955 to 1975. A dollar a cord may seem high, he said, but the dollar, with inflation, was worthless. He lauded modern forest management for this, and said that this "timber farming" was increasing the nation's wood supply and cited a case wherein a forest near Pine Island in Koochiching County had a growth factor of five percent a year. He concluded, much like the nineteenth century woodsman, but now with greater certitude: "I don't think they'll ever run out of timber." Without speaking as a forestry expert, Manilla speculated about such future possibilities like fertilizing the forests, and using "crop" rotation to give certain soils a

rest, this latter in imitation of mother nature. Manilla, too, praised the early timber barons: "If they hadn't cut it, it would be dead and down." He said the trees would have either rotted or burned and also thought that fires had a purgative effect on the forest. He admitted the wastefulness of old logging methods, but said it was not entirely the old timers' fault. Now, like the modern pig farmer, they were using everything, even the squeal. Manilla's prediction for the next thirty-five years was that he foresaw no qualitative change in logging, but that the loggers would only work to improve the old machines. His was an amazingly optimistic forecast.[34]

During World War II and shortly thereafter, there were several attempts to rescue old sunken logs from Hoist Bay and convert them into lumber. Ed Nelson knew of a man named Steel during the war who came to Hoist Bay to see if he could utilize the hundreds of thousands of board feet of white pine lying at the bottom of that bay. Steel had a patented hook for dredging up the logs and started bringing them ashore. He set up a sawmill right there on the shore between Hoist Bay and Junction Bay. Since this lumber was bought on a government contract for the war effort, there is no record about the outcome of its usage. But a few years later, another contractor tried to save more of the Hoist Bay logs and learned that the wood looked good when it came out of the water; yet once cut into boards, it quickly began to disintegrate and deteriorate.[35]

Despite the above exception, the Mando mill in International Falls continued to be interested only in pulpwood after World War II. Lester Pollard, a senior executive for Mando during that period and also for Boise-Cascade after their takeover in 1965, summarized the pulpwood operations for the era from July 1950, when he took over as superintendent in charge of all forest production, until his retirement in 1972 at age sixty-five. The company usually harvested between 45,000 and 50,000 cords of pulpwood a year by means of its subcontractors. Their source was Koochiching and St. Louis Counties. In exceptional years they brought in as much as 80,000 to 90,000 cords of wood. Some of this invariably came from the Kabetogama Peninsula.[36]

J. George Amidon Describes Recent Logging Events

One man who was well acquainted with logging operations on the Kabetogama Peninsula in recent years was George Amidon of International Falls. Amidon had been Chief of Forestry Management for MANDO and Boise-Cascade respectively from 1944 to 1971. Amidon said that the company owned about two-thirds of the peninsula during that interval, or 52,000 acres out of 79,000.

Amidon garnered his forestry degree in 1936 from the University of Minnesota and was specifically hired by MANDO in 1944 to inaugurate a sustained yield forestry program for them. As Amidon said: "Although the paper company had done some forestry work previously, they did not have a long range forestry plan until I was employed to do this job for the company."[37]

Shortly after Amidon took the job, between 1946 and 1948, the company made a concerted effort to trade the Kabetogama lands for lands belonging to the state of Minnesota that were closer to the mill in International Falls. These state lands supposedly were richer in spruce for pulpwood. Even though the Minnesota Commissioner for Conservation, Chester Wilson, favored the trade, the public hearings held at Grand Rapids, Minnesota, awakened the citizenry to a potential robbery of the state's forest treasury. Opponents of the trade thought that MANDO was after rich trust-fund land and was offering in exchange "a worthless rock pile." Under the pressure from this attack, the company withdrew the proposal.[38]

The year after this public furor, Amidon had his plan for Kabetogama ready to go. He gave the first contract to Alfred Johnson in 1949 and Johnson immediately set up an old-time logging camp on the peninsula just south of Rabbit Island, not far from Kettle Falls. From that moment, Kabetogama was logged continuously until Voyageurs National Park was established. In the beginning, the contractors were taking out mainly balsam, aspen and poplar. For the first six years the

logs were taken out by water in summer and over ice in winter. In 1955 the contractors built a road that came off of Highway 53 and crossed over to the peninsula just south of Black Bay and went eastward for about fifteen to twenty miles. It came within five or six miles of Kettle Falls.[39]

In 1949 the contractors brought out only about four to five thousand cords of pulpwood. The trouble was that there was no well balanced age classes to the timber. So first the cutters went after the very old timber, timber that was really over-ripe and not very good from a qualitative standpoint. While it was not very profitable from the company's vantage point, its removal gave the younger timber time to mature. Thus the annual yield on the peninsula gradually built up to 12,000 cords per annum, and Amidon figured they could build the yield to fifteen to eighteen thousand cords per year ad infinitum. This prognosis was based on MANDO lands only. Amidon hoped to buy stumpage from state lands in the area as well as private lands, but there was very little of the latter. Once the program was fully adopted, growth on the peninsula exceeded yield by at least five percent.[40]

Parallel with the logging, the company planned and built recreational sites on the peninsula, both picnic sites and cleared portages. By 1965 they had provided at least thirty such sites, and in the early 1960s the company even did a recreational survey. The company even maintained these sites for a few years after the National Park Service took over administration of the peninsula.[41]

Amidon believed that MANDO/Boise-Cascade gave as much impetus as anyone for inspiring the notion of a national park on the Kabetogama Peninsula. He cites a company sponsored trip in June 1962 as the seminal moment for the idea. Amidon chauffered Governor Elmer L. Anderson, Clarence Prout (the Minnesota Commissioner of Conservation), National Park Service Director Conrad Wirth, Judge Hella, Sigurd Olson and Russell Fridley of the Minnesota Historical Society, on a tour through Kabetogama Lake, Namakan Lake, past Kettle Falls, and along the northern shore of the Kabetogama Peninsula. The party was so inspired

by the wonderful day it had had that everyone present thought the area would make a wonderful park.[42]

Strangely enough, Amidon and other executives for MANDO/Boise-Cascade quickly turned against the notion of a park when they saw the written proposals for the park legislation. Their fundamental objection, which they adhere to up to the present, is against the restricted usage of timber lands in a park setting. They felt that benign neglect of the forest was not in the best interest of the health of the trees nor even in the best interests of optimizing the aesthetic scene. So Amidon and all of the company executives fought every step of the way against establishing a national park on the Kabetogama Peninsula. Perhaps they would have fared better in the debate if they had been content for half a loaf in their arguments for "multiple use." Doubtlessly, the National Park Service representatives were best able to weaken the impact of the company argument that left open the option of permitting some summer homes in the park. Eventually, Boise-Cascade succumbed to the reality of the park establishment, conceding the philosphical point that while they had provided wise stewardship in the forest for a generation, they knew they could not provide it in perpetuity. So while losing the fight, they held onto their advocacy of a moral principle promoting the necessity to maintain the sustained yield philosophy even inside a national park.[43]

Amidon said that he was surprised how much popular support the company got for its stance during the hearings between 1965 and 1970, despite the fact that their argument was sophisticated and difficult to understand. Despite this, Amidon concedes that some of the spokespersons for the public often treated the National Park Service unfairly in this statement. Personally, Amidon saw the National Park Service as a good steward. His objections were mostly matters of detail.[44]

So Boise-Cascade and Amidon bowed gracefully to the establishment of Voyaguers National Park in January 1971. The company still cut three

thousand cords that year before June, when they stopped operations on the peninsula altogether. The state of Minnesota donated 37,000 acres to the park, for which they received six million dollars for state bonds in the School Trust-Fund lands program. As stated previously, Boise-Cascade continued to maintain the recreational facilities it had built on the peninsula at least to 1976.[45]

By 1976 Boise-Cascade had come to cash payment terms with the federal government on at least 50,000 acres of land destined for Voyageurs National Park. At that point the National Park Service had paid for at least half of that land. When the company relinquished its stewardship, there were four different contractors actively harvesting pulpwood on the Kabetogama Peninsula: Alfred Johnson, Melvin Johnson, Ole Thompson, and Joe Kocinski.[46]

Soon after the establishment of Voyageurs National Park, a background study was made to appraise timber lands within the park. This was done by Edward F. Steigerwaldt and son, consultant foresters of Tomahawk, Wisconsin. They not only evaluated lands inside the park, but also looked at the entire two county area that provided Boise-Cascade of International Falls with all of its timber products. More than two-thirds of the merchantable timber in Koochiching and St. Louis Counties was found to be usable only for pulpwood. St. Louis County alone, accounted for one-fourth of Minnesota's forest products. The most abundant tree in the two counties was aspen-birch constituting thirty-seven percent of the total forest lands. Spruce was next at 19 percent; balsam fir third at 7½ percent; jack pine fourth at five percent; and red and white pine fifth at 2½ percent. Only the red and white pine mentioned above, among the softwoods, was usable for sawtimber. There was very little hardwood (ash, maple and elm) in the two county area, and what little that was within the present park area, was usually so scattered or inaccessible as not to be worth the effort to retrieve it. There were only two logging roads in the park area; the Ash River Trail and the Kabetogama Peninsula road mentioned earlier by George Amidon, supra. Maintenance of these roads added about fifty cents a cord to the

company's cost for wood per annum. Boise-Cascade spent about $3,500 per year to keep up these two roads.[47]

K. The Steigerwaldt Appraisal of 1973

Practically speaking, the location of Boise-Cascade in International Falls gave them the best access to timber lands within the park. Thus within their area, no other company could be considered a serious competitor. In 1968, the company owned 55,509 acres of timber land within the area that was to become the park and 52,000 acres of that was on the Kabetogama Peninsula. The Kabetogama Peninsula contain about 79,000 acres out of the park's cumulative 132,670 acres. Thus the company provided about forty-two percent of the park's total area.

As a frame of reference, Boise-Cascade had owned a total of 329,663 acres of timber land in the two counties, so one-sixth of their source area was lost by the establishment of the park. The company did and does continue to obtain pulpwood from federal, state, and company lands; and occassionally buys stumpage from private owners. These latter are usually only short term contracts for six months to a year. Stumpage prices have remained relatively steady for the decade 1963 to 1973.[48]

As has been seen, logging activities continued in the area that became Voyageurs Park until the time that National Park Service administrators took over the stewardship of that land. In a sense, the existence of the park deprives Boise-Cascade and International Falls of part of its support areas since the single greatest employer in the vicinity since 1909 has been the various logging companies. And since, in more recent years, because of the narrower scope of the International Falls plant, that is, making only newsprint and various types of wallboard, the prosperity of the community depends very closely upon the well being of its newspaper clients and the housing industry. Thus the recent national recession caused greater turmoil for International Falls than it did for large urban complexes such as Minneapolis. While a few

imaginative people in the area have made proposals for bringing diversification of industry to International Falls, nothing to date has freed the town from its dependency on forest products. Thus while tourism and Voyageurs National Park augurs well for promising relief, the local residents must still be forgiven their bias in favor of the logging industry.[49]

ENDNOTES FOR CHAPTER FIVE

1. Searle, Saving Quetico-Superior, 34-59, 90-104.
2. Ibid.
3. Interview with Fred Boeckh, International Falls, by Mary Lou Pearson, November 17, 1975, and June 22, 1976, VNP Files.
4. Ibid.
5. Searle, Saving Quetico-Superior, 90-2, 99-104.
6. Ibid.
7. 1937 clipping from the International Falls Daily Journal, undated, copy in VNP Files. Partial title at head of article "Old Timers Anticipate Action in 100-mile Trip Downstream."
8. Trygg interview.
9. Ibid.
10. Ibid.
11. Ranier Chronicle, December 29, 1974.
12. Nelson interview.
13. Ranier Chronicle, December 29, 1974.
14. Beatty, "A Forest Ranger's Diary," XXVIII: 62-4, XXIX: 61-4.
15. Ibid., XXX: 55.
16. Ibid.
17. Ibid., 56.
18. Trygg interview.
19. Ibid.
20. Ibid.
21. Ibid; Gerber interview; Interview with Scott Erickson, Orr, Minnesota, by Mary Lou Pearson August 27, 1975; Interview with Dean Parmeter, Littlefork, Minnesota, by Mary Lou Pearson, July 9, 1975, VNP Files.

22. Trygg Interview; Beatty, "A Forest Ranger's Diary," XXXIII: 60.

23. Interview with George W. Dulany, LaJolla, California, by the Forest History Foundation, September 21, 1956, VNP Files.

24. Ibid.

25. Ibid.

26. Ibid.

27. Interview with George Neils, Libbey, Montana, by the Forest History Foundation, August 19, 1953, VNP Files.

28. Interview with Alfred Johnson, Island Views Route, Rainy Lake, Minnesota, by Mary Lou Pearson, April 11, 1977, VNP Files.

29. Ibid.

30. Ibid.

31. Ibid.

32. Interview with Victor J. Manilla, International Falls, by Mary Lou Pearson, August 11, 1976, VNP Files.

33. Ibid.

34. Ibid.

35. Nelson interview.

36. Pollard interview.

37. Interview with George Amidon, International Falls, by Mary Lou Pearson, July 12, 1976, VNP Files.

38. Ibid.

39. Ibid.

40. Amidon interview.

41. Ibid.

42. Ibid.

43. Ibid.

44. Ibid.

45. Ibid.

46. Ibid.

47. Edward F. Steigerwaldt, Jr., "The Production of Forest Products in the International Falls, Minnesota Area" (Tomahawk, Wisconsin, typescript 1973); 3-17.

48. Ibid., 1-3, 17-30.

49. See for example the following instances of the International Falls Daily Journal commentary on the dependency of the town on logging, with occassional expressions of hope on tourism or other forms of diversification: "Forest Industries Poised For Future," October 19, 1981; "Survival of Small Loggers is Important," March 9, 1982; "Tourism, Tremendous Growth Potential," April 6, 1982; "Figures Show What Boise Means to Borderland," July 27, 1982; "We Must Look Away From Boise to Grow," March 19, 1983; "Trees and Tourists Better Than Mining," June 22, 1983.

Figure 1: Koochiching Falls, 1902. Note floating logs. MHS Collections.

Figure 2: Sluicing Logs somewhere on Rainy Lake, ca. 1915. MHS Collections.

Figure 3: Last Drive of Logs Through Kettle Falls, 1930. MHS Collections.

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VOYAGEURS HISTORICAL BASE MAP KEY

Commercial Fishing (Circle Symbol)

1. Section 26, T69N, R18W. Ed Town's fishing camp on a small island at the month of a deep slue on Namakan. VNP files.

2. Ed Town's fishing camp across from Ash River. VNP files.

3. Lot 1, Section 28, T69N, R19W. Ozzie and Fred Lessard's fishing camp near the mouth of Moose River. VNP files.

4. Section 5, T70N, R20W. Payson's fishing camp on Big Island. VNP files.

5. Section 30, T69N, R18W. Bert Phillips fishing camp on Sheens Point, Namakan Lake. VNP files.

6. Bert Phillips fishing camp on Pig Island. VNP files.

7. Section 29, T69N, R17W. Torry's fishing shack on an island on the east end of Namakan Lake. VNP files.

8. Site of Lessard's railroad across Kettle Falls on which he hauled fish. VNP files.

9. SE¼ of SE¼ of SE¼, Section 23, T69N, R20W. Fishing shacks on the south shore of Round Bear Island. VNP files.

10. SW¼ of SE¼, Section 28, T69N, R18W. Bill Randolph's commercial fishery. VNP files.

11. SW¼ of NE¼, Section 30, T69N, R18W. Bert Phillips' fishing camp. VNP files.

12. NE¼ of NW¼, Section 22, T69N, R19W. Tarring site for fishing activities. VNP files.

13. SE¼ of SW¼, Section 12, T69N, R19W. Torry's fishing camp site. VNP files.

14. SW¼ of SW¼, Section 18, T70N, R18W. Ed Stoffel's fishing camp site. VNP files.

15. S½ of NE¼, Section 20, T69N, R19W. Five buildings which comprise a fishing camp and sawmill. VNP files.

16. SW¼ of NE¼, Section 25, T69N, R20W. Site of a fishing camp. VNP files.

17. NE¼ of NE¼, Section 26, T69N, R20W. Fishing camp. VNP files.

18. NW¼, Section 13, T69N, R20W. Fishing camp site. VNP files.

19. NE¼ of NW¼, Section 32, T71N, R20W. Fishing camp. VNP files.

20. NW¼ of SE¼, Section 33, T71N, R20W. Fishing camp site. VNP files.

21. NW¼ of SW¼, Section 25, T69N, R21W. Fishing camp. VNP files.

22. NE¼ of NE¼, Section 13, T69N, R21W. Fishing camp. VNP files.

23. SE¼ of SE¼, Section 25, T71N, R21W. Tarring site. VNP files.

24. SW¼ of NE¼, Section 35, T71N, R21W. Tarring site. VNP files.

25. SE¼ of NW¼, Section 34, T71N, R21W. Fishing camp site. VNP files.

26. SE¼ of SW¼, Section 34, T71N, R21W. Fishing camp site. VNP files.

27. SE¼ of NE¼, Section 34, T71N, R21W. Fishing camp site. VNP files.

28. SE¼ of NW¼, Section 35, T71N, R21W. Fishing camp site. VNP files.

29. NE¼ of SW¼, Section 31, T71N, R20W. Fishing camp site. VNP files.

30. SW¼ of NE¼, Section 33, T71N, R21W. Fishing camp site. VNP files.

31. SW¼ of SE¼, Section 33, T71N, R21W. Fishing camp site. VNP files.

32. SW¼ of SW¼, Section 33, T71N, R21W. Tarring site. VNP files.

33. NW¼ of NE¼, Section 32, T71N, R21W. Fishing camp site. VNP files.

34. SW¼ of NE¼, Section 30, T70N, R21W. Fishing camp site and early logging camp site. VNP files.

35. SE¼ of SE¼, Section 24, T71N, R22W. Fishing camp site. VNP files.

36. SE¼ of SE¼, Section 25, T71N, R21W. Fishing camp and Tarring site. VNP files.

37. SE¼ of SE¼, Section 13, T69N, R19W. Fishing camp site. VNP files.

38. SW¼ of NW¼, Section 27, T70N, R18W. Tarring site. VNP files.

39. SE¼ of NW¼, Section 35, T69N, R18W. Fishing camp site. VNP files.

40. NE¼ of SE¼ of NE¼, Section 25, T71N, R21W and NW¼ of SW¼ of SW¼, T71N, R20W. Possible fishing camp. VNP files.

41. NE¼ of SW¼, Section 21, T70N, R18W. Fishing camp site on Rabbit Island. VNP files.

42. Birch Point, Rainy Lake. Off map to the west. VNP files.

43. Cemetery Island, Namakan Lake. Van Horn interview.

44. Cranberry Bay, Middle Island, Rainy Lake. VNP files.

45. Dry Weed Island, east end, Rainy Lake. Van Horn interview.

46. Kubel Island, Namakan Lake. International Falls, Daily Journal.

47. Rabbit Island, Rainy Lake. VNP files.

Logging (Square Symbol)

2. NE¼ of NE¼, Section 34, T70N, R21W. Lumber camp site. VNP files.

3. NW¼ of NE¼, Section 34, T70N, R21W. Logging site. VNP files.

4. SE¼ of NW¼, Section 1, T69N, R21W. Lumber camp site. VNP files.

5. NE¼ of SW¼, Section 2, T69N, R21W. International lumber camp No. 158 VNP files.

6. NW¼ of NE¼, Section 26, T69N, R20W. Baily Log Towing Company site. VNP files.

7. SW¼ of NW¼, Section 34, T70N, R18W. Logging camp site. VNP files.

8. NE¼ of NE¼, Section 30, T70N, R18W. Logging camp site. VNP files.

9. 1938 CCC side camp on north side of Kabetogama Narrows (Rudder Bay).

10. SW¼ of SW¼, Section 10, T68N, R17W. International lumber camp site (193233). VNP files.

11. Section 34, T69N, R21W. CCC camp 581, one mile south of Gappas Landing. VNP files.

12. NE¼ of SW¼, Section 35, T70N, R19W. Historic debris. VNP files.

13. NE¼ of NW¼ of SW¼, Section 24, T70N, R21W. CCC Camp 724 on south shore of War Club Lake. VNP files.

15. Lot 3, Section 27, T69N, R19W. Tom and George Beatty's first logging camp (1886). VNP files.

16. Section 16, T69N, R19W. Area logged by the Bailey Lumber Company. VNP files.

17. NW¼ of NW¼, Section 29, T69N, R19W. Sites of an International Lumber Company and 1935-36 CCC camps. VNP files.

18. SW¼ of NE¼, Section 27, T69N, R20W. Virginia and Rainy Lake lumber camp 21. St. Louis County Historical Society.

19. E½ of SE¼, Section 31, T69N, R20W. Virginia and Rainy Lake lumber camp 22. St. Louis County Historical Society.

20. SE¼ of NW¼, Section 5, T68N, R19W. Virginia and Rainy Lake lumber camp 23. St. Louis County Historical Society.

21. Lot 4, Section 34, T69N, R19W. Virginia and Rainy Lake lumber camp 25. St. Louis County Historical Society.

22. NW¼ of SE¼, Section 17, T69N, R21W. Virginia and Rainy Lake lumber camp 29. St. Louis County Historical Society.

23. SW¼ of SW¼, Section 24, T69N, R20W. Virginia and Rainy Lake lumber camp 30. St. Louis County Historical Society.

24. SW¼ of SE¼, Section 35 T70N, R21W. Virginia and Rainy Lake lumber camp 31. St. Louis County Historical Society.

25. SE¼ of SE¼, Section 28, T69N, R17W. Virginia and Rainy Lake lumber camp 35. St. Louis County Historical Society.

26. SE¼ of NE¼, Section 17, T68N, R17W. Virginia and Rainy Lake lumber camp 36. St. Louis County Historical Society.

27. Lot 4, Section 35, T70N, R19W. Virginia and Rainy Lake lumber camp 53. St. Louis County Historical Society.

28. NE¼ of SE¼, Section 34, T69N, R19W. Virginia and Rainy Lake lumber camp 75 (old 25). St. Louis County Historical Society.

29. NE¼ of NW¼, Section 18, T69N, R19W. Virginia and Rainy Lake lumber camp 80. St. Louis County Historical Society.

30. NE¼ of SE¼, Section 16, T69N, R20W. Virginia and Rainy Lake lumber camp 84. St. Louis County Historical Society.

31. SE¼ of NE½, Section 12, T69N, R21W. Virginia and Rainy Lake lumber camp 85. St. Louis County Historical Society.

32. NW¼ of NW¼, Section 3, T69N, R20W. Virginia and Rainy Lake lumber camp 99. St. Louis County Historical Society.

33. SW¼ of SW¼, Section 32, T70N, R20W. Virginia and Rainy Lake lumber camp 100. St. Louis County Historical Society.

34. SE¼ of SW¼, Section 2, T69N, R20W. Virginia and Rainy Lake lumber camp 103. St. Louis County Historical Society.

35. SW¼ of NW¼, Section 32, T69N, R18W. Virginia and Rainy Lake lumber camp 111. St. Louis County Historical Society.

36. S½ of SW¼, Section 32, T70N, R19W. Virginia and Rainy Lake lumber camp 118. St. Louis County Historical Society.

37. N½ of NW¼, Section 16, T69N, R19W. Virginia and Rainy Lake lumber camp 119. St. Louis County Historical Society.

38. NE¼ of NW¼, Section 14, T69N, R19W. Virginia and Rainy Lake lumber camp 129. St. Louis County Historical Society.

39. SW¼ of SW¼, Section 3, T68N, R18W. Virginia and Rainy Lake lumber camp 130. St. Louis County Historical Society.

40. SW¼ of SW¼, Section 35, T70N, R19W. Virginia and Rainy Lake lumber camp 131. St. Louis County Historical Society.

41. SW¼ of SW¼, Section 28, T70N, R18W. Virginia and Rainy Lake lumber camp 133. St. Louis County Historical Society.

42. SW¼ of SE¼, Section 24, T70N, R20W. Virginia and Rainy Lake lumber camp 136. St. Louis County Historical Society.

43. NW¼ of NE¼, Section 22, T70N, R20W. Virginia and Rainy Lake lumber camp 137. St. Louis County Historical Society.

44. Center of Section 16, T70N, R20W. Virginia and Rainy Lake lumber camp 143. St. Louis County Historical Society.

45. Sections 2 and 3, T68N, R19W. Virginia and Rainy Lake railway site. VNP files.

46. Sections 34 and 35, T69N, R19W. Virginia and Rainy Lake railway site. VNP files.

47. Sections 32 and 33, T69N, R19W. Virginia and Rainy Lake railway site. VNP files.

48. SW¼ of NE¼, Section 30, T70N, R21W. Early logging camp and fishing camp sites. VNP files.

49. SE¼ of SE¼ of SE¼, Section 23, T69N, R20W. Lumber camp. VNP files.

50. SW¼ of NW¼ of SW¼, Section 15, T69N, R20W. CCC logging camp near the beginning of Shoepack Trail. VNP files.

51. SE¼ of NW¼ of SE¼, Section 26, T69N, R19W. Possible site of logging camp. VNP files.

52. S½ of NE½, Section 20, T69N, R19W. Five buildings identified as a sawmill and commercial fishing camp. 1975 Survey of Historic Structures. VNP files.

Homestead (Diamond Symbol)

2. John Slatinski raised his family at mouth of Ash River. VNP files.

3. Section 34, T70N, R20W. Hennis Kessinum, a trapper, built a shack on the island in Shoepack Lake. VNP files.

4. Lot 5, Section 21, T70N, R18W. Log cabin located on Snake Island. VNP files.

5. Lot 4, Section 28, T69N, R19W. Site of Dutch Messenger's 1930s

6. Site of Johnny Clay Pipe's cabin on the east side of the Ash River where it turns south. VNP files.

7. NW¼, Section 33, T69N, R19W. Cabin site on very tip of Old Dutch Bay. VNP files.

8. SE¼ of NE¼, Section 33, T69N, R19W. Remains of Joe Beagle's (Swift Feather) cabin which burned in 1953. VNP files.

9. NW½ of NW¼, Section 4, T68N, R18W. Historic house site which is possibly the 1890s half-way house. VNP files.

10. NW¼ of SE¼, Secion 2, T68N, R17W. Site of Swanson's log cabin. He was one of the first settlers. VNP files.

11. NW¼ of SW¼ of NW¼, Section 12, T67N, R17W. Site of a wooden foundation which the owner found when he built there in 1927. VNP files.

12. SW¼ of SW¼, Section 35, T70N, R19W. Remains of a log cabin on Weir Lake. VNP files.

13. SW¼ of SE¼, Seciton 21, T70N, R18W. Historic debris. VNP files.

14. NW¼ of NE¼ of NE¼, Section 30, T70N, R18W. Outline of house, outhouse, roads, and bridge. VNP files.

15. NE¼ of SW¼ of NE¼ of SE¼ of SE¼, Section 32, T70N, R18W. Site of Catamaran's homestead. VNP files.

16. Site of Jimmy Hamilton's cabin on Junction Bay which burned. VNP files.

17. Charlie Anderson lived at Gappas Landing. VNP files.

18. Sections 14 and 15, T69N, R20W. Charlie Anderson built a houseboat which was moved to Lost Bay when he died.

19. Lot 3, Section 25, T69N, R21W. Site of the grave of a fourteen year old girl who died in the 1890s when her family camped here. VNP files.

20. Site of Oliver and Annie Knox homestead on Knox Island (now called Pine Island). VNP files.

21. Section 9, T68N, R17W. Jack Murphy occupied a cabin here on Grassy Bay from 1910 to 1958 or 1959. VNP files.

22. Section 20, T69N, R19W. Kohler, a linotype operator from Chicago, had a cabin on the point as one enters Kohler's Bay. VNP files.

23. Moxie Island named for Moxie Letsze who had a cabin on the southeast side.

24. NE¼ of NE¼ of SW¼, Section 16, T70N, R20W. Foundation of a house on the inlet at the extreme southeast end of Hitchcock Bay and some old roads. VNP files.

25. NE¼ of SW¼ of NE¼, Section 24, T70N, R20W. Log cabin. VNP files.

26. NE¼ of SW¼ of SW¼, Section 18, T70N, R19W. Two or three house foundations. VNP files.

27. S½ of SW¼ of NW¼, Section 4, T68N, R18W. Root cellar and metal barrel hoops at the south end of Junction Bay along the north shore. VNP files.

28. NW¼ of NE¼ of NE¼, Section 29, T69N, R17W. Log cabin. VNP files.

Mining (Triangle Symbol)

1. Tilson and Grassy Island Mines on Grassy Island. VNP files.

2. SW¼ of SW¼, Section 25, T71N, R22W. Unnamed mine. VNP files.

3. Markham mine on island one mile east of Rainy Lake City. It was never worked beyond the exploratory stage. VNP files.

4. Big Chicago mine located one-half mile west of Rainy Lake City adjoining the Little American mine. VNP files.

5. Little Chicago mine located one-half mile east of Rainy Lake City. VNP files.

6. SE¼ of SW¼, Section 23, T71N, R22W. Old Soldier mine. VNP files.

7. SW¼ of SW¼, Section 26, T71N, R22W. A vein was uncovered on a blunt point of land. VNP files.

8. NW¼, Section 26, T71N, R23W. Some small veins on Kingston Island which were worked in 1894. Not shown on the map. VNP files.

9. A partial mine drift on an island nearest the west of Little American. VNP files.

10. A twenty-five feet shaft dug by the Syndicate Mining Company on an island one and a half miles east of Rainy Lake City. VNP files.

11. Section 30, T71N, R21W. Evidence of blasting on an island three miles east of Rainy Lake City. VNP files.

12. Ben Franklin mine on a thirty-acre island west of Scott Island. VNP files.

13. NW¼ of SE¼, Section 26, T71N, R22W. Bushyhead gold mine site. VNP files.

14. NE¼ of NE¼, Section 34, T71N, R22W. Site of Gold Harbor or Holdman gold mine. VNP files.

15. E½, Section 34, T71N, R22W. Site of Rainy Lake City gold mine. VNP files.

16. NE¼ of NW¼, Section 33, T71N, R22W. Little American gold mine (National Register). VNP files.

17. NE¼ of NW¼, Section 6, T69N, R18W. Mica mining site. VNP files.

18. SW¼ of SW¼, Section 25, T71N, R22W. Unnamed mine shaft. VNP files.

19. Lot 5, Section 27, T71N, R22W. Big American gold mine site. VNP files.

20. SE¼ of SE¼, Section 34, T70N, R19W. Mining site test holes. VNP files.

21. SE¼ of SE¼, Section 23, T71N, R22W. Lyle gold mine. VNP files.

22. SE¼ of SW¼ of SW¼, Section 25, T71N, R22W. A gold mine shaft on the west end of a small island north of Dove Bay. VNP files.

Chippewa (Oblong Symbol)

1. Lot 4, Section 21, T69N, R19W. A supposed burial area on the tip of Tar Point. VNP files.

2. Wake-um-up Island where Chief Wakeumup lived. VNP files.

3. Cemetery Island - a Chippewa burial ground. VNP files.

4. A cemetery and small village in T69N, R19W just north of Hoist Bay. VNP files.

5. Village sites on western shores and islands of Kabetogama Lake. VNP files.

6. Camp or village sites on south shore of Black Bay near the eastern side. VNP files.

7. N½ of NE¼, Section 22, T70N, R20W. Possible Indian Village site on a small peninsula south of Kawawia Island. VNP files.

8. NW¼ of SW¼ of NE¼, Section 27, T69N, R19W. A supposed burial ground which is now covered by water. VNP files.

9. Section 27 and center bottom of Section 22, T69N, R19W. Historic Chippewa village which was abandoned in the late 1920s. VNP files.

10. Williams Island, south part of Cemetery Island, and adjacent part of Sweetnose Island were used as Chippewa gathering areas. VNP files.

11. NE¼, Section 31, T70N, R21W. Historic Chippewa village site. VNP files.

Bootlegging (Oval Symbol)

1. A saloon was built on Little Martin Island in Kabetogama Lake in 1918. It included a bar and bunkhouse. VNP files.

2. A round saloon site on Round Bear Island. VNP files.

3. Harry Smith had a saloon in Tango Bay west of Dryweed Island, Rainy Lake. VNP files.

4. Bert Osborn and Harry Buck made poor quality moonshine in Joe LaBounty's shack on Moose Bay. VNP files.

5. Blind Pig Still site on Blind Pig Island in Namakan Lake. VNP files.

6. Harry Maines, a moonshiner, had a cabin in the Hoist Bay area. VNP files.

7. Jug Island was a way station where bootleggers and commercial fishermen hid their jugs for safekeeping. There are two Jug Islands one in Namakan Lake and one in Kabetogama Lake. Data does not indicate which Jug Island is correct.

8. Moxie Island named for Moxie Letsze. He had a cabin there where he made moonshine. VNP files.

9. Bill Randolph had a saloon below the dam at Kettle Falls before the dam was built. VNP files.

Resort (Hexagonal Symbol)

1. Site of Tom Watson's store at Gappa's Landing on Kabetogama Lake. VNP files.

2. Site of the Kabetogama Hotel at Gappa's Landing on Kabetogama Lake. The hotel was razed in the 1960s. VNP files.

VOYAGEURS NATIONAL PARK

MINNESOTA

NATIONAL PARK SERIES (TOPOGRAPHIC)

KABETOGAMA STATE FOREST

BOOTLEGGING
LOGGING
CHIPPEWA
HOMESTEAD
MINING
RESORT
COMMERCIAL FISHING

VOYAGEURS NATIONAL PARK

HISTORICAL BASE MAP
MINNESOTA

UNITED STATES DEPARTMENT OF THE INTERIOR NATIONAL PARK SERVICE

As the nation's principal conservation agency, the Department of the Interior has basic responsibilities to protect and conserve our land and water, energy and minerals, fish and wildlife, parks and recreation areas, and to ensure the wise use of all these resources. The department also has major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.

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