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Well, I can't talk that long, and I know you can't sit that long or shouldn't sit that long, one or the other. I want to share first a little bit of how I got involved in this environmental history project. In 1986, I was very fortunate to have one of my former students arrange an all expense paid field trip to the Amazon for me. It's not often my former students do that for me, but she was able to arrange this for me, and I went down with her and a group of Audubon individuals, and spent a week in the Amazon, and a week in the [inaudible] Andes, and a week in [inaudible]. The week in the Amazon, and the concern for tropical deforestation, and my realization that I was almost 50, I'm now over 50, this was four years ago, I was almost 50, I realized there was no way I was going to reeducate myself to be able to do anything major about the fantastic flora fauna of the Amazon, but I thought maybe I could make a contribution in a different way, and that different way was by studying deforestation in Michigan. We know we cut the forest down or we burn it, one or the other [inaudible] but we don't know very much about that, and today with so many people pointing fingers at Brazil, we would expect for the Amazon forest, I think those of us in Michigan should point fingers at ourselves, and our ancestors who'd in respect to the forests in Michigan. Not only that, but we ought to be concerned with reforestation, here in Michigan as well as encouraging the people in the Amazon not to make some of these mistakes that we made. That is one line that got me involved in this research project. The second line was 1986, which was just a year before the sesquicentennial celebration. So when I came back from the Amazon, people were [inaudible], they were all interested in the 150th anniversary of the State, and I was interested in that, too, so there was some excitement, so that also led me to do something about it, and then there's a third line involved. We professors have a habit of talking too much, particularly [inaudible], and talking with one of my colleagues from, some of you may know him, Dr. Richard Flanders, who's an archaeologist at Grand Valley, and who did some of the archaeologist work on the [sneeze] Norton mounds in Grand Rapids, and also on little site adjacent to Grand Valley State University called Blendon's Landing, and every time I would mention deforestation, I know very little about it, but I would mention it, he would talk about Blendon's Landing, it's a ghost town, one route town in Ottawa County, right adjacent to campus of Grand Valley, and then he would make one of the most, as far as I was concerned, ridiculous statements in terms of history, in terms of Michigan history. For those of us who love railroads, and I happen to have that weakness, I have numerous weaknesses, and that's one of them, he would make the statement that there was a logging railroad in operation in Ottawa County at Blendon's Landing, in the 1840s. I snickered to myself. I said, "I know what the history books say." They say in 1878, and they say it was upper Muskegon River Valley, and it was Gearish's operations up there in 1878. Well, you know archaeologists. They have a hard time getting the right century [Laughter] let alone getting the right decade, so I kind of just dismissed that. However, with these coming together and somehow again I made some stupid statement in front of Dick Flanders, and he again said something about Blendon's Landing, and I said, "I'm going to find out. I'm not gonna listen to him one more year say some stupid remark about Blendon's Landing, so those coming together, I started to try to find out. The first thing I did was go to the history books. [Inaudible] by

Lillie in respect to Grand Haven and little bit on Ottawa County, not much, just primarily Grand Haven, Grand Rapids, that's Grand Rapids. Grandville almost doesn't exist as far as Grand Rapids is concerned in terms of history, and Blendon's Landing is in between, it's not mentioned in either of the books except just in passing, There's a landing there. Well when was there a landing there? What happened to it? Were all questions I was interested in, and I also happened to be interested because as a member of the University Club at Grand Valley, I am a co owner of that piece of property, so if he was right it'd be nice when I go to a meeting of fellow railroad enthusiasts to say I own the site, I'm one of the owners of the site where the earliest logging railroad in the United States ever operated, if he was right, but he wasn't quite right, but close enough to it as it turned out but anyway, that's where some of my interests came. Now, another part of this, there's a fourth reason for getting involved in this. This one hasn't gone away, and it's called a little extra weight [Laughter], and I thought if I got involved in this environmental history project, I'd get out and do more hiking, which is indeed true. I have done a little bit more hiking, but I found myself sentenced to a microfilm reading machine because in order to figure out what's going on, you have to read microfilm, microfilm of old newspapers, microfilm of old trial records, and I'm sitting there looking at this, and everybody around me, of course, is doing genealogy, looking up names and so on. It's an interesting group that I run into with respect to, but occasionally somebody else is reading the newspaper, but they're looking up some sports school or something like that, but anyway, I did take it on to lose, and I had faith [Laughter]. I had high hopes in the future to get out and get some exercise, so I have my many interesting places in Grand River Valley, and I also have a weakness for a little place up in the upper peninsula called [inaudible], so every now and then I go up there and do some research. Also, I located a rock slide, a log chute, for example, it came down, pitching rocks into Lake Superior and some other interesting things up there, but my major goal is to get a book published on the logging history, the environmental history of the Grand River Valley by 1993. When Bob VanDavosie (?) dropped a little note to me and said, "We are looking for speakers," I owed him one because when I first made a presentation on the Blendon Lumber Company, he said, "You know, I know where there's some interesting letters related to the Blendon Lumber Company and in dead were very interesting reading. And as a result I owed him one, and so I said I would come. Now, keep in mind, this is research in progress. It is not completed. I don't have the kind of audio visual show I would like to have. If I did, I would have come in with stereo playing the logging, the Shanty tunes, the Shanty Boy tunes, and this would be a well organized slide show. We've got three trays up there, they're partially organized. I had some problems with photography. We shot three rolls of film only to find out that the last roll didn't, [inaudible], didn't go through the film in the camera, things like that happen, to delay you. Another reason why I was willing to come now this is the 100th anniversary of that last logging run in the [trails off, can't hear]. The last log ride went over the Grand, actually [inaudible], May 11, in 1890, the rear of the last log ride to reached Grand Haven, and it came over the dam at Grand Rapids, so that's a century ago. That's a milestone. That's the end of an era with respect to history, and I think it's something deserves some recognition, and one way of recognizing it is to speak about it, and consequently that's another reason why I weakened. If it'd been up to me, I would have said, "Give me another year or two because I'll really have things put together." Well, let me give you a little bit of a history with respect to logging in

Michigan, and logging in the Grand River Valley, and emphasizing Ottawa County in particular. As I said, a century ago, the last log ride to reach Grand Haven passed through Grand Rapids. The reporter described the loggers that kept the logs floating downstream on this last drive, as a picturesque lot. I almost thought about dressing up the part, but there again I didn't get the time to get to the appropriate places, wearing woolen coats, pants tucked in their spiked boots, and one of the individuals drowned in that last log ride. I think the individual was not a member of the log riding crew, but one of the citizens of Grand Rapids that fell down on the logs. For more than six billion feet, board feet of White Pine lumber, were produced by the hundreds of sawmills, that operated in Grand River Valley, and six billion feet, we estimate about 160 billion feet came out of Michigan, and six billion out of that 160 billion board feet came out of the Grand River Valley. The environmental economic history of the logging sawmill era in the Grand River Valley deserves more attention than it's received. It is indeed a legendary era for very good reasons. It was both romantic and dangerous. Though logging opened up the land for settlement, it also involved the wasteful destruction of a valuable resource, mature, growth forests. On the other hand, if the loggers didn't log it, the farmers were gonna burn it, so don't blame the loggers. The American ideal, the European ideal, was not a forest. The European ideal was a farm, and the forests were not viewed as chapels or any kind of way that we might view them today. There're were very, very few people, poets and a few others, that viewed them in a way that many of us might tend to agree with them today. The forests of towering trees that once covered Michigan are virtually all gone. In fact, you can name where they are, where they still are, Hartwick Pines. In the Lower Peninsula, there's one or two other very small locations, small clusters in the Lower Peninsula, [inaudible] Pines, right at the tip of the Keweenaw Peninsula. We face the problem of timber theft with respect to some of these small clusters. There was a small span in Kent County in 1976 about 30 trees, it was cut down, stolen, and the co-owners of the [inaudible] club property, every now and then someone goes in and steals one of our Black Walnut trees, that's what I know about timber theft. [Inaudible] Shanty boys as the early loggers were called converted forests into three things, saw logs, slashings, branches and other material they didn't want, and stumps they left behind. Sawmills, in turn, converted saw logs into lumber, shingles, lath, slabs and lots of sawdust. I would like to know how much of the filled in area around Grand Haven, Spring Lake, Ferrysburg is sawdust. It's gotta be a lot. The same is true, of course [inaudible] for Muskegon. Let me give you a description of how the settlers viewed the forests, and according to, story from the name of John H. White. "There was a time when America had wood to burn. The new world was seen as a sylvan wasteland that could never be civilized until the woodland was cleared for the plow and the highland. It was a land that would remain unfulfilled until cities rose in place of the wilderness. The forest was more than an impediment to progress. Its green umbrella offered shelter to the hostile savages, blocked out the purifying sunlight, and in general created a gloomy land of shadows, well suited to the devil's own work." The poet saw the native forest as nature's own cathedral, a choir whispering furs, but the average colonist apparently lacked the same romantic vision, and saw God's own cathedral as a major liability, and one that should be destroyed as quickly as possible. 'Chop the damn trees down. Burn them in field and furnace. Pile in the ravine to rot. Clear the land of the forests, and make a quick path for civilization.' Such an attitude seems unaccountable today considering the

ecology of it, and yet a reverence and concern would have been puzzling to our forefathers, who viewed timber as a surplus commodity with unlimited reserves awaiting the woods and [inaudible]. I think that's a pretty good description of how they viewed it. In my reading of Grand Rapids newspapers, and I've read 50 years on microfilm, and I deserve a medal just for doing that, if nothing else and I have read some of the Detroit newspapers as well. That attitude is fairly accurate. They were interested in clearing the land for farming. Now logging began in the Grand River Valley in 1832, in the sense of operating a sawmill, the small Indian Commission up by Grand Rapids, had an upright saw operated in 1832, the Indiana realizing that times were changing, asked for help from the Federal Government to put in a sawmill, and they had a sawmill with one upright saw in operation in 1832. That sawmill provided the lumber for the first buildings in Grand Rapids that were built of logs, sawed logs, in some cases, they were just slabs of log basically, make into a log home [trailed off, can't hear]. That sawmill provided the first lumber for Ionia, and that sawmill may very well have provided the first lumber for Grand Haven as Grand Haven did not have a sawmill until 1836. The Yankees from New England saw money when they saw the tall White Pine Trees in Grand River Valley. They faced five problems, problem of logging, problem of transportation of sawed logs, problem of sawmilling, problem of transporting the lumber, and the problem of selling it. Chopping down a mighty monarch of the forest was hard work but was the least of their problems. The saw mill had to be within a short distance of the forest because it was difficult to move a heavy sawed log. Also, it had to be [inaudible] stream with water power. Few mills of this time were going steam lumbers. It had to be near a river so the lumber could be rafted to Lake Michigan. Since all the land north of the Grand River was still owned by the Indians in the early 1830s, the only forest that could be legally logged had to be located south of the river. The Pine Forest, adjacent to Buck Creek in Southwestern Kent County, were chosen by three different lumbermen in the same year, 1834. Buck Creek, you cross whenever you go into Grand Rapids. You cross it at the Jenison Interchange on I-196. Buck Creek then flows coming from the east, flows through Grandville and flows into the Grand River. Rush Creek flows from Georgetown Township into the Grand River into virtually the same location. Those two streams are the first two to be logged in a major way. One in Kent County, and then immediately the next year, Rush Creek, in Ottawa County. That's where logging began in Grandville and in Jenison. Well, there was no way that the lumbermen could compete with the New England Lumber market. After all, the Maine lumber was there, the New York lumber was there, and it was an awful lot closer to those people from Maine and New York, so they couldn't compete. However, it was a small town of about 3,000 people on the southwestern shore of Lake Michigan where a couple merchants had been advertising in the Detroit Newspaper, that they wanted to buy lumber. This small village, named Chicago, received its first shipment of White Pine lumber in April of 1835. The lumber before that time was hardwood, and from other locations. The first White Pine to ever be sold in Chicago came from Buck Creek in Kent County. The mill operated by a man by the name of Miles Britton and Nathaniel Brown. The Jenison family, worked for them a year before moving on to Georgetown Township. Now, once they cut the lumber, sawed logs into lumber, they faced the problem of getting the lumber to Grand Haven. Fortunately, they had hired a Maine logger, who knew how to build a lumber raft, which involved building a crib, and then putting the lumber in it, and then floating the lumber

that way. It took 600,000 feet of lumber that spring, that's no small amount of lumber, to Chicago, and the lumbering era of the Grand River Valley was underway. Unfortunately, the lumbermen could convert Pine Forests into saw logs faster than the Chicago merchants could sell it. The financial panic of 1837 greatly slowed down the settlement and moved west. The company called the Grand Haven Company owned by Rix Robinson, Ferry and White if I remember correctly, lost approximately \$100,000 in their attempt to become a major lumbering company. It's not unusual for these companies to go bankrupt. It took almost a decade to recover from the financial panic of 1837. 1837 was the first year that there was a sawmill on Black Lake. There was a ghost town, I'm sure many of you are well aware of called Superior on the north shore of Black Lake, and it had an operating steam saw mill in August of 1837, when the steamboat Governor Mason from Grand Rapids, visited them. The steamboat Governor Mason did not just stay in the Grand River. It went out on Lake Michigan two or three times, one of the last times, it sank. It was designed to operate on a river, and it died, overwhelmed by the waves somewhere up near Muskegon. I would love to find someone interested in underwater archaeology to try to locate whatever remnants there are, [inaudible], but anyway, in 1837, at Superior, there was an operating steam sawmill, and this is described in a newspaper article in the Detroit Press, Detroit, I think it's called Free Press or was it Democratic Free Press then? I'm not quite sure, but anyway, that's the earliest mention of any operations in this area. Now since this is the Holland area, and since I am Dutch, I'm gonna have some fun. Hollanders who came to this area were not well versed in wood, maybe for wooden shoes but not for other things. They learned very fast, however, lumbering in the Black River area the Holland area. See, the Black River Harbor Association was the organization that owned and operated the mill at Superior. Now VanRaalte who's responsible for my existing here rather than in Wisconsin, he was on his way to Wisconsin, somebody else convinced him to stay here, I'll never know why, this time of year is tough on me because of the grey skies and snow that we usually get. This has been a nice winter. I spent my winter on the other side of the lake, and had VanRaalte gotten there, I think he would have stayed. They get more sunny days. This is the nicest side of the lake in the spring, the summer, and the fall, but not usually in January and February. Okay, well anyway, Rev. VanRaalte founded the Holland colony in a forest, which the Hollanders had to clear away to make their settlements. They chopped down the trees, and either burned them or converted them into cash. The forests in and around Holland were described as [inaudible] for miles north, chiefly Pine and Hemlock. [Inaudible] with occasional lots of Beech, Maple and Oak, while in other directions it is of all varieties, hardwood predominantly. The bark of the Hemlock tree was valuable because it contained chemicals important to what? Tanning. A Mr. Knox came over from Chicago in 1848 to show the Hollanders how to peel and cure the Hemlock bark. The first export ever to leave the Holland colony was a shipload of Hemlock bark. The wooden age had begun and wasn't wooden shoes. It involved a shipment of Hemlock bark. A Dutchman by the name of Jay VanDeKamp Shipping (?), he shipped it aboard a schooner called the Amelia in 1848. The Hollanders employed a Mr. Gibbs to Kalamazoo to erect the sawmill for them. The Dutchman made the mistake of building a wind powered sawmill. This was not the first wind powered sawmill in North America. Hollanders had made the same mistake before. However in New York, which was then called New Amsterdam in the 17th century, and someone made the same mistake earlier

in, between that time, someone made the same mistake in Chicago in the early 1830s, they built a wind powered sawmill, that someone described as producing, using the wind and produced nothing but the wind, and it was a financial disaster. A Yankee visitor to the Holland colony describes the windmill as follows, this is an 1849 description. "One of the greatest curiosities in the colony is the great awkward and unmanageable concern called the windmill. This is a monstrous wooden pile in the form of an octagon power, large at the base and drawing to a small compass at the top. It is built with a huge timber frame, and is about 60 feet in height. The machinery is wood including the drudgings of the wheel shafts which are about six or eight inches in diameter, covered with thin strips of iron. There are two saw frames, one having nine and the other six saws. Those are what we call gain saws. Those are upright saws, and the advantage of six saws is you could saw one log all at once, gain saw frame. These saws are placed as far apart as they intend to make the thickness of the stuff, and the log is sawed off by one path each of the saws trough it, from one end to the other, the boards left with rough edges. The mill is moved by the force of the wind, striking it against it against four winding slats or slackers covered with canvas and attached to the center through a horizontal shaft. They were sawing or attempting to saw while I was there. Occasionally the saws would strike a few times quite lively, and then draw a few slower strokes, in the next moment stop entirely, perhaps to start up again in half an hour. That was one problem. With the fair wind, they could saw a little bit, but in a lively gale, it was necessary to chain it up." [Laughter] And then the Yankee visitor says, "The enterprising individuals are now coming up with a steam sawmill which will do a better business." That's the earliest description I know of the sawmill operating here in Ottawa County. I'm not familiar with what you have here. I'm basing mine out of the Grand Rapids newspaper. Here's another description, 1849, of this area. I think you need to have an appreciation for a forest. The face of the country and the neighborhood of the colony is pleasantly diversified with the hill and valley, lake and stream. The streams are fed by a large land berry marshes, and overflowed land can be easily drained by the hardy settlers for hay culture. The trees are mostly Open Pine, [inaudible], Dry Walnut, Maple, Walnut, Wild Cherry and Hemlock. [Trails off, can't hear.] For Agriculture, the lands are well adapted, and though it was at first anticipated that the colony would be unhealthy from the dark color of the water in the river, and it all went to the lake, and became [inaudible] filled with vegetable matter, flowing from the muck swamps at great depth. Since the first year of the settlement, [inaudible]. The natural advantages of the colony and neighborhood for manufacturing purposes are very uncommon and highly gratifying to the colonists. Already two sawmills are in operation, a tannery and a [inaudible] direction, ship yard, builds all kinds of craft, [inaudible], and for plank, magnificent Pines for mast and spare are all in sight from the shore and land. Now, if we look at the 1850 census, the only industries operating in the Holland colony, were wood product industries, one water powered sawmill, one steam powered sawmill, and one pearl ash factory [trails off, can't hear]. In 1852 there was a stave (?) factor, very important, staves were important in Holland for a good 30 or more years. Staves were important for barrels. That's how they shipped everything, in barrels, not just whiskey or molasses. We're talking about barrels being the basic packaging for almost any product. They had a stave factory which produced 900,000 White Oak Staves, in addition to a shingle mill, as well as exporting lots of Hemlock bark, and leather from the Tannery. Okay, those are all what? Wood products, no mention of exporting flour or grain, there's

a pretty good reason. This colony was growing fast, and they needed to feed what every year? A lot more new immigrants, so rather than exporting food, they were feeding people who were coming into the colony. Okay, that's a little description of the Holland area in the first five years or so. I thought I would share that with you. I'm gonna pick up my history in Grand; Holland is not in the Grand River Valley, geological history 'cause there isn't much elevation between Jenison, Grandville, and Holland. It wouldn't take much to make Holland the port for the Grand River. In fact, several individuals have at one time or another proposed building a canal from Grandville, Jenison to Holland. Straighten out the Grand River. Something happened in 1848 that changed things in Michigan. It wasn't something that happened in Michigan. Anyone know what I'm talking about? [Inaudible answers from floor] Gold rush, but that got people to leave. I'm talking about selling products. That was too far away to really have much of an impact except people left from Grand Rapids. I wouldn't be surprised if a few Hollanders didn't go from this area as well. What happened in 1848? Something really important in Chicago. It just changed things. The exports going through Chicago doubled in almost one year. Building of a canal from Chicago to the Mississippi River, which made it possible for lumbermen in the Grand River Valley and Muskegon River Valley, to stay in Kalamazoo because there was some White Pine in Kalamazoo, to sell their lumber in the Mississippi River Valley, at prices lower than most people in Wisconsin and Minnesota could, and so that canal was extremely important to understand what happens in terms of the economic history of Michigan of the west side of the State, that canal is critical because the exports doubled, and I think it may explain something that happened that I found out about because VanDavossie(?) brought my attention to some letters that someone in Holland must have retyped out of the Grand Rapids newspapers, and somehow they got into the Holland archives, and there was a letter by a man by the name of Edwin Thayer, and he was writing in 1900 to correct some statements made about history. These were about the Blendon Lumber Company. No one knew anything about the Blendon Lumber Company when it was operating. I'm surprised they knew anything about when it wasn't operating, but fortunately, they got into a dispute in the newspapers, and as a result, Edwin Thayer wrote several very fascinating letters, and in one of these letters, Edwin Thayer mentioned that in the Grand River Valley there were two logging railroads that were built in 1850. Boy, did my eyes open up. I mean, I had an archaeologist friend tell me 1842, and I knew he was wrong, so I got 1850 for two horse drawn logging railroads. Rails mean what? It doesn't have to be iron. We're talking wooden railroads. Why? They couldn't, these lumbermen couldn't get the logs to their mills fast enough. There were merchants in Chicago saying, "Get the lumber here faster. We've got markets, and Hopkins and Mill Point and Jacob Barber and Eastman were seeing dollar signs, and they built the first logging railroads in the Great Lakes and possibly the first logging railroads in the United States right here in Ottawa County. Hopkins mill is and Hopkins Brothers dumped theirs into Spring Lake so probably somewhere up near Fruitport, I'm not exactly sure. They owned considerable land, timber up around Fruitport. I'd love to figure out where, but all I found on that, in addition to the letter, the letter was a start, there's no description of the operation of that, except for a newspaper ad. When I read microfilm, I read the ads as well as the articles. In 1851, in Grand River Pines, there's a newspaper ad for someone to operate this railroad. The Hopkins Brothers built it, but they didn't want operate. They wanted to operate the mill,

and so they were advertising for someone to operate the logging railroad. That's the only documentary of it in the existence of that line, but it is something. The other one, it was built in Allendale Township, just west of about a mile west of the 68, a mile west of Eastmanville, and I talked to the farmer on the property, it was, and we might be able to actually still locate the grave, I have no information about that, no documentary evidence until last week reading the Grand Rapids newspapers, I found following. I'll just share it with you. This is, again, I read the ads, and I found an interesting ad in the Grand Rapids paper, got a weakness for steamboats as well as logging railroads. And I'd seen this ad before, and I made a note of it, but I didn't see something. Okay, this is a timetable for a steamboat, Steamboat Michigan operating on the Grand River in 1853, and what I had found the first time, I quickly read all the landings on the way to Grand Haven, but I didn't read all the landings on the way back. I thought they would be the same, just different times, and last week when I finally got around to making a copy off the microfilm, I was going through, "Okay, Grandville, we got a Hare's (?) Landing, there were sawmill in the '50s and '60s at Hare's (?) Landing, Sand Creek, there was at least one sawmill there, Luther's Landing, Carlston (?), there was a sawmill, Roberts (?), I believe had a sawmill there one time, Dr. Eastman, at Eastmanville, there were several sawmills at various times, Dan Riley's, I'm not quite sure where Dan Riley's is, but I'm about to find out. I'm gonna do some research. Ottawa Center, [inaudible] Robinson, [inaudible] Marsh, Albert Robinson (?), Nortonville, very important sawmill there, [inaudible] Ferry's Point and Grand Haven. Okay, going out, Ferry's Pointe (?), White Mills, Nortonville, Robinsons, [inaudible] Marsh, [inaudible] Robinsons, Ottawa Center, Barbers Railroad. That's the only documentary evidence to the addition of a letter. The reason why I didn't accept the letter as documentary proof is the person who wrote the letter was two years old in 1850. He was describing something he never saw, and I learned the hard way to use what someone says as a way of searching for evidence for documentary evidence, and that's my documentary evidence. It's not much, just one line, but that's my documentary evidence for the existence of Barbers Railroad, and so basically what I have done is checked out everything that a man by the name of Edwin Thayer said in his letter, and found it to be accurate. Now remember, what I have to remember is that Edwin Thayer was writing and criticizing someone else's view of history. He was saying that person was all wrong. This is the way it happened, not the way he said. Let me tell you. Well, was Thayer right or wrong? I didn't know, but what I've done is track down documentary evidence. Now we come to Blendon. Indeed there was a logging railroad at Blendon. Indeed it was before the Civil War, and indeed it is deserving of historical recognition because while these two railroads I just mentioned used horses and a third one built out at Stern's Bayou, to the center of Robinson Township, owned and operated by Ferry also uses horses, this one used a steam locomotive, and is the first logging railroad in the United States to use the steam locomotive, all this occurring in Ottawa County. Now, Blendon Lumber Company is a fascinating operation. It begins with John Ball. John Ball comes to Michigan as a land agent. He has \$10,000 to spend, not his money, he has \$10,000 money from some Troy, New York investors to spend, \$10,000, some of it in gold, most of it is in bank drafts. This is in 1836, and there was a real land rush in Michigan. He came to Grand Rapids, saw how much Louie Campau and Robinson were asking and others, were asking for city lots, and did not buy any. He had to do whatever he wanted to do with \$10,000. It was a

blank check. You go and invest it. Well, he bought; he did buy some land adjacent to Grand Rapids, that's why we got Leonard Street. He got the investors, but he decided to timber cruise, and this guy's in timber because he followed to all the way out to Oregon. He was the first school teacher in Oregon, so he was a real big [inaudible], and anyway, these timber cruised Ottawa County, and he got lost, not unusual, anyone that has been hiking in an area they're not familiar with it is very easy to get lost, and back then, there was no road sign, not even section [inaudible]. If you knew what you were looking for you could, in some cases, with the surveyor's marks, and so on, you could locate yourself after that, but it'd take some doing if you got yourself lost, and he got lost. First thing was to go to somebody else, and they built a fire overnight, and it's the whole story, and his autobiography of the wolves howling around the campsite, and he and his friend huddling as close to the fire as they could trying to stay warm, and then on the way back, trying to find their way out, he stumbled on 2500 acres of White Pine, almost sold, that is unusual to be that large on the sand, south of the Grand River, and he purchased all 2500 acres for the three investors. This was 1836, and he was gonna share in the profits. The problem was there was no profit because what happened in 1837? The financial panic so what he did was he turned the land over to the investors, and he got zero for all of his efforts except food and [inaudible – recording cut off]. The lumber prices continuing to soar from 1855, they go up and up and up. He got a letter from his investor friends, and his investor friends said, "We're gonna log it. The problem is its several miles inland. It's not adjacent to Grand River. It's a few miles inland, and sleighing is difficult, it's expensive, and a railroad you can operate almost year around." And so they ordered him to get the right of way for the railroad, and that's recorded in the Register of Deeds Office, and he made arrangements for the right of way for the railroad, so the first logging railroad to use the steam locomotive began operating in May of 1857 in Blendon Township. I don't know where Blendon Township got its name. If someone has a clue, I sure would like to hear it. Its company operated for about eight years. They built one of the largest sawmills on the Grand River at Blendon Landing. It had two circular saws, and forty gain saws. This was a huge logging operation and a huge sawmill. Unfortunately, the Civil War broke out. The Civil War depressed lumber prices, particularly in the Prairie States, so it was difficult to make much of a profit, though they continued using the logging railroad until at least 1864 if not later. I find that a very fascinating part of history. During this period of time in history, there were no organized log rides, the way you and I think of them, and we're often in the Muskegon River, but not on the Grand River. Before the Civil War, logs were rafted. They were tied together in some fashion, and rafted. In most cases what they rafted were the lumber, not the logs because they were sawing logs at Greenville, at Lapinville (?), which is Rockford, they were sawing up in Plainfield, Comstock Park area, they were sawing all along the Grand River, and they rafted the lumber to Grand Haven. There were also sizeable mills in Grand Haven, and Spring Lake from Millpoint, and they got a lot of their logs from Crockery Creek. There were two streams in Ottawa County that they had log rides on. Some of you know Bass River, which is just on the western side of Allendale Township [inaudible], larger part of Blendon Township. They had a couple log rides on the Bass River, and they had numerous log rides and lost their shirt numerous times in Crockery Creek. Crockery Creek Valley was rich in White Pine, but they couldn't figure out how to get it out. They kept losing money, all the time because of the transportation problems. They'd chop a

tree. That wasn't any problem, but getting 'em out after they cut 'em was the problem. They lost their shirt on numerous occasions, and finally in 1888 or '89, Cutler and Savidge built a railroad from Fruitport over to Crockery Creek to get the logs. They gave up trying to run them down that particular stream, so I think the logging history of Ottawa County is fascinating. The White Pine Era comes to an end approximately 1890. There's very little White Pine left, just a few isolated stands, but there is another era called the Hardwood Logging Era. The Hardwood Logging Era, up until the development of the furniture industry in Grand Rapids, most hardwoods were just burned. You might cut 'em up for fuel for the steamships and so on. Grand Haven was a major source for firewood, fuel for the steamboats and for Chicago. It wasn't just White Pine lumber that they were shipping out. The Hardwood Era was really another famous era and I have, I've got some of my favorites, I'm just talking about the Blendon Lumber Company. I'm gonna talk very briefly and then I'm gonna show some slides on the Allendale Timber Company. One of the things we got out at Grand Valley on the north side of our campus is a nature trail, and when we laid out our nature trail, I thought we were laying our nature out on an old abandoned wagon road, I couldn't understand why there were some ties all around there, but na. [trails off, can't hear], and then I found out that the last major area in Ottawa County to be logged was a place called the Boltwood (?) Timber Track, which is the northern part of Grand Valley's Campus, sets on both sides of M-45. At the turn of the century, they built a logging railroad on the north side of Grand Valley's campus, almost 50 years after the first one. Nobody at Grand Valley knew anything about this one. I dug this one up by reading some old news accounts, again microfilm, and they even, in addition, to having a little narrow gage railroad, they even operated a steamboat called the Allendale, which I'm trying to find information on, but they were cutting Hardwood then, Basswood, Maple, Oak, and so on, and they were taking it to Grand Rapids to the Grand Rapids Veneer Company, and after they got all the major Veneer wood out of it, they sold it to the Grand Haven Basket Company, and the Grand Haven Basket Company operated this boat, this tug, and barge, basically what it was was a push operation. It pushed a barge, a very large barge because Hardwood doesn't what? It doesn't float. It'll sink up to five, ten miles or less, and consequently, you have to put it into a barge. Well, the Grand Haven Basket Company was provided with logs this way for a number of years. I'm still trying to get more information about that operation. There was a basket company operating at Leperin (?) in Holland, King's...?

King's Basket Factory.

King's Basket Factory and they got their logs by log trains from somewhere up north via the Pere Marquette. I don't know where their property or their timber was up north, but I have seen a news account in this century about trains, it may have been part of a train, or a whole separate train, 30 to 40 cars of logs coming into Holland at one time all going to the King and Company Basket Factory. Now the logging era continues right up today. There are sawmills in Ottawa County today. Now I'm concentrating on the 19th century, but I do hope somebody's concentrating on the 20th century. I hope somebody is gonna go out there and interview these people so there's some kind of a record because it's really difficult to pick up the pieces. I do like being a detective, but it is difficult to pick up the pieces. It's a lot easier when someone records the history a little more accurately

than I've been able to in terms of [trails off, can't hear]. Before I show the slides, are there any questions? [Inaudible floor question.] No, but that's one of my favorites because my father was raised, my father went to Shack (?) Public. I started first grade at Shack (?). I lived on Berry Street for a year, and I think those mills were gone, though before [trails off, can't hear].

I have pictures of the sawmills?

I've seen one picture in the, been in the Riverbook, the Jenison, Georgetown – Grandville Book. I'd like to talk to you about making arrangements to get those copied if I could because I just have a weakness for [inaudible]. In addition to Grand Valley's campus because, listen, one of the things a biologist ought to do is talk about what's happened to what? The environment in which this campus is on. I found out other than we know they grew corn, and we knew they grew fruit trees, and we knew they'd been logged off before that, we didn't know anything but that. I think we need to know a little bit more than that, and so I spent a lot of my time trying to find out.

Where did the leather company get the bark?

Hemlock?

Yeah.

All over the place. The most common tree in Ottawa County was Hemlock, the most common of all the trees. We can ascertain that from the surveyor's records. When the surveyors came through and did the section lines, what do you do when you come to a tree, and you're trying to measure a straight line? Well, you chop it down, right. Do you know how long they spent chopping down a tree that's a good sized diameter? That's a lot of wasted time, so anything under four inches they cut down. Any thing four inches and above, they had a way of measuring right around that, and including that in it, and they recorded the diameter of the tree because that was on the line, and they also recorded the species of the tree, and at the section corners, they had to mark what they called what trees? Anyone know? Their markers basically so that they made cuts on the sides of these trees so that on the section corners, so that anyone who came searching for a piece of property could find the section corner because a certain distance from a section corner recorded on these sheets would be Maple, which was so many parts of a chain away from that corner, and they would give the exact angle, so you could find the section corner so you could find your property. From that kind of information, we estimate, and I think it's fairly reliable, that Hemlock was the most common species, then a couple of Hardwoods, and then White Pine. White Pine was not the most common, but it was here, and it certainly helped out the Hollanders, but the Hemlock was what really helped the Hollanders at first because all you had to do with a Hemlock tree was peel it, well, you had to cut it and then peel it, and cure it, and you, and then also the Dutch did the next thing. They [inaudible], use it ourselves, construct our own [inaudible]

Didn't that also determine the type of soil?

Hemlock tends to be in a little wetter soil. Pine tends to be in sandy soil, as a rule of thumb. There are exceptions to that. Any other questions.

The railroad was a standard size railroad that you were talking about then because when Garish...

[Inaudible] Garish built a narrow gage, one that operated at Blendon, I believe was standard gage because they purchased their locomotive from Michigan Central, and I couldn't track down the locomotive for a long time until, I kept saying the name of the locomotive was "Old Joe", and a friend in Pennsylvania who had a roster list of the Michigan Central Railroad said, "There's a St. Joseph that shows up on the Michigan Central Railroad in 1850 on the roster, and is not there in 1857, the very same year you say it went into operation on the Blendon Lumber Company," and Thayer says that it came from the Michigan Central. Someone else, a historian, a lot of historical books in Ottawa County, the 1882 book says that it came from Detroit and Milwaukee, so we have two different sources, but Thayer's been right every time, so I'll go with Thayer whatever he says from now on. I checked him out five times, and he's been right everytime, so the sixth one I can't check out, I'll trust Thayer, but it was a standard gage operation, and by the way, it's a perfect place to put in a standard gage operation because it's flat country. You're not dealing with any major hills or ravines or some on. And it was the first attempt, and they had real problems. You ever play on wooden rails? What happens to wood when it warms up, and it gets cold, it expands a little bit, and so on, contracts a little bit, then you get a little warpage in there, and so you can imagine they had major problems, and now you're back to wheels. You think wheels are real easy? Oh, iron was real easy back then. Hey, no way! One of the major logging car manufacturers in the United States, both of the major ones were in Michigan. One was in Detroit. The other was in Grand Rapids, and the one in Grand Rapids for the first five years had all kinds of problems with their wheels as did the others. They had major problems with those wheels breaking because of the tremendous what? Weight that were on those, and they were trying to design wheels, and mining operations had some similar problems with the heavy weight so there's some relationship there. Any other questions before the slides?

Do you know how these lumbering companies in Kent and Ottawa County came to be dominated by the lumber barons in the 19th century, the Hackleys, the Humes, The Stevens, the Cutlers and so on?

Well, Cutler and Savidge were large operators. The Ferrys were large operators until they went bankrupt, and then the Ferrys somehow wound up with some land in Utah and became wealthy again as a family in Utah, but when I think of the Grand Rapids operations and the Grand Haven operations, I don't think of a really major lumber baron, the Whites and Frants would be close to that. You know, when I think of a lumber baron, I think of Wirehouser (?), I think of Blodgett. Now Blodgett lived in Grand Rapids and never owned a stick in the Grand River Valley even though there are a couple history books that said he did. They have no evidence, I'm waiting to see that evidence, I haven't gone through all of Blodgett's corporate records, and they exist covering a 50 year period of time, and he did all his operations in the Muskegon River Valley. His wife wanted to

live in Grand Rapids, and so they moved from Muskegon to Grand Rapids. He was a baron. There's no doubt in my mind. The Blodgett family formed that camp there. What happened with a lot of the lumbering companies, they invested their money and they lost it in other ventures. That was not uncommon, and every now and then you had a financial panic. One more question, and then we'll do the slides.

[Inaudible floor question]

Well, the main reason for not here, they didn't come in early. That would be the main reason, they, I see those wheels showing up, and I haven't followed that book carefully, you'll see a couple slides of it, but basically you're talking the 1880s. [Trails off, can't hear] They're nice for operating during the summertime and the early fall or late spring when there isn't any snow but the ground is what? Fairly hard. You don't want it real wet because those wheels can sink. They were nice for moving logs. They were also nice. Okay, I think these slides to be interesting. I think what I'm gonna do is I'm gonna come back there. I can talk from back there. I'm gonna go through them very fast because I don't have them well organized. None of us think you're gonna find some of 'em to be very interesting, it's a fantastic era. I hope to get together with two or three people and produce a video tape on the environmental history of the Grand River Valley using some of these and lots of others, so some of these slides are from other than the Grand River Valley. It'll give you a feeling for the history, and I have a few maps in here to show you some things. This is a forest map of Michigan, and if you look carefully you can see the outline of Kent and Ottawa Counties and the White Pine in terms of its distribution and some of these are Pine, Oak forests and so on, they're not just Pine forests, but if you were to do the White Pine Distribution, start way over on the eastern side of the state on the northern edge of Lake St. Clair, you see where that little kind of inlet is on the far eastern edge? Okay, you go from there up a little bit almost to where Flint is and then you come straight across. You stay north of Ionia, you come across about at Greenville, you come across about at Rockford, and then on the west side of the Grand River, you swing south, almost straight south, right along the Kent County line, and you swing down south through Allegan County and into the northern part of VanBuren County, and the White Pine was in clusters. It wasn't solid White Pine. Wherever you had sandy soil, you had a high probability, if it was well drained; you had a high probability of having some stands of White Pine. I have a weakness for the Upper Peninsula, so I threw that one in. This is an example of a forest map that Larry Brewer, who was from the Holland area, has produced for the counties south of us. This happens to be Gull Lake in the middle and Berry County. He is working on a map of this area. I'm working a little bit with him. I may have finally turned up some money so if I convince him to work on the project, he can actually get paid, and that's really nice. I have a weakness for this area. You can't see it very well. I apologize. It happens to be the Tahquamenon area, Shell Drake and so on up north. Okay, this is Garish's operation, the Lake George and Muskegon River Railroad, 1878. There are no photographs of the Blendon Lumber Company operation. There were photographers in Grand Rapids during the time, but they took pictures and they made portraits. They did not take outdoor shots for whatever reason. This is an example of a logging car built in Grand Rapids by the Butterworth and Lowe for the Garish operations. Some of the first logging cars were built in Grand Rapids. One of the

major problems we had with steam locomotives was the fact that they let out cinders and surrounding country side caught on fire. This is an example, the inventive genius or hurt, variation; I'm not sure which, of Americans. All those are patented, and all of 'em are designed to catch cinders and prevent fires from occurring, and some of them worked, many of them did not work very well. This person played a very important role in the history of Michigan logging. He designed a very interesting gear locomotive that was said to be able to do everything except climb a tree, and this gear locomotive was built by him by Efraim Shay O'Herring (?), really fantastic. Notice this does not have drive wheels. It has little gears. This thing did not slip backwards, and it didn't go fast, but it could haul, and not only that, the front wheels and back wheels could be at a different angle, so you could turn on almost a dime, and so you'd get railroad tracks that would literally snake through the woods around this stump and around that stump. Here's another view of this operation. These are not in the Grand River Valley. These Shay locomotives were built right up to this century. These are some examples of this century down in West Virginia. Branding irons, branding irons were necessary when you had log drives. I have found the brand iron banner for the Blenden Lumber Company. I didn't expect to find it in existence, but it still exists. This one, I believe is for Ryerson Hills and Company, Muskegon. That's another fast meeting operation. This is up in Newaygo. I'll show you Newaygo County, I'll show you a couple slides and then we'll go on to the Grand River Valley [inaudible]. This is an example of how the forest looked on one of the sleigh roads. They would move logs on sleighs pulled by horses. In the background is a famous 100 horse barn. This is an operation up by Pickerell Lake, huge. You can see how they put the logs up on the rail cars. Notice how they put logs so they could roll them up, and notice the person up on the top. He is operating a little chain to help move that up. I would not stand where those men are standing below because if the chain gave, they would also give under the weight of that log, and it was not unusual for logging accidents. They were very, very common. Newspapers are full of them. This is a winter scene, logs banked out by the 100 horse barn by; this is up by Ryerson [inaudible], Pickerell Lake. Notice all this kind of snakes through the woods. Look at the locomotive up ahead. It's a Shay Locomotive, and it is not going in the same direction as these logs are, and it has already gone around a turn. This is another shot of this Shay locomotive operation up just north of Muskegon River. This is their dumping ground into Pickerell Lake. They got their logs in Pickerell Lake. They even used a tug boat to move their logs across Pickerell Lake. On the other side of Pickerell Lake, they pulled their logs up, put 'em on another train. This is a little porter engine here. They moved this, and this is their work crew by the way. These are shots taken in the late 1880s. They must have been dressed in their Sunday best because, this shows the train operating through a section they've already logged, and then the famous log slide, which is just, if you stand at the Palmer House Museum in Newaygo, this is just the other side of the river, and this is the famous sorting grounds of the Muskegon River, the flats just above Muskegon. I've got shots of the mills and so on, but I'll show those another time [inaudible – loud background noise] This is the Grand River as it exists today in the Georgetown Township, Blenden Township area. We're dealing with very small trees compared to the past. The forests still are beautiful but nothing compared to the past. This is a view of the Grand River, a map. I wish I had a pointer. If you look in a very southwestern corner of Kent County, Kent County's on an angle with respect to this map, you can see Buck

Creek is not labeled, and you can see Rush Creek, two small streams which is where the first logging occurred in the Grand River Valley. It's about 156 square miles if I remember correctly. It's a very large river basin. All the White Pine came from north of the river until you got to Grandville, and then you got some of it south of the river. This is an example of one of the early water powered sawmills. The water wheel was an undershot wheel. The water flowed under the wheel and turned the wheel, and then there is a frame to the left of the wheel. Up toward the top of the frame going through the log is a saw, one saw. This would be called an upright saw or a sash saw mounted in a frame, and it would depend on in part how much water power was available. Whenever possible when Wamburgen (?) had enough money, they put in a steam boiler so they didn't have to rely on water. Later on, they would have numerous saws mounted in that frame and you'd have a gang saw, and then of course, you got circular saws as well. Most sawmills had both circular saws and gangs (?) of upright saws. When they made a cut, you could see, I'm gonna have to reshoot this to concentrate just on the diameter section so you can see how they would cut it. This is the first time I've seen these slides myself. I'm gonna have to redo 'em so they come out better next time, but there's a lot of the log that winds up sawdust when they did different cuts from the same log. Now, this is how they built a lumber raft. The very bottom frame is what we call the crib, and it has rub pins which were probably made of Oak, and they anchored the ends and then lumber was piled on this, and then shingles and lath was piled on top of it, and several hundred million feet of lumber went down the Grand River to Grand Haven to the docks at Grand Haven where it was then loaded on the docks and then transloaded onto lumber schooners primarily for Chicago. Some of the early lumber, believe it or not, went to Wisconsin, to Milwaukee. It was cheaper to buy the lumber in Grand Haven, then to buy it from the interior of Wisconsin. These lumber rafts were a fantastic dimension, an important era completely lost, era completely forgotten in terms of the history of logging, and when you talk about hundreds of millions of feet being moved this way, I think it deserves a little page in our history books. Okay, this is the western part of Ottawa County, and you can see Fruitport up at the very, very top. Somewhere up near Fruitport was the first or second logging railroad. Both of 'em were built in 1850, one of 'em by Hopkins up there. This is a map that is hard to read. The original is hard to read. This is an 1864 map, and if you knew where to look, you could see three logging railroads on it. Now I put them on a regular map. I drew the logging railroads in red. M-45 goes straight across east to west in red just about where it says Allendale. That's M-45. See the first red line that goes on an angle down is the Blenden Lumber Company Railroad. There were two other horse drawn railroads I didn't even mention. One operated by the Ohio Dock Company, another one by Wetherwax and Ferry. There were at least seven logging railroads operating in the Grand River Valley in Ottawa County before the end of the Civil War. Grand Haven and Mill Point, Ferrysburg were loaded with sawmills. These are some of the log marts. You have a little pig with the squiggly tail that was Quimby's, Cutler and Savidge, they weren't particularly innovative. They had CNS 1, CNS 2, CNS 3, CNS 10, but it got 'em the logs and that's all that counted, and one of these, I'll tell you, I would never use number 4. Anyone know why I wouldn't use number 4? [inaudible – several speaking] you betcha' because they could change it into 9. That's why I wouldn't use number 4. Number 4's that straight line up there, that stick, and I can see the guys working for [inaudible – running words together]. That was a major problem, timber theft in the old

days. It still occurs today unfortunately. Numerous sawmill sites in Grand Haven, Spring Lake area. These are out of Lillie's book, which is an excellent source to have. This is the rest of 'em, and the Norton Mill is just above the sign here where it says, "Mills and Shipyards." Norton Mill was a very important mill, particularly for Blenden because a lot of their lumber was cut there. This is Cutler and Savidge's crew, probably somewhere up north of Six Lakes. Cutler and Savidge had crews all over the place, but they had a huge operation up above Six Lakes at the beginning of the Flat River, and you can see the cross cut saw they're using, and if they butt the end of this log. whoops! I gotta get going the right way again. There was a major change in cross cut saws. Before 1876, they chopped the tree down. After 1876, they chopped a notch and then cross cut it down, and it was because the way they changed the teeth 'cause after 1876 the teeth would pull the sawdust out, and they could saw a tree down very, very rapidly. Little technological advances like this played a major role in speeding up the rate at which the forest came down. This is one of the sawmills in Grand Haven. I haven't had a chance to get back to Grand Haven to look at a map or photographs to identify which one. I just got these slides yesterday. This, I think, is the famous Red Mill or Boyce Emlaw mill in Grand Haven. There's quite a story about those little barrels up at the top. I think every mill hand felt safer, because there's no evidence that they ever did anything other than correct rainwater. When one of these mills caught on fire, nobody had time to get out there to turn any of those barrels over. This is a photograph from the big Sand Dune on the opposite side of the Grand River from Grand Haven. Unfortunately, it's kind of washed out. It's hard to see. This is the famous Shingle Mill of the Grand Haven Lumber Company, the Boyden and Akeley operation. When this was built, I think around 1881, it was the largest shingle mill in the world. They could produce 100,000 shingles in an hour. This is unbelievable. They had crew of over 200 men working there. The mill hands called it the sausage factory. If you know anything about occupational safety, you know why they called the sausage factory. You're dealing with shingle machines with lots of knives on them. I've located the drawings for the construction of that mill and the insides. This one, if you look carefully, this is a view from the top looking down. Those circular objects are shingle making machines. They are up on the second floor of this operation, and they would produce the shingles, and the shingles would drop down to the ground floor where they had a crew of a couple dozen men and boys picking up the shingles and moving 'em out, fantastic, large operation. This is another view of that shingle. Now for those of you that want to see the famous log jam in the Grand River Valley let me get this to the right place, it shouldn't take too long, but I'll show you, the logs were really stacked up in Grand Rapids. They were stacked up for miles above the bridge at the Detroit - Milwaukee Bridge which became the Grand Trunk Bridge. That bridge held for several days and then gave way. Something like, I think, 20 million board feet of logs went through in one hour. It tore out every bridge in town except one. It was a site to see. That's a view of some of the flat south of Grand Rapids afterwards, just logs all over the place. This is a shot in Grand Rapids. Notice all the people out walking. And, of course, you got flooding because of the huge log jam. There's some more flooding, some more of the logs, and we've got some photographs of some of the bridges. There was a former bridge that was knocked down by the log jam as it came through.

What year was this?

1883. Even made Harper's Weekly Front Cover, several etchings. Fortunately, this bridge could turn. [Laughter] That's what saved it. Most of the logs went between the piers fortunately, and they were able to turn the bridge and save a good part of this one. Some of the other bridges, well this is down by, this is south of Grand Rapids, in spite of the little legend that White in his famous writings engendered, there's no evidence that any part of any of the bridges made it all the way to Grand Haven. [Laughter] Though I do like that legend, but most of 'em made it several miles down stream down to the Lakeshore Michigan southern bridge, where they met a sizeable barrier, and that bridge for whatever reason, held, and these are some of the people out standing in front of that on that log jam that held by this particular bridge. Most of it went under the bridge, but some of it jammed up by this bridge, too, so you have an appreciation of the power of this log jam. Look at the tracks. Those tracks were straight before. There was a bridge there before. There are only piers there now. The bridge is several miles down stream in pieces. There are some of the pieces stacked up. Some of these are the Grand Rapids and Indiana Bridge as well as the Grand Truck, Detroit, Milwaukee Bridge. They were moved down several miles before they lodged. Here's another shot of bridges so you get an idea of the power of that. Now, Grand Haven knew they were coming. Grand Haven knew that somewhere in the neighborhood of 20 million logs or more were on their way, and they worked hard in Grand Haven to stop this. Another thing they did was dig a channel into Stern's Bayou, and get some of the logs moved in that direction, and they also built a huge boom across the river in addition to the booms they already had, and they were able to haul the booms, so about 15 million board feet were put back on to railroad cars and hauled back to Grand Rapids from Ferrysburg. [Laughter] Another five million board feet were sold to Grand Haven mill owners. Well, if you got a sawmill in Grand Rapids, you want to saw logs. What do you do when all your logs are in Grand Haven? You either close down your mill or you have 'em shipped back, so they shipped 'em back and one last shot of one of the bridges. Well, thank you. I hope you've learned a little bit about the very fascinating [inaudible due to applause].