An Interview with

Clint Trammel

riding in a jeep in

Dent and Shannon Counties, Missouri

20 May 1998

interviewed by Will Sarvis

Oral History Program
The State Historical Society of Missouri

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PREFACE

I met Clint Trammel in Salem, Missouri, for breakfast to discuss our forthcoming tour of the Pioneer Forest. The interview was taped while riding in the company jeep in parts of Dent and Shannon Counties, or out walking in the forest. Our first destination was the White Oak Natural Area. Next we stopped at a location at a location that had been logged some years earlier. After a lunch break in Eminence we continued taping and visited an active Pioneer Forest logging site near Eminence. The end of the interview was recorded while driving back to Salem.

The tapes are required for the total effect of this recording session, including various sounds of the jeep traveling at varying speeds over different terrain, sounds of two people walking through the forest, and the roar of the thirteen and seventeen year cicadas in the distance.

Researchers interested in Mr. Trammel's scholarly work should consult the following: Clinton E. Trammel, "Management of the Wurdack Farm Timber Land," (MS thesis: University of Columbia, 1991.)

The interview was recorded on Sony type I (normal bias) audio cassettes, using a Marantz PMD-222 manual recorder (set on automatic recording level) and a Shure VP64 omnidirectional microphone held by hand. Every turning on and off of the recorder is not documented in the transcript. The audio quality is quite good and almost completely understandable throughout the entire recording, despite the noisy circumstances.

The following transcript represents a faithful rendering of the entire oral history interview. Minor stylistic alterations -- none of factual consequence -- have been made as part of a general transcription policy. Any use of brackets [ ] indicates editorial insertions not found on the original audio recordings. Parentheses ( ) are used to indicate laughter or a spoken aside evident from the speaker's intonation. Quotation marks [" "] indicate speech depicting dialogue, or words highlighted for the usual special purposes (such as indicating irony). Double dashes [--] and ellipses [. . .] are also used as a stylistic method in an attempt to capture nuances of dialogue or speech patterns. Words are *italicized* when emphasized in speech. Although substantial care has been taken to render this transcript as accurately as possible, any remaining errors are the responsibility of the editor, Will Sarvis.

[Begin side 1, tape I; tape meter, 000]

WS: Rolling down the road here with Mr. Clint Trammel. Did you grow up in this area around here?

CT: No, actually I grew up down in the Bootheel.

WS: Oh, you did! I've spent a fair amount of time down there. Which county?

CT: New Madrid. I grew up in a little town called Portageville.

WS: Okay. Well, you know all about J.V. Conran and all that legendary stuff. (Laughs)

CT: Oh, yes. You bet. (Laughs) I used to come up into this part of the country to go hunting, fishing; that kind of thing, when I was growing up. I guess the uniqueness of seeing anything taller than my head kind of attracted me to this area down here. They don't allow much room for anything down there beside cotton and beans. I really like this part of the country around here. After I got out of school I went to work for the Department of Conservation for a couple of years. And a friend of mine called and said there was an opening up here on Pioneer [Forest.] I jumped at the chance to come down here and work, because I was familiar with the forest. I'd taken a couple of trips down here while I was in school. So I jumped at the chance to come down and work here.

I started on May the 1st, 1970, the morning after a tornado had gone through about probably 2,000 acres. We had a three mile stretch that was about half a mile wide, that [the tornado] had blown down everything in sight. My first job on the forest was to inventory the amount of timber that had been blown down by that tornado. We managed to get most of it salvaged. But that was my initiation into Pioneer Forest.

WS: So is that pretty much Mr. Drey's policy in a tornado, to salvage all marketable timber?

CT: Yes, we do. We leave as much as we can. But anything that's been damaged as a result -- particularly if it's not on a natural area or on one of our forest reserves. We do salvage on most of Pioneer Forest. On our natural areas we don't do any salvage. You'll see on the White Oak Natural Area, when we get down there, a wind storm went through there. We salvaged all around it, but we didn't get on the natural area. So that's a part of the way we handle it.

Then we have some forest reserves that are not really natural area quality, but we think that they're unique enough that we need to protect them. And we don't do any real harvest activity on those. And short of some natural disaster-- a wind storm, insect outbreak, or something of that sort -- we might get in and do some salvaging on that. But typically on most of the forest, after some type of disaster, we go in and harvest -- especially picking up any salvage or damage trees.

WS: What was the focus of your thesis there on the Wurdack Farm?

CT: I looked at several different scenarios of managing Ozark upland hardwood, and evaluated the economics of these various management plans. We used single tree selection as one method, with a couple of variations of that. We prepared that against even age management with a couple of different variations of that, and analyzed the economic benefits to the landowner. Basically, what I found out is, there is no significant economic difference between the two management alternatives. So you can't justify doing even age management because of the economic returns. You have to have some other reason to justify it. If you look at much of the research that's being done in even age management, they really don't make any comparisons between even age and uneven age

in terms of returns to the landowner. Most of it is just in maximizing fiber production.

[tape meter, 50]

They don't look at the long term impacts on the site, or of the economic benefits to the landowner. And if you're only interest is in how much fiber you can get off of the site, they just keep re-researching the same thing.

I talked to a group a while back, and they were trying to make some decisions about whether or not to use uneven age management. I pointed out to them that we have enough research on even age management, that we could probably fill ten warehouses. But we probably could not cover the top of a conference table with the research that's been done on uneven age management in oak-hickory. And I think that there is the real weakness of arguments that are used in favor of even age management. *Nobody knows* what can really be done out there, because the questions are not being asked.

WS: It sounds like the focus of your research made you a custom-made forester for the Pioneer. Maybe Mr. Drey was impressed with that when he hired you.

CT: Well, actually, Mr. Drey allowed me to have the time to go back and do that research project.

WS: Oh, is that right?

CT: He sure did.

WS: Oh, you did that *after* you were working for Pioneer.

CT: I went to work for him in 1970, and about the mid to late 1980s I got interested in looking at the comparison between even age and uneven age returns in oak-hickory. I discussed it with Mr. Drey, and he was generous enough to let me have the time to go back and work

on that.

WS: So you already had your bachelor's in forestry, and then you did that as your master's.

CT: That's right.

WS: I see.

CT: Boy, I'll never do that again. I would drive to Columbia either two or three days a week, depending on the class schedule that I had. I would try to group all of my classes either in the morning or the late afternoon. And then the rest of the time I would spend working on Pioneer. Oh, there were some months when I wouldn't get in forty hours a week, but I did most months, plus driving up there and doing the class work. It's a killer schedule. And I think if I had to work on a doctor's degree using the same approach, I'd just stay dumb! I don't believe I'd do that again.

(Laughter)

WS: I guess you memorized the highway between here and Columbia.

CT: Every curve and every bump. I sure did.

(Laughter)

But I was really lucky, because I knew the professors that were up there. And with the exception of a few classes that are outside of the School of Natural Resources -- like statistics, and some economics classes that I took -- I was able to work (and the faculty worked with me) out a schedule so that I could get this all worked in with my schedule here on Pioneer. So everyone was extremely cooperative and really, I think, kind of bent over backwards to help me get that done. It turned into quite a project. By the time I got through I was ready to be through.

WS: Yes. Well, I would say those professors were probably pretty interested in a student such as yourself, because you were probably unique, or at least unusual, in terms of being involved while you were doing the work.

CT: Yes, I was. I think I was able to add a perspective to my project based on field experience that most master's candidates don't have. The vast majority of students that get a bachelor's and go on to a master's, for all practical purposes, have no field experience. I was able to add that to the project that I had. I think it gave me a little insight into some things that may not have been picked up by a younger graduate student. I could tell you this, though: Competing with those kids was no fun. I mean, there's a sharp bunch of kids out there right now.

[tape meter, 100]

Going into class and trying to compete with them was a new experience. They're sharp. There's a lot of smart kids out there right now.

WS: Before we had the tape player on you were telling me how the forestry community has never really appreciated what you all are doing on the Pioneer. And this is kind of a complicated question to ask -- there you are in the forestry school, and I wonder how the education there kind of intermeshes with what finally happens with foresters that work for the Forest Service, or Georgia Pacific, or out in the real world. Is there kind of a dogma that's involved or not?

CT: Yes, there is. Even here in Missouri, what is basically taught is even age forest management. We probably spent, during my time in class, about two weeks on uneven age forest management.

WS: Is that right?

CT: That's it. I mean, that was the sum total that we spent. It's a little bit better now, but not a whole lot better. So, if you're talking in terms of how it benefits the Forest Service or Weyerhauser [Lumber Company] or somebody like that, forestry curriculums are designed to produce forestry graduates who are versed in the type of forest management that those organizations choose to practice. And it's done for a reason. Because those are the organizations that fund and finance research. Those are the organizations that determine what money is given to a graduate student to study what project. Consequently, most forestry research projects that are conducted in universities are based on the need of these large corporate forests, government agencies, or something of that type. Their whole management focus is on high yield forestry -- fiber production -- with little concern for anything else.

So, to answer your question in a shorter, briefer way, the curriculums in the school of forestry are perfectly designed for government forestry and for industrial forestry, with little experience or knowledge gained by the student for any other phase or any other aspect of forestry.

WS: Would it also be accurate to say that they are more oriented toward the short term economic gain compared to a long term economic view of the Pioneer?

CT: Absolutely. The type of forestry that has resulted from even age forest management is strictly short term in nature. Or at least -- maybe not "short term," but short in focus. Because when you say, for example, that a stand of red oak or black oak is mature at seventy years and you go in and cut it all down and start over again, what you're doing is

forgetting the fact that probably 15-20% of that stand could grow for another twenty or thirty years, and in that period of time add four or five or six inches in diameter to the size of the tree. So when you think of it in those terms, if the biggest tree on your forest is twenty inches in diameter, if you grow that 15 or 20% for another thirty years or so, you're harvesting trees that are getting up in excess of thirty inches, or getting up pretty close to thirty inches. That extra twenty or thirty years is what really begins to put on the high value wood that is the most desirable. It's free of knot.

[tape meter, 150]

It's the highest percentage of high grade lumber that comes out of a tree. And if you cut those trees down at an early stage in their life cycle, what you're basically doing is short-circuiting that value return that you get from the longer growth periods.

What we're doing on Pioneer is going in and harvesting trees that are beginning to lose the battle in competition. They're beginning to drop behind in the canopy. They're being crowded in from the sides, so that they're losing crown space. Those are the trees that we go in and remove in our harvest cycle, and we leave the trees that are still either co-dominant or dominant in the forest that are growing and healthy and are the ones that are going to put on the high value trees. You don't get that happening when you're using an even age management program, particularly if you have the impact of the chip mills that are coming in. The difference really gets to be impressive at that point, because they don't need those high diameter trees for their product. All they need is fiber. If they can get a reasonably decent stand of timber in forty, forty-five years, they go in and cut it all down and start over again. You never *ever* get to the point where you get those large-

diameter, high quality trees doing that.

WS: How do you get those trees out? I imagine a skidder wouldn't be that useful in a selective cutting situation.

CT: Actually, that's all we use, is skidders.

WS: Is that right?

CT: That's right. The skidder is not the problem. Even if you were putting a truck out in the woods and using animals to skid with, you still have to cut the roads to get the trucks out there. The skidder is not the problem. The problem is the guy driving the skidder.

WS: Oh. (laughs)

CT: If the driver doesn't pay any attention to what they're doing, they can do a tremendous amount of damage. If the driver is interested in his work, and is aware of what's going on around him, you get minimal or no damage. We'll drive on down and make a stop on an area where we're doing some logging now and show you what can be done with a skidder. We get very little damage done out in the woods, contrary to what you'll hear. The single tree selection method in oak-hickory doesn't necessarily mean that you have a whole bunch of cripples left out there with a whole lot of damage and crown breakage and that sort of thing. It just doesn't happen. But you do have to work with the logging crew to make them understand what you want. Once you accomplish that, the amount of damage that's done out in the woods is minimal. It isn't anywhere near what most of the forestry community would tell you that happens out there.

We're fortunate on the Pioneer Forest, because we have right now four logging crews that have been on us for three or more generations. They have learned what we

want done, and how we want it done.

[tape meter, 200]

And they know what we expect of them and their logging crews. And the same time, they've obviously been able to make enough money off of it that they're willing to just keep logging on us. So, it's a really good situation for everyone concerned. They don't have to have somebody always out constantly looking for more timber. As long as they do the job that we want done out in the woods we will continue to make sales to them. Everyone benefits from that thing. In all fairness, most government agencies don't have that capability of working with people on a long term basis like that, because of the way their timber sales are made and a number of other factors.

But we've been really fortunate with the logging crews that we have. In the time that I've been here, we've had several logging crews where we've logged through an area that they could work in, and they've gone on to something else. We've only had two logging crews [where] we shut the sale down and quit selling them timber because of the kind of damage we were getting out in the woods. That was something that went on for probably a couple of weeks, maybe a month at the most. We would go out in the woods and look at what was [happening,] point out the damage they were doing and ask them to fix it or to stop their practices. And after doing that a couple of times, if we haven't made any progress, we just shut the sale down. We'll re-contract it someone else.

Government agencies can't do that, or at least they *think* they can't. They always seem to be afraid there's going to be a Congressional investigation of some kind. Well if it is, so what? If you can justify running that guy off because of the damage that they

were doing, then a Congressional investigation should be to your benefit. I guess they have their reasons for not taking that approach to it. We find that if we go out to the field and keep track of what they loggers are doing and the kind of work they're doing out there, we just don't get any damage to speak of, on the sales.

Has Leo mentioned to you anything about the way we handle our timber sales? So that we keep track of it?

WS: No.

CT: Well, the first thing we do -- for instance, if we have a new sale, we will negotiate a stumpage price with the logger. Usually we'll go out to the field and mark, oh, ten or fifteen or twenty acres, so they'll get an idea of how we're going to mark it. And we'll negotiate a stumpage price with a logger. Then, from the day they start cutting, we'll go out and inspect what they've done. We will mark about enough timber to run them for another week, and then during the week while they're cutting that, we will be back out on the timber sale once or maybe twice to check what's going on. If we find a problem, we take the contractor out to where the problem is, show it to them, tell them what we want done to correct it.

[tape meter, 250]

They have to correct it within a day or two. Then, in the meantime, we'll go ahead and mark them enough timber to run them for another week. Once the problem is corrected, they move on back up to the area that we marked for this next week, and then the same cycle is repeated over again.

Basically, what happens is, that logger knows that we're going to be out there

anywhere from two to three times during the week to look at what they're doing. As a result of that, they know what's expected. They know we're going to be out there to look. And they know we're only going to tolerate so much damage. So it's really been a good system for us to use.

WS: Yes. Well, I know what you mean about who's driving the skidder, because I've seen a lot of that go on, and it's [like] a mentality to smash anything down that's in their way. They feel powerful with a big machine like that. (Laughs)

CT: Oh, yes! You bet. I mean, they've got this big, growling machine under them that'll do anything, and will climb a brick wall. And some of them try to do that. One of the sales that I mentioned that we shut down -- we went out to the woods, and happened to be there about the time the skidder driver was bringing the skid of logs in. He had that thing just *wide open*, coming up the hill for all he was worth, and there was a log laying across his skid trail. Well, instead of slowing down and putting his blade down and pushing it out of the way, he hit that log *full tilt*. The skidder *jumped* over that thing -- literally came off the ground -- drug the skidder load that he had into the log that was laying across the skid trail, and then drug the whole thing down the skid trail. Obviously there was a lot of damage done. Well, we growled about that. And then we went in and talked to the logging contractor and discussed the kind of damage that was being done to his equipment. And the next time we went out there, he had a different skidder driver.

WS: That's a good way to approach something like that.

CT: Yes. And we didn't tell the guy he had to fire the operator. Obviously that was his choice. But in order to minimize the amount of damage being done to his equipment, it

was to his advantage to get rid of him. Unfortunately there were some other problems on that sale, and we ended up having to shut it down anyway.

But that's the kind of people that you get on these things. They get out there, and they get on these big old machines that will do almost anything that you ask of them, then they want to see how much more it will do.

[tape meter, 300]

And for some reason, when they get around water, there is *nothing* that these guys like to do better than run straight up and down a stream. (Laughs) I guess it's the water splashing everywhere, you know; and all of that going on. But they can run up and down a stream bed all day long if you don't keep them out of it.

WS: When you were talking about the foresters' community that comes to see the Pioneer and all, would that happen to be federal foresters, or AFA [American Forestry Association] people?

CT: Here in Missouri it's mainly state and federal government agencies.

WS: National Forest [Service] and Department of Conservation?

CT: National Forest, Department of Conservation -- that's the largest group of foresters that we have working here. There's a relatively small community of consulting foresters that work in Missouri. It's getting bigger over time, but it isn't real big; probably twenty-five or thirty foresters that try to make a living as consultants here in the state. But we will put on tour groups from time to time and take foresters out onto the forest, show them what we're doing, explain our ideas, let them take a look at our harvested areas. The last tour we took, we had four stops set up on it. One of them was an area just prior to a harvest so

that they could take a look at that. Then we looked at an area that was being harvested the day we were standing there. The other two stops were at intervals between the time it's harvested and just before it's ready to harvest again. We pointed out the kind of trees that we take out of the stand. We showed them the natural regeneration that we were getting as a result of the thinning. We explained to them our cutting cycle on what we were doing.

Everyone thought that it was just a marvelous program that we had going. They bragged on it. They thought it was great. And at a meeting that I went to about three months later, several of those foresters were talking about how Pioneer was doing nothing more than a high grade operation. It's incredible to me how a professional forester can walk out into the woods, look at what's being done, and not see it.

[tape meter, 350]

And I think the problem is, that they feel like it's some kind of indictment on against what they themselves are doing, rather than seeing it as an alternative approach to forest management. To me, I think that is probably the crux of the whole problem, is that foresters -- as a group, as a profession -- are not willing to admit that there *are* alternatives available to them. So, as a result of this, rather than seeing it as another tool that they could use, they fear that they're going to be criticized for doing what they're doing if they admit that what we're doing is working. It's a psychological thing. I don't quite understand why it's felt that way. But you see it time and time again.

A good friend of mine is retired from the Forest Service. He and I have discussed for years what we're doing out on Pioneer Forest. He's been giving me some flying

lessons. A friend of mine is also taking flying lessons from him, who happens to be a sawmill operator. The sawmill operator and I were talking one afternoon, and my retired Forest Service friend made the statement to him that all we do is high grade on Pioneer Forest. We just take the biggest and best trees out that we have. Well, as it happens, the logger had worked on us for probably eight or nine years. He knew first hand what we were doing out there. And he tried to tell my pilot friend that that wasn't the case. But he wouldn't listen. He has this idea fixed in his head.

[End of side 1, tape I; tape meter, 391]

[Begin side 2, tape I; tape meter, 000]

WS: Well, this would all tie in with what you were talking about with the forestry education and everything.

CT: It does. It ties in with the type of education that most of the Forest Service people have received. It also gets back to something that I have been, in the past, concerned about -- but I'm not sure it *should* be a concern to me. What I see now is a change in the forestry curriculum that's being conducted in most colleges, and certainly here in Missouri.

[Mr. Trammel pulls the jeep off the road to show Sarvis a timber sale on some Shannon County forest land outside of Pioneer boundaries; incidental dialogue omitted; tape meter, 7-24; tape recorder momentarily off at two intervals]

About Missouri, you're talking about composition, we have a tremendous red and black oak forest here in the Ozarks -- which is not natural, not to the extent that we have it now. Most of the stands of red and black oak, and scarlet oak -- particularly scarlet oak -- came in after the logging episodes that occurred in the turn of the century, and then again around in the '40s. A lot of the stands of red oak and scarlet oak that we have

(particularly scarlet oak) are species that came in. They grew quickly and occupied a site after everything else had been taken off. At one time, the reason that the timber industry moved into the Ozarks was for the white oak and the shortleaf pine that we had here. And the red oak and the other species were only cut after everything else had basically been taken out.

Around in this region, particularly, there were all kinds of little white oak companies. Their sole purpose was just strictly to cut white oak for tight cooperage. National Distillers, Pioneer Cooperage, Forked Leaf White Oak, Current River White Oak -- all of those companies were designed strictly to come in and take out white oak and shortleaf pine.

WS: So the white oak, they were looking for staves? Stave quality?

CT: Staves for tight coopered barrel -- for bourbon, any kind of liquid, or fine powder. They were taking white oak out for that. As a last resort, the red oak was being taken out for slack cooperage for nail kegs, and for beans and things like that to be transported in. This country was first logged through mainly for those two species before anything else was logged.

[tape meter, 50]

WS: Was it because they cut out the white oak and the shortleaf pine and the red and the scarlet oak was left over? Was that why the regenerated forest was *not* white oak and shortleaf pine?

CT: Absolutely. That was the major seed source that was here. As a result, that's what regenerated. Today, everyone looks at our forest and says, "My God, we can't do

anything to disturb the red and black oak groups that we have in our forest." But it's an unnatural situation, certainly to the extent that we have it now. Not only that, but a good white oak veneer log will bring you much more than a good red oak veneer log will.

WS: Has anybody tried to bring back the shortleaf pine or the white oak?

CT: Basically in our management program that's what we're doing. We're trying to bring back the forest to what it was under more natural circumstances. When we take our forest inventory, we can see that the white oak and the shortleaf pine are beginning to increase in terms of percentage -- not greatly, but the percentage rate of increase is a little faster than it is with the red oak. Ultimately, I think what we would like to see is a larger component of white oak and shortleaf pine mixed in with a good component of red oak. We don't want to eliminate the red oak. We're not trying to make a conversion to a white oak-pine forest. But we are trying to change the relative composition. And we're doing it basically through a natural selection system by preserving good quality white oak and shortleaf pine stands, and thinning extensively in some of our red oak stands. We're gradually making that conversion.

WS: Before we came across that place back there you were going to show me, you were telling me something about the forestry education in Missouri. Do you remember your train of thought?

CT: Oh, I know what I was talking about -- the forestry curriculum used to be almost 100% designed toward producing a forester. All of the programs were forestry programs or something related to forestry. What you see in a lot of schools and colleges now are forestry curriculums that are designed around forestry, but they also have some other

aspects of the programs mixed in with it. For instance, when I was in forestry school, I took one class for three hours in wildlife management. Now they mix in a little bit more wildlife management with the forestry programs. Now they mix in a little bit more business. They mix in a little more of the fine arts, in parts of it. So that a forester that comes out of school now is, in fact, a little more rounded individual. They have a broader education level, and they have a little bit different perspective of forestry.

I was concerned about that change in the curriculum for a while, because I didn't feel like they were getting enough about forestry into program. But somewhat in recent years, I'm beginning to see some young graduates coming out of forestry school that are beginning to ask questions about the validity of using one system of management exclusively. And while they're coming out and asking these questions, they're not yet at a stage in their career development where they can make policy decisions. But the questions are there. And if they're not corrupted (for lack of a better term) during their career, we may in time see a change in the philosophy of the forestry community.

[tape meter, 100]

If we achieve that benefit, then the change in curriculum has been beneficial for us. Because it's caused people to start taking a look at what they're being taught in school, and what they can see is happening out in the field, and drawing some conclusions of their own. If they can draw some conclusions of their own, and make some decisions -- after all, that’s what education is all about, is to teach you how to learn something else. If we have accomplished that with a change in curriculum, then I think in the long run the forestry community and the people dependent on it are going to benefit from it. So I

think that may be a plus for us.

WS: You mentioned a little while ago about how the Biltmore [Forest, in North Carolina] may be coming back to some kind of forest management that's closer to their original endeavor. I wonder how unusual the Pioneer Forest is in the United States? Maybe you've got an idea. They may be unique, and maybe the Biltmore will start to look more like it; I don't know.

CT: It's interesting that you would ask that. For a long time I thought that Pioneer Forest probably was unique in the United States. In terms of size, it certainly is. In terms of management philosophy, I'm beginning to think that there are a lot of people out there who are trying to do the same type of thing that we're doing. Some time back, I met some people from the Forest Trust out in Santa Fe, New Mexico. As a result of that acquaintance, I've had the good fortune of working with them to help set up a national organization of foresters and landowners that have the same general type of philosophy about management that Leo has. I've met with people up in New England, down in the southeast. I've met people out in the southwestern part of the country. The last meeting we had was out in California.

And there are people *all over* the United States that get up every morning, go to work, and they're doing the same type of thing that we're doing here on Pioneer, and thought they were the only ones doing it. This organization has brought together people from all over the country that are trying to do this same thing. What I'm finding is, there's an awful lot of folks out there that are doing this. It's just that it isn't mainstream, so they get up and they go to work and they do what they think is right and what's best for the

forest, and just do their job. So they don't get a lot of attention.

Well, we've managed to draw together probably 400 people from across the country that are doing this same thing. And I guess 400 people out of 260 million isn't a lot, but then when you look at the forestry community and the number of people in the Society of American Foresters [SAF] (which is a major organization representing professional foresters in the country), and you look at how their membership is declining, you begin to wonder if they're representing the major mainstream philosophy of forestry, why are their numbers dropping off so quickly? And what you find in talking to these folks that I've had the good fortune of meeting over the last two or three years, maybe the SAF is no longer the mainstream representation of thinking of the forestry community.

[tape meter, 150]

Now that's not to say that the SAF isn't needed. They are. They're a vital part of the forestry community. In fact, people that belong to the SAF also belong to the Forest Stewards Guild, which is the organization we're putting together. And we encourage that. If they want to belong to both groups, that's great with us. Both organizations represent a little bit different philosophy. Our idea is not to replace the SAF, but to act as another philosophy to bring people together to talk about forestry. To *think* about forestry. And for too many years I think we haven't *thought* about forestry. We've just done what we've been told to do. That's been the forestry of the past. But that's changing a lot, I think; especially as younger foresters come in.

Pioneer Forest as an entity is unique in terms of size, in terms of what we've been able to accomplish because it's such a long term program. But there are people all over

this country who are trying to do the same thing, and they just don't get any attention. Because they're seen as "contrarians." It's unfortunate, because they should be seen as another aspect, another facet of the forest resource management community rather than being seen as some kind of a competitor or something in that sense.

I think it's unfortunate, because the professional forestry community is really missing an opportunity to include something else in their tool chest for how to manage. A good example of that is probably only 10% (if that much) of the timber sold in Missouri is sold with the assistance of a forester or a forest management plan for the future -- and that *includes* government agency timber that's sold. Most of the timber that's sold in Missouri is bought and sold across a kitchen table between a landowner and a logger. A lot of it is because of the disillusionment that the general public has with the forestry profession. Why do they want a forester to come out there to butcher their timber when they can [do] the same thing on their own? They don't have to have a forester. They don't have to pay some consultant to come out and tell them to clear-cut when they can sell it to a logger and the logger will do the same thing. You know? So it's one of those things that I think is changing, but right now the forestry community as a profession tends to be more of an impediment to that change than an asset.

WS: What was that you were talking about at the restaurant, like a state forestry policy act, or something? You remember? That's what's preventing better environmental care on these private cuts, I guess.

CT: That's it. The state -- Missouri -- has a voluntary "best management practices" program. Well, you can imagine how effective a voluntary program is.

WS: (laughing) Right.

[tape meter, 200]

CT: The one or two percent of the people that are concerned about it will use it, and the rest don't even know it exists. So, I think that what will happen in the not *too* distant future, I hope -- as a result of some poor land stewardship by private landowners, and extensive abuses of the resource that they've been charged to handle during their ownership -- I think there's going to be a growing interest in some type of mandatory regulation about how a forest can be handled; what practices will and will not be accepted. And this is all going to grow out, I think, of the abuses that the private sector is piling on the lands that they're managing.

There's very little long term planning for the future of either the land that they have or the future of the state, the natural resources. Basically all we're doing is mining our timber without making any kind of preparations for future crops, or what the impact is going to have on site fertility, on plant and animal communities other than trees. We don't have any real idea *at all* what the long term impact is on the micro-community within a clear-cut site. I mean, we're just now beginning to ask those questions after using clear-cuts for almost thirty years. We don't know how long it's going to take these forests to recover.

I can take you by stands of timber that were clear-cut the year before I got my bachelor's degree. Thirty years later we're looking at stands of timber that are less than ten inches in diameter. How long is it going to take these stands of timber to grow back to a saw log size? How long is it going to take us to have eighteen, twenty, twenty-six

inch trees standing out there? If you look at it based on what we're seeing *now*, it's going to take a couple of lifetimes for that stuff to return out there. Certainly any kind of clear-cut that was done the day your children were born, they will probably never, ever see any returns off of that stand of timber before they die. That's a *tremendously* long time for a tract to be basically non-productive. And where you can get a couple of intermediate thinnings; do some small diameter management work out there -- the real economic return is after these stands get to be sixty-five, seventy, eighty years old. That's where the real value is. That's more than one human lifetime, on average.

[tape meter, 250]

So I really can't see that in the long run, if we're managing our timber resources so that we only realize one benefit in a time span greater than one human lifetime -- how can that benefit anyone? If we only make one timber harvest during a seventy or eighty year period of time, that's of no real benefit.

And you get back out west, where they're doing the same thing to their forest that we're doing here -- and we're talking 200 and 300 years, in many cases out there, before they have the same thing that they cut down -- *if* they have the same thing at that time, and they don't know that that's going to happen. Just like we don't know here what we're going to have in that eightieth year, because we haven't been doing the commercial clear-cuts in this area long enough to know what kind of impact that's going to have in the long run.

Now, you'll hear it said that the timber industry has gone in and clear-cut forever. But that isn't true. They haven't. At the turn of the century, and even in the '40s, they

were still just going in and taking out the biggest and best trees. Well, there were a whole lot of trees left out there to grow after they got through. And granted, they may not have been as good a quality as the trees they took out -- consequently the regeneration may not have been as good -- but at least they still left some trees standing out there to grow in the forest. The impact on the forest floor on the micro-community, on the whole complex of plant and animals that are associated with the forest was changed, but not as dramatically as clear-cutting will change something like that. You can't tell, in thirty years, what kind of an impact something like this over here on our left is going to have. And they don't know what they're going to have thirty or forty years from now, out there. Thirty years from now they might accidentally have a stand of timber that's ten inches in diameter.

WS: It looks like that cut, they left all the pine for some reason.

CT: They did.

WS: I wonder what their reasoning was.

CT: That's a seed tree cut. *If* they do what they say they're going to do, they'll go back in and spray all of that hardwood that's growing out there, kill it off, and try to get pine coming back into that site.

WS: Is that National Forest?

CT: That's National Forest, yes.

WS: I heard they were trying to bring back shortleaf pine.

CT: Yes, they are. And this area, certainly on Forest Service land, the shortleaf pine is already back. The CCCs planted shortleaf pine on every acre that they could find to plant shortleaf pine on, during that era. They've got hundreds of thousands of acres on Mark

Twain National Forest where shortleaf pine has been planted back again.

[tape meter, 300]

Here in Missouri, we're just on the northern end of the shortleaf pine range. With a few exceptions of isolated pockets, we never had extensive stands of pure shortleaf pine -- not the way the Forest Service is trying to bring it back today. When they have a pine conversion, they're talking about pure shortleaf pine. That's their objective, to bring that back. Missouri was never a state that had extensive stands of shortleaf pine, in pure stand.

WS: Someone told me it was more of a southern slope species.

CT: It is. It tends to be ridge top, south slope. It tends to be on some of the more drier sites. If you fly over some of this country, what you notice is, shortleaf pine tends to finger out across the tops of the ridges and will tip over a little bit onto the south slopes. But even then, when you get down onto the lower south slopes, there's enough moisture down there, and the environment is mild enough that you start getting more hardwoods coming in. The shortleaf pine, typically, was upper south slopes and ridge tops.

What we're driving through right now is all Forest Service and other private landowners.

WS: You were talking about those logging groups that have worked for several generations [on Pioneer Forest] now, and understand what you all are doing. I wonder if you get sort of a general impression about how the native people react to the Pioneer Forest endeavor? If they understand it generally? Or if there's a common misunderstanding, or what?

CT: Well, it's kind of hard to make a general statement. There are individuals within the

community in this region that know what Leo's doing and understand it, and think that it's great that he's doing it. In fact, if you talk to people in general, they think what Leo is doing is far superior to what the state and the Forest Service is doing, simply because they can still go out into the forest after we've logged through an area and it's still a forest standing there. Most people don't like the appearance of a clear-cut.

[tape meter, 350]

Most people don't understand why a clear-cut is made, or why you do a single tree selection -- all they know is what it looks like.

As far as the perception of what Mr. Drey is doing, he has quite a lot of respect within this area because of what he's done with the forest. There's always those that you talk to that don't like him because he's from St. Louis, or they don't like him because he's managed to accomplish quite a lot. But that's a relatively small percentage of people. As far as I'm concerned, those people don't count.

WS: (chuckles)

CT: Well, they really don't. Because whether it's Mr. Drey or whether it's Microsoft or AT&T -- anyone that's been able to accomplish some level of success -- they're going to be criticizing these people. That's just the way they are. So, you just ignore those people and just dust them off.

But for the most part, people around in the area have a respect for what Mr. Drey has accomplished and what he's tried to do. They may not understand it, and they may not know why he's doing one way and the Forest Service does it another, but they can look at the forest and know that what they see they like. I can go out and talk to folks.

Pioneer Forest is open if you want to come and hike, if you want to hunt. It's open to public access. We haven't attempted to close it in any way. And over the years you go out and you talk to folks that are hiking, or you talk to folks that are hunting, or hunting mushrooms, or whatever they're doing -- and almost without exception, every one of them will express an appreciation for what Mr. Drey has been able to do.

[End of side 2, tape I; tape meter, 392]

[Begin side 1, tape II; tape meter, 000]

CT: . . . they may not be able to put it in words, they may not be able to tell you that they have benefited from it, but at some level they realize they have. And at some level they realize that Mr. Drey has done logging on his forest ever since he's owned it, and it still looks like a forest. The state and the feds can go out and log on an area and there's nothing left. So they realize that. They see that, even though they may not be able to put into so many words.

WS: Also, of course, in this part of the country, the distrust of government is maybe a little bit higher than other parts of the United States, and I would think Pioneer Forest being a private endeavor may help you all some in terms of the public image. Because everybody knows when the government goes and does a timber cut, it's always very expensive for some reason.

CT: Yes. Yes, it is. And I think that has had a little bit of an impact; the fact that it is a private enterprise that's been able to do this. You'll hear some people talking about, "Well, yeah, he can do that because he's so big." But the truth of the matter is, anyone with any size piece of property can take what we're doing on Pioneer Forest and use the

same approach managing their land. Granted, we're big enough that we can get an annual return off of it. But the financial return that you get off of your forest is mainly to try to make a little bit of a profit and to pay the expenses of the operation, and the same exact thing can be done on a private piece of property. The only difference is, on a twenty or a forty or a sixty acre piece of ground you may not have an annual return, but certainly you can manage your forest for some economic benefit and still have a forest standing out there. And after all, that's the main reason most people bought it, is because they wanted to have piece of the forest.

So they can use this approach that we're using; harvest enough timber to pay their taxes, to meet the expenses of owning that piece of ground, and still have a forest out here. That's a real benefit of what Mr. Drey is doing. I think that's overlooked a lot of times simply because of the size of ownership that he has. And folks fail to realize that they can do the same thing he's doing, just under a little bit different scenario.

WS: One of the myths that I came across once or twice is somebody will say, "Leo Drey doesn't pay any taxes on that land."

CT: (laughs)

WS: Which goes back to that fight he had about the [property tax] assessment, I guess, in the '50s.

CT: That's right. That's exactly right.

WS: So do you hear a fair amount of that?

CT: Yes, we still hear that once in a while. There's an excellent rebuttal for that, though. "If Mr. Drey is not paying any taxes on his land, let's go down to the courthouse and buy up

every acre that has taxes due on it."

WS: (laughs)

CT: I mean, they're required by law to advertise and sell any land that has delinquent taxes on it. I mean, it's a state law. They don't have any choice. They will never, ever have any land that's owned by Mr. Drey with taxes delinquent on it. Consequently, anybody that says that, I always tell them, "Let's go down to the courthouse and buy up all his land, then."

WS: (laughs)

CT: Well, that pretty well puts an end to it. People that make that argument are the same people that say, "He can do what he's doing because he's so big." [They're] basically people [whose] opinions really don't amount to a whole lot anyway. They're people that you kind of -- oh, I guess you tolerate them. But you understand where they're coming from. It's probably jealousy or a little bit of greed that's involved there. And, you know, once in a great while you'll hear somebody say that that should know better. But if you talk to them for a few minutes, they change their mind.

WS: Did Mr. Drey's support of this Natural Streams Act have any impact on your work with the public?

CT: Absolutely none. There was a stark disagreement between what Mr. Drey was doing with the Natural Streams Act and much of the community down here in this area. It was a matter of philosophical, political differences of opinion. And while the argument between the two sides really got to be intense a few times, as far as what we were doing down here on the forest, and the attitude that folks had toward us in the job that we're

doing down here, that didn't impact on us in the least bit.

[tape meter, 50]

That was an issue that really surprised me, the way it came down. A group of people put that proposal together. Mr. Drey was involved in it, but there was also a lot of other people that were involved in it. The bill itself, the proposal that was made, was attempting to give the people that live down here control over what happened. But the way the bill was written was so *intensely* complicated that most people didn't understand it. That was the real problem with the bill that *I* saw.

To be perfectly honest with you, I sat down with that thing several evenings, reading through it and trying to understand what they were trying to do. And [I] still had difficulty, even though I had access to Mr. Drey and to Kaye [Mrs. Drey], and was able to talk to them. I can understand what they were doing. I think the problem was that folks didn't understand the bill. The tendency down here in this area is, if you don't understand it, it has to be bad for you. It caused a lot of concern for people down in this area. And then, in addition to that, there were a couple of government agencies that saw this bill as a threat to their control over the resource, and to how it was handled. As a result of that, they spent a lot of time and energy in opposition to the bill.

WS: Like the Department of Conservation?

CT: The Department of Conservation, the University of Missouri -- the U.S. Forest Service, even -- were actively campaigning in opposition to it. The Department of Conservation's personnel were carrying petitions around in opposition to it, and that's strictly against the law.

In fact -- we were talking about the Society of American Foresters a while back -- one of the last meetings of the Society of American Foresters that I attended was during that episode. And while at that meeting, there was a question put on the floor to vote on whether or not the Missouri Society of American Foresters would support or oppose the Natural Streams Act. The discussion went on for a while. So finally, I asked a question. I said, "How many of you people in this room have *read* the legislation for yourself to make a decision about it?" Somebody said, "Well, I haven't read it, but I've been told what's in it." I said, "That isn't what I want to know. What I want to know, have *you* read it? Have *you* drawn a conclusion about it, that *you* can vote on this question, rather than voting what somebody else has told you?" Well, as a result of the discussion that got going there, they ended up tabling that question. They never did vote on it.

But that was kind of the mentality that people had. They were reacting to hearsay, to what they had been told, what somebody *else* thought. And nobody, for the most part, really sat down and took a look at it and tried to figure out what was trying to be accomplished. I think it would have been a great thing.

[tape meter, 100]

Because down here could have determined what took place on their streams, what could and could not be put *in* their streams, how corridors along the streams would be managed. And it would strictly be the people that lived on the streams that would make that decision. Only if they did *not* make that decision, was there a mechanism where someone at the state level would make it for them. But that was just if they defaulted and chose not to make any decisions.

I never did understand why there was so much opposition to that. I think it all comes down to the fact that most people just didn't understand the bill. And 99% of the people that were opposed to it didn't read the bill, didn't have any idea of what was in it. But I guess that's typical of our society nowadays, isn't it?

WS: Yes. Well, Mr. Drey and quite a few others, I think, are of the opinion that the resistance to that bill in the eastern Missouri Ozark area was sort of a prolonged backlash from the Riverways controversy; you know, where they had it crammed down their throat.

CT: I think it very well could have been. That probably was a significant factor.

By the way, we've been driving through Pioneer Forest for a while. When we crossed that big power line back there, a while back, we came onto Pioneer Forest.

WS: Was that that big Sho-Me [Electric Cooperative] line?

CT: Yes.

WS: Yes, I remember hearing about that.

CT: Yes, that's it. We're driving on a ridge top now, so what you're seeing is basically just ridge top timber. We'll get down on this white oak stand here before too long, and then take a look at it. Then as we go back, I'm going to go back across the top side of the forest out to [Highway] 19, and I've got a couple other places I'll stop and show you what we've been able to do.

We have two problems with part of this ridge right out in here. We have some oak wilt that gives us a little bit of a problem here with mortality. And then back in the late '70s, early '80s, that episode of oak decline that hit Missouri, where we had so much timber to die, was *really heavy* out on the top of this ridge and around here in this area. It

was mainly confined to the ridge tops in this area. That's one of the reasons that a lot of what you see driving right along this road is some small timber.

WS: What is oak wilt?

CT: Oak wilt is just a disease that causes the leaves to kind of roll up and drop off. It affects the red and black oak groups more than it does white oak. You can tell if a tree has oak wilt, because the leaves that have fallen off during mid-summer will be kind of a bronzy color and they will be curled toward the top surface of the leaf. Usually when a leaf will dry out and die for some other cause, they tend to shrivel and roll up toward the bottom. In oak wilt they tend to roll toward the surface, and they get that bronzy looking color in it. Typically, along in the summertime is when you see that. It's a little early for that to show up right now.

WS: Is that fatal?

CT: If it's heavy enough for several years it can be fatal to trees, yes. White oak also gets the oak wilt disease, but it doesn't seem to affect them as much. And it doesn't seem to persist in a [white oak] tree as long as it does in a red and black oak group. Oak wilt, once it gets started in an area, tends to affect the trees around in that little pocket. It'll spread some, but not a whole lot. It seems to be spread by root contact; something of that nature.

WS: Well, that may be one natural way that the white oak will start to come back more, I guess.

[tape meter, 150]

CT: I think it probably is one of the factors. While all of the red and black oak groups are

susceptible to oak wilt, it hits the scarlet oak harder than it does anything else -- probably because the scarlet oak tends to in a lot of cases be off-site. It's a species that you find commonly almost everywhere. You get up on these ridge tops, they tend to be somewhat droughty, and trees are under stress anyway. Scarlet oak normally doesn't grow here. This is more of a pine-white oak-red oak site. So when the oak wilt hits, it tends to hit in the scarlet oak more than it does anything else -- I think because the trees are under stress anyway. That's why it hits them quicker and more severely. This whole ridge right out here, though, had just acres and acres of trees that got hit by that oak wilt.

WS: What was the cause of the oak decline?

CT: There's been a lot of speculation about that. I think that a lot of it was environmental problems. It seemed to hit this area right after we had had a series of extremely cold winters, down to like twenty and twenty-five below zero for a prolonged period of time. I think the internal structure of the cell system was severely damaged during that episode, probably to the point that the internal parts of the cells would freeze and just blow up. The cell would explode. Those extreme cold winters were followed by two or three summers of severe drought. The trees were in stress coming out of those severe cold winters that are atypical of this area. We went into those dry summers that were hot -- I mean, there were some summers where we didn't get any rainfall from the end of May until sometime in October, for all practical purposes.

I think it was a combination of those things. The trees were under stress, and it was just more than they could tolerate. And it was this whole region around here that was under that kind of condition. There's been a lot of speculation, but I think predominantly

that's what it was. One of the things we noticed on Pioneer, at least, was that most of the trees that died were scarlet oak, black oak -- a few red oak, but not a whole lot of them. Very little pine and white oak seemed to be bothered by it. As we were discussing earlier, we have an extensive stand of red and black oak groups that are off-site in this area. They're growing where typically don't grow, but they're filling the niche right now. I think it was a combination of those factors that caused that oak decline.

WS: Is grandmawing still a problem? (Laughs)

CT: Not near as much as it used to be. We don't have much of a problem with timber theft on Pioneer. We've been very fortunate. We have always aggressively prosecuted when we find timber trespass.

[tape meter, 200]

Most folks in the area know we do that. They've pretty much left us alone. Oh, you know, you get an occasional two or three or a half a dozen stave bolts that will be cut somewhere, but not anything like it used to be. Golly, I can't even hardly remember the last time that we had a real timber trespass problem here on Pioneer.

Look at this hillside down here where we're starting to get some bigger trees in there. You get down off of that narrow ridge, like where we were driving a while ago, and you start seeing some bigger trees growing out in there. And you get the same thing over here on this south slope. The only difference is, it tends to be shortleaf pine and white oak, and some of the red oaks that grow over there.

WS: The white oak prefers the south slope?

CT: White oak tends to be more of a drought tolerant species. You don't get the real big,

clean, veneer-sized white oaks growing there, but they do tend to be more drought tolerant, so they will grow on a south slope or a ridge top that might not support red or black oak out there. You also see some post oak and hickories coming in on those south slopes that you don't see over on the north slope, to speak of.

We're almost out there to where that White Oak Natural Area is. I love to drive down this road. The size of these trees out here, and then you walk down on that hillside there and you can see what this forest *can* grow. I think a lot of what we're looking at today is not anything close to what the Ozarks can grow. We tend to see the results of several episodes of high grading. The turn of the century logging was basically taking out the biggest and best trees that were around. The same thing essentially was done in the '40s, when that logging was done. What we see out in the forest now are the results of regeneration from those poor types of trees that were left. But, intermixed, you can see some really outstanding specimens that are beginning to show up in the forest. We're beginning to see some trees that are probably ten, twelve, fifteen feet taller on average than a lot of our residual over story is. And that suggests to me that the Missouri Ozarks can grow a substantially better stand of timber than what we're dealing with today, if it's managed for a long term. I think that we can probably grow, oh; I don't know.

[tape meter, 250]

I'm reluctant to even make a prediction of what volume per acre the Ozarks *can* support, just simply because we have very few stands of timber that are representative of what it was like before we were logged over. This little area of white oak down here is probably as close as we have anywhere in this part of the forest -- (spoken admiringly:) look at

those trees down there.

We logged through this area. We logged through here just like we do any other part of our forest. And look at the trees that are left out here. These are crop trees. These are things that we're growing for a long term. You just simply don't see it on tracts of timber that are logged mainly for fiber production. You don't get this kind of a stand of timber growing out there.

[Jeep begins to progress off the road along an old trail almost invisible amidst the forest.]

Look at that out there. Now that's what we're trying to do on the whole forest. With the management scenario that's in place now, Pioneer should have *extensive* areas that look like that all over the whole forest. It's taken us a while to recover. Some of the land we got early on was pretty badly treated [in previous decades], and we've had to do some repair work in our management program that has encouraged better stands to grow. But we're getting there. This last forest inventory that we did, we're beginning to see some real significant results as a result of almost fifty years of managing the forest this way.

WS: Well, this is really a picture of the term, "all age management." I can see that.

CT: We are not on the natural area. This is just a part of the forest that we manage just like we do any other part.

[Jeep parked, following dialogue while walking along upper edge of White Oak Natural Area.]

[tape meter, 300]

CT: This is the Current River Natural Area -- the official designation. We all call it the White Oak Natural Area (chuckles), because of what it supports. This is about as close to a

natural stand of north slope white oak forest found anywhere in the Ozarks. We haven't done any logging out here on it. You can see a little stump right there. This painted line is the outer edge of the buffer zone. The natural area itself is down in that region. We had a windstorm come through here, probably fifteen years ago. Anything that fell off of the natural area, we salvaged it. If it was on the natural area, we didn't touch it. So whatever happened, it happened; and we just left it to develop however it would. We lost an awful lot of really big old white oak as a result of that windstorm.

One of the things that I want to point out here -- since you have a little background in forestry -- the forestry community will tell you that if you manage the way we're managing, that eventually you will convert your forest to maple. It will happen. Right out here where we're standing, this tract of timber, to my knowledge, has never had a saw put in it. Now, if what the forestry community tells is in fact going to happen, why aren't we looking at a stand of maple instead of a stand of mixed red oak and white oak? This has never been touched. Why isn't maple taking over this site? You find an occasional tree. There's a little tree right there; a couple of them.

[tape meter, 350]

But if what they say is going to happen will happen, we ought to be seeing *big* specimens of maple out here, and we're not seeing it.

WS: I have a feeling you've pointed this out to some of those foresters.

CT: Once or twice.

WS: How do they react to that?

CT: They say, "Yeah, you're right." And they go back and they sit around their cup of coffee

the next morning, and they get to talking among themselves, and they didn't see this. That's exactly what happens. You can bring them out here and *show* them this piece of ground, that *should* be all maple -- if what they're saying is going to happen.

I think what they're doing is they're thinking in terms of generic situations. And they're not applying their knowledge to the conditions in the Ozarks. The Ozark forest was not maple when the settlers moved in here, and it's not maple because of the ecological regimes that we have in place in the Ozarks. The dynamics of that special interrelationship is just not converting the Ozarks to maple. I mean, if that was the case, the settlers would have moved in here and harvested millions of feet of maple instead of white oak and shortleaf pine.

So there's something going on there that they are either not recognizing, or ignoring, or something. But what the forestry community *says* is going to happen just simply isn't happening.

[End of side 1, tape II; tape meter, 384]

[Begin side 2, tape II, tape meter, 000]

CT: There's nothing wrong with growing a nice fifteen, sixteen inch maple tree, if that's what grows on this site.

WS: Right. That's another point.

CT: As a hickory or post oak or anything else. I can sell that [maple] tree right there for as much and maybe more than I can sell a red oak for, once it's mature.

WS: That's another point. It's almost like the religion of oak or something.

CT: It is. And it's done in the name of wildlife management. You have to understand that

most forest management in Missouri is done to enhance wildlife rather than to manage the timber for forestry purposes. I've said this before, but the Missouri Department of Conservation is basically a meat locker operation.

WS: I'll be darned.

CT: Yes. Their main objective is to maximize wildlife. Their timber management program is secondary, as long as it benefits the wildlife program.

WS: So they're really managing for habitat, then; not timber management.

CT: Yes! That's what they're doing. Right now what they're trying to do is maximize deer and turkey and quail. Some of the more high profile species.

WS: Game species.

CT: Yes. They just don't try to manage the forest for the forest itself. It's mainly for other purposes. So.

There's some of those big trees that came down as a result of that windstorm, that we just left laying out there. There's one, there's another one over there.

[Walk through the area resumes, eventually returning to the jeep.]

Look at that big old red oak out there. Isn't that incredible?

WS: Yes. How old would you say that tree was?

CT: That tree is probably pretty close to eighty-five or ninety years old; maybe a little over ninety, but not much. Because it's still pretty healthy. By the time red oak gets up somewhere in the neighborhood of 100, 125 years, it's beginning to get pretty old, especially in this area. Now, we're saying that based on the experience that we have today. It may be that once we get the Ozarks back to what it typically can be, that those

trees will go longer than what we're seeing them grow today. And they have relatively short life spans today because of the phenotypes that we're dealing with. We're dealing with offspring of, basically, the least desirable trees that were out here in the forest. Once we get natural generation that is more genetically adapted to this area, we may see that those specimens grow longer than what we're seeing today.

But I'd say that tree is probably getting up somewhere in the neighborhood of ninety years old, or so. But that's what we're looking to grow. This whole hillside... I'd say there's probably pretty close to 1,200 acres in this hillside out here, and only ten of it is in a natural area. But when you walk off of the natural area, you can hardly tell the difference between where we are now and what we actively manage for timber production. That's what we're trying to accomplish. That's our goal on the whole forest. So, I guess we've got 160,000 acres of natural area; or at least something that looks like natural area.

This area has been measured and re-measured several times to develop some type of base about the changes that occur out here, and what happens to stands that are left uncut; changes in species composition.

[tape meter, 50]

We've got all kinds of people from the Conservation Department and the natural areas community that come down here and look at this area and study changes that take place in it.

WS: What kind of criteria does the Society of American Foresters have to establish a natural area?

CT: It kind of depends a lot on what the natural area is. For instance, this area was basically an uncut of stand of predominantly white oak. My predecessors came out here and picked out the best example of an uncut stand of white oak forest. And having said that, obviously it didn't mean it was pure white oak. It was a mix. But the predominant species here was white oak. And they just carved out ten acres. And because it was uncut -- nothing had been done to it -- it was representative of what old growth oak stands (particularly the white oak) looked like in the Ozarks. I think they took ten acres here because it was right in the corner of two sections, and it was easy just to survey out ten acres around here.

But it had all of the species composition of an old growth stand. It had predominantly white oak. It had big red oak scattered out through it. It had some hickory, down here on this lower slope, where it toes out. It had some elm. I think it's got a few walnut trees out there. It just had a good mix of a natural stand of Ozark white oak. So they took this -- this stand is, in fact, the type-standard for the Society of American Foresters white oak type, in their stand classifications.

WS: I'll be darned.

CT: This is the type-standard for what a natural stand of white oak should look like.

WS: So all other potential white oak natural areas would be measured against this stand.

CT: As far as white oak is concerned. If they were looking for a stand of white oak, this would be the type-standard against which they would measure.

WS: This is the standard, then. That's great.

CT: Yes, it is. And the same thing applies to the cedar stand that we have over there. That is

the type-standard for the Society of American Foresters natural cedar stands. So we've got two type-standards here on the forest. This [white oak stand], I think, was the first natural area in the state of Missouri. I don't remember exactly the year that it was established, but it was the first natural area in the state.

. . . the mix of lower species that you get -- the Moonseed, the Bent Twig, the False Solomon Seal -- all of those species that are typical of north slopes are pretty much found on this undisturbed area over here. But that's the white oak area. It goes a little bit up on that hillside over there, but mainly that water course down there at the bottom. That's where most of it stops.

WS: I saw a little metal tag on that dead tree there. I guess that's somebody's study.

CT: Yes it is. If you look, those tags are on a lot of trees, especially the bigger trees, if they haven't grown over. At one time, every single tree on this place was tagged and numbered, on ten acres. You can imagine how long it would take to do *that*, to come back in and re-measure it, then. See, there's one on that white oak down there. At one time, *every* tree on this place was tagged, numbered, and recorded based on that number.

[tape meter, 100]

But that got to be such a *tremendous* undertaking that that's pretty much been stopped. When we inventory this now, we come in and take a series of plots and just do a sampling across the area.

WS: Have you got any graduate students doing any projects on this area or the red cedar area?

CT: Not right now. In fact, I'm not really sure we have a graduate project that's going on right now. Usually we have at least one that's going on, doing something. But I think most of

them have been completed. The Department of Conservation is still doing a study of black bear. We're a part of that program. In fact, it's beginning to look like we have a pretty good population of black bear out here. But I don't think there are any university projects that are going on right now. The last one we had was a bird study, and I think that's been completed, probably as of last fall. So, right now I guess there's nothing that's really actively being measured.

We've had quite a number of graduate students, though, that have come out here and included Pioneer as part of their study; both wildlife as well as botanical. One of the studies we've had was a spotted skunk survey that was done. We've had bird studies. There's been all kind of plant community studies that have taken place. We've had probably three or four School of Natural Resources people out here that have been looking at the natural regeneration under the forest canopy, but that's mainly forestry related. But we've had just about any aspect of plant and animal communities that you can think of. They've pretty much been studied at one time or another, or at least included in a study, including part of Pioneer Forest. We have a bibliography that we keep. It's probably got a hundred or more references that involve Pioneer Forest. And it's everything from caves to plant and animal communities.

That's our white oak area. We're kind of proud of that. We're really proud of the area that runs along the valley after you get off of here. Because it's a chance to show that you can grow a forest that's very similar, in fact, to this natural area. You can harvest timber from it. You can realize whatever benefits that you can think of that could come out of a forest, and still harvest timber from it. If you walk off of this natural area in

either direction, up and down this valley, it's very difficult to tell when you have left the natural area, if you don't see that painted boundary line around there -- and the only reason we use that, is because our loggers don't know where the boundary is. So when we have them in here, we tell them that no tree is to drop across that boundary line, and under no circumstances do they bring a skidder in here across that boundary line. If it wasn't for that, it wouldn't be necessary for us to have the boundary painted. But we paint it just simply because it helps them stay out of trouble.

WS: Sure.

(Laughter)

[tape meter, 150]

CT: We've explained to all the loggers we've had in this area -- we've explained to them what this is -- and we have never, ever had any of them even suggest that they come down in here and cut any of these trees. They know what it is. They're impressed with what they see. And you know, we put it in terms to them that, "If we keep going the way we're going, eventually all of Pioneer is going to look like what you're looking at down there -- and *then* just think what you can make when you cut this timber."

WS: They can understand that language.

CT: Yes, they can understand that. But, you know, for all of the flak that loggers get -- and some of them deserve -- most of the loggers that we have had out here know and understand what we're trying to accomplish. And they realize that they can come back here a second time and log through an area. Their children will be able to do the same thing if they go into the business. But if they are cutting on the state or the feds, there

will be one harvest and nobody will ever get anything off of that probably between now and the time their kids pass away. Most of the loggers that we have had out here have almost a natural understanding of that process and what's going to take place there.

There are a few exceptions, but, you know; there are a few exceptions in almost any field you go into. Some of them would just love to come down here and cut this and just in total disregard of what the long term effect would be. I don't think I have ever had any logger say they want to come down here and cut this. Now they say they'd like to cut timber *like* this, but they understand what we're doing here. I've never had one of them want to come down in here and cut this area.

You can stand here. We passed by a little ledge right back over there, and I can come down here sometimes and sit on that ledge and imagine what Pioneer is going to be thirty years from now. And if I can still hobble through the woods in thirty years, I'll get to see that. So, it's neat.

What I really like about working here on Pioneer, in addition to just the philosophy that's used, is that I have personally marked and seen harvested the same tracts, twice. And before I retire, I'll see some of those tracts cut a third time. Now, how many people can say that? And when I walk away from that stand of timber for the third time, it's going to look just like it did the first time I walked into that stand of timber. There's not many timber programs anywhere in the country that can say that. And not many foresters have been around on the same piece of ground that long, that have been able to harvest a piece three times and see what happens, what's changing in it. Working here in that respect has been a unique part of my career, is being able to go back to these

stands for a second and eventually a third time before I'm gone, and log through using the philosophy and the management technique that Mr. Drey wants to do, and see that it's in fact *working*. I mean, it's undeniable.

[tape meter, 200]

That's gratifying, to be able to do that. Not many careers can say that.

Well, why don't we -- unless you want to walk around here and look around some -- we'll go back and cut across the top end of the forest and see some other areas. We'll get back over on the other side of Big Creek. There's a little more pine mixed in with that there. We can kind of see what some of those stands look like.

WS: All right. Sounds good.

[Tape recorder momentarily off while returning to the jeep.]

CT: [We cut] that area fifteen years ago, that's the time that windstorm came through here, and you've go the same tree size distribution, same species composition, that you had back on the natural area.

[recording resumes in the jeep]

CT: . . . that ridge road up there that we came in on? That's called ?Tickachig? Road.

WS: ?Tickachig? Road. It sounds Indian.

CT: I don't know what it is. ?Tickachig? Ridge. It took me a long time to figure that one out, but I finally figured out that's where they were talking about.

If you notice, as we get further up on the hill, there isn't quite as much white oak mixed in with it. It tends to be more red oak.

WS: Well, Mr. Drey must have some kind of a plan to have his philosophy perpetuated into

the following centuries.

CT: Yes, he does. You'd probably have to talk to him for more detail. As I understand it, eventually, when he feels like he can no longer continue to manage the forest, he has it set up so that it will go into a foundation. A board then will conduct the business of the forest.

[tape meter, 250]

When it goes into the foundation, the stipulation is that it will continue as a unit, that they won't sell off pieces of the forest, and that the management philosophy will continue to be the same as it is now. So hopefully, under that scenario, a hundred years down the road we'll still be doing things basically the same way they're doing now.

But you know, that in itself -- for the folks that have worked for Mr. Drey all these years -- is kind of gratifying too. We know that all the years that we spent out here working on the forest are not going to wasted, because we know that somebody else is not going to come in here and take what we have done and managed to accomplish over whatever tenure we spent here on the forest, and just change the philosophy and start the clear-cutting and that type of thing. So, that's probably one of the reasons why I've stayed with Mr. Drey as long as I have, is because he has always indicated a desire to see the forest continue as a unit and to see this approach to management continue.

There's a lot to be said for that. By the time I retire I will have spent a little over thirty years here on the forest, *knowing* that somebody is not going to come in the next day and just obliterate everything that's been done. It's good feeling.

WS: Yes. Now, you mentioned earlier that you've got a naturalist that works for the forest;

you're a forester. And what other capacities do you have in the way of employees?

CT: We have one more forester that works with us, Terry Cunningham. He's our chief forester, and he's responsible for administration and coordination of all of our sales. Greg Iffrig is our chief biologist. His duties involve looking after what is currently L-A-D Foundation land, plus the forest reserves that we have here on the forest. He and Terry work closely together to be sure that the timber management facet of the program doesn't hinder the natural development part of the forest.

[tape meter, 300]

In fact, I have Greg administer one timber sale; not a big one, it doesn't take up a whole lot of time. But he administers that sale, because I want him to have a first hand knowledge of the problems that the forestry program encounters. And, at the same time, Terry has to work with Greg in the natural resource part of it, so that they both understand the problems that the other is dealing with and the impact that their part of the program has on the other part of the program. And, man, you couldn't find a couple of guys to work better together than those two do. They do a *phenomenal* job.

We have then three other positions on the forest, all technician level in terms of our requirements. One of them is a son of a man [Rayburn Skaggs] that spent a career here and retired. So when he came to work for us, he had spent so much time out in the woods with his dad, we didn't have to train him. He already knew what we wanted. His dad worked on this district, so when Dan came to work for us he worked on this district he already knew where every road was, every stand of timber. He knew all of our loggers. Rayburn retired one day and we put Dan to work the next. (Laughs) We never

even quit.

Then we have a couple of fellows that work for us out of Eminence as technicians. They work for us out of choice. Both of them have college degrees in wildlife management or in biology. But they want to live in this area. And to get a job in the fields that their specialty is in, they would have to go somewhere else. But their families are all here, their wives' families are here; their wives teach school or work in this area. So they just wanted to stay. And we had a couple of openings on the forest. I knew these guys were looking around, so I approached them about working on Pioneer.

One of them came to work for us about five years ago. The other one came to work for us about three years ago. One of them is responsible for the Eminence district, and the other one is responsible for the Ellington district. Even though they both live in Eminence, it's not a very long distance drive over to Ellington. We used to have a man live on the district they were responsible for, but times change, I guess.

[tape meter, 350]

Travel is a little easier than it used to be, so we feel like they can live in Eminence and still do the job we need them to do. And they have been great. Both of them worked for the Forest Service, so they knew about marking on timber sales [and] that kind of thing. All we had to do was to train them for about six or eight months in the philosophy of the management, the approach that we use to management, and how we handle timber sales. I mean, these two guys caught on just right now. They are good. I'll put them in the woods against *anybody* -- even though they worked for the Forest Service.

(Much laughter)

They came around real good.

I think right now we have a really good staff that's working for us. They all work well together. Once in a while we'll have a group that we'll send out to do a project, and everybody gets along well. They all know what we want. In addition to checking up on the timber sales, Terry's job is also to check up on these guys, as their supervisor. He just brags on them all the time. And if Terry's bragging on them, they're doing something right. That's a pretty good indication, I think, that we have a real good crew right now working for us. I think we have managed to bring together a group of people that have a lot of experience.

[End of side 2, tape II; tape meter, 387]

[Begin side 1, tape III; tape meter, 000]

CT: [They have] experience and background in the part of the program that Greg is in charge of. They're very active, of course, in our timber management program. So they have a good, well-rounded, well-balanced view of what we're trying to do. It makes my job really easy. Basically, I don't have any problems that I have to deal with, except making sure I keep Uncle Sam happy.

(Laughter)

But we've got a great crew, right now, that works for us. And the crew that we had before them was really good. We have five people that have retired from the forest, that were some of the original people that came to work for Mr. Drey. I mean, they spent a whole career right here on the forest. Now we've had a couple of people that have come to work for us and have gone on to something else. Forestry, I think, just wasn't their

thing. But that's really the only turnover that we've had. We've had a phenomenal success with having people on the forest and working for us on a long term basis. And just very little turnover.

[Tape recorder momentarily off; recording resumes when stopped at a specific locale.]

This is basically a west slope that we're looking at. As you look down off of that hill where you can see through the woods, look at the size of some of these trees that we're beginning to develop out there. This is that same ridge that I was telling about, where that oak decline hit us. But as you get down off of this ridge top, you start seeing some of those bigger trees that are growing out there. Look at what we can grow out there on that south and southwest hillside. We're looking at trees down there on that hill -- that tall pine tree out there -- from this distance, that thing's probably twelve, fourteen inches. Then we're looking at some eighteen, twenty inch red oak that are down there near that. That's kind of what we're trying to do with these other hillsides.

[Driving resumes, and recording later resumes.]

WS: What are these "forest reserves" you were talking about?

CT: Those are areas on the forest that are not natural area quality, but we think, for example, the plant community that's represented there warrants protection. But it's not the kind of plant community that we would put into a natural area. For example, some of the forest reserves that we have are areas around fens; wet, seepy areas that support an unusual and different plant community than the rest of the area around it. We'll set up a reserve around those areas to protect the plant communities, because they're extremely unique throughout the Ozarks. The plant communities that you find here, in this area, would be

different from what you would find, say, over on the Black River drainage. So we will set up some reserves around those communities to protect those. Our logging activities are designed so that we don't impact those. We'll stay far enough back away from them that we don't change the water regime on those sites.

Another area that we have, as an example, has some large, old, white oak and hickory on it. It's an unusual stand of big hickory for this area.

[tape meter, 50]

And we wanted to see what would happen just in a natural succession of things, in a stand like that. So we set up about a 300-acre reserve around that. In that case, if we have, for example, a tornado that went through it, we might go in and pick up the trees that were broken off or knocked down, and not touch anything else. About all we would do in a situation like that may be to do a little bit of light salvage if something happened to those, but still basically leave the reserve intact as much as possible, and just see what happens.

But that's kind of what our forest reserves are. We have several of them that are around fens. We have a couple of reserves that are centered around glades, that have glade-associated plant communities around those that are different. And the glades where we've set up reserves are glades that are a pretty good size, and they have a diversity of plant communities within that glade area. So we've set up a reserve around those to protect those plant communities and see what happens there; see how they develop.

That's pretty much what all the reserves are on the forest. They mainly revolve around unique plant communities that we wanted to protect at some level, but that are not something that's unique enough to put into a natural area. Now, *eventually* they might be.

Eventually they may develop something there that we feel like is worth protecting, and we might try to establish a natural area around those features. But at this point, at least, they're not; or, they are a common enough feature throughout the Ozarks, in various stages of representation, that they don't need more of right now. If we protect them and something happens to some of those other areas, then we will have these reserves that could easily be moved into a natural area sort of condition.

WS: Have you all used any prescribed fire?

CT: Not to any extent on Pioneer. Years ago, the Forest Service prohibited burning on their land, and we had a couple of areas that we allowed them to set up prescribed burns for different reasons. One of them was over in this area. They did a summer burn over here. And then a few miles east of here we had another area that was set up for prescribed burn, and they would burn that in the winter. The objective of those was to see what kind of impact the fires had on the plant communities and succession. And basically what they found out is that the winter burns didn't seem to have much of an impact, but the summer burns did. Eventually the Forest Service had all the information they wanted off of them, and they're not being used anymore.

But we don't use fire as a management tool on Pioneer at all. There's a lot of interest right now in this concept of savannas and how they developed. But this area that we're in, these river hills, probably never were savanna condition. The savannas tended, probably, to be the more level or gently sloping areas where fires would tend to burn more regularly and had more grass in the under story. But these river hills probably never were savannas at any time. So it isn't something that was ever a feature of the forest, so

we just don't use it.

WS: I imagine you get something in the way of lightning-caused fires.

CT: Once in a great while we will get a lightning-caused fire, but 90% of the fires in the Ozarks are vandalism.

[tape meter, 100]

It's very rare that you get a true lightning fire in this area, as opposed to what you would get, say, out west; where they have so much more conifer and more susceptible to start from lightning. If you look at the cause of fires that the Department of Conservation puts out, a lot of their lightning strikes are classified as such because they can't determine any other reason for the fire starting. You know, if you can't determine a reason for it, it had to be natural. Lightning is the only natural explanation.

I don't think we have near as many lightning fires in this area as they do, certainly, out west. Probably at one time the settlers and maybe even the Indians would burn the forest more than it's burned now. But just because the Indians burned it, I don't see it as being a natural part of the forest. Hell, they burned it so that nobody could sneak up on them and kill them is the only reason they burned it. I don't see that as a natural part of the system.

WS: Do you still get much in the way of vandalism fires?

CT: Not very much. I think last year we might have had, oh, sixty acres total; little patches here and there scattered around the forest. Most of it seems to be concentrated around deer and turkey season. Some grumpy hunter goes home, and didn't get a deer or a turkey, and they'll start a fire. But fire isn't near the problem that it used to be. I think

one indication of that is that the state, for all practical purposes, has pretty much abandoned all the fire towers they used to have. They do aerial reconnaissance now on a more or less regular basis, but not anything like the fire observation used to be when they would have somebody up in towers all over the state all day long, sometimes at night.

We just don't have the fires that we used to have. We've outlived a lot of our fire problem. As one old timer said, "And a lot of timely deaths."

(Laughter)

But a lot of the folks that used to believe that burning the woods would cause more grass to grow and kill off the snakes and ticks -- most of those folks have passed out of the picture now. There's still a few around, but not a whole lot. I guess there's some that we'll have to live with for a while, yet; but that's a philosophy that's beginning to change. But it's a philosophy that's changing because folks are not as connected to the forest as they used to be. It used to be there were little twenties and forties and sixties [acres holdings] around that were family farms. That isn't as much the case anymore. So you don't have the connection with the forest that people used to have in this area. I think as a result of that, a lot of the things that used to be done in the forest are not done anymore.

Right here where we stopped just then, there used to be a stave mill there.

WS: I wondered what that was.

CT: That's what that was. This area over in here [indicating land off the left side of the road, just past the previous crossroads] was the yard where they stacked staves. As a result of a lot of years of traffic back and forth over it, it pretty well compacted that soil out there. Trees are *just* beginning to encroach on that and come back into it again. That was a bare

field when I came to work here in '70, and *had* been a bare field for probably twenty years before I came to work. So it's taken a long time for that to recover from what was done during that stave [manufacturing era]. But I started out to tell you that all along here [indicating the unbroken forest on both sides of the road] there used to be cabins and houses, the folks that worked in that stave mill.

[tape meter, 150]

At one time, along this road and back the other direction, there were probably forty, forty-five houses. Either people that worked at the mill or people that worked out in the woods, that would live right along in here.

WS: This is all Pioneer land?

CT: This is all Pioneer land.

WS: So I guess you've really got some archaeological ruins on the forest here.

CT: Probably. If you get to digging around you could probably find some of those old house sites here. No telling what you could find out the back door of those things.

WS: Now, that stave mill, was that part of the Pioneer Cooperage Company operation?

CT: I'm not sure if that was Pioneer Cooperage or not. It certainly was National Distillers.* There's a road that you can turn off and go into Brushy Hollow. And there was another big mill down there in Brushy Hollow, that was probably about the largest mill in this area around here, down in there. It was a whole community; a general store, a doctor, hotel, houses -- everything -- was down in there, in addition to having the mill.

* Who bought Pioneer Cooperage out and began their own stave manufacturing operation.

[Tape recorder off for a while, while riding]

CT: We missed this one. There's another spot where I can stop and show you. We have some inventory plots scattered around on the forest. (If I don't miss the plot out here, I'll show you). One of the things that you have to know when you're working with a forest this size, is how well it's growing and how much timber you're cutting; what your potential harvest is, versus what you're actually doing. We keep track of it with fifth-acre inventory plots that are scattered around the forest. (I think I've already missed that one. If I have, there's another place where we'll stop and take a look at it). But we keep track of what the species composition is on the forest, how fast it's growing. We monitor any health problems that we might have, that are showing up. Using the information that we get off of it, we know how much we can cut during the next five years, so that we don't cut into our standing inventory.

WS: That's what's called mensuration, right?

CT: That's part of it, yes. These plots were put in in 1952, and we've gone back in and re-measured them every five years since then. Now you talk about something that is *unique*, that database is a unique database for anywhere in the Ozark area. I mean, it doesn't exist anywhere else.

WS: That's more like what they do at a National Forest experiment station, I guess.

[tape meter, 200]

CT: Yes. Yes it is. The only difference is, we use it as part of our working plan.

As you get over this direction, you can see that there's more pine that's beginning to show up in these stands. As we go further west that will get to be more and more

noticeable. It never gets to be a pure stand of pine, but it will get to be a more prominent part of the forest.

[Recorder momentarily off; recording resumes while generally heading toward Eminence.]

WS: Have you all got much land that's close to Eminence?

CT: Yes, we have quite a bit of land that's out on Highway 106, that's just east of Eminence. We have another bloc of land that's over on the Jacks Fork; it's called the Leatherwood Tract because of the valley where it is. That's over just on the west side of Eminence. The Leatherwood Tract is kind of a unique tract. It has some plant communities that you don't find on any other part of the forest. The valley is just *riddled* with caves. Some folks that study caves say that we have 200 or 300 caves over there. Being a novice, if I walked through there and looked at some of those caves, they look like little holes in the bluff to me. I guess it's a matter of a different way to classify them. To me, a cave has got to be something that you walk into and go back in. But I guess classification of some caves is not quite that stringent.

But it is unique. It's a valley of steep bluffs, unique plant communities. There are a number of orchids and other plants that show up over there that don't show up anywhere else on the forest. It's just something that's really unusual. We set that whole valley up as a reserve to protect it. We will log up to the top edge of the ridge, but we don't drop over into the valley.

WS: On your land over there, do you ever have any problem with those trail riders and their horses?

CT: Yes, we do have. Horseback riders are kind of a unique breed. Once they get on that

horse they're kind of like the skidder driver -- they figure they can go anywhere. And they don't bother to ask permission. You're probably familiar with Jim Smith down here at Eminence that has that big trail ride down there. We have some land that adjoins him.

[tape meter, 250]

The folks that come down there and ride, ride over quite a bit of that land down there that we have. It's predominantly just one piece of ground that we have of about 700 acres that they ride over. But having said that, we have logged through that area this last year, at the same time horseback riders were going through there. For all of the *thousands* of horseback riders that have gone through, we have never had one single complaint about the logging that we've done out there in conjunction with their horseback riding and what they want to see. Now that, to me --

WS: That's amazing.

CT: -- is really amazing. Because you would think that out of all of those riders, some crab would gripe about what was going on. And we have not had one single complaint -- not one -- about what's going on. Actually, we're logging out there now. We haven't quite finished it up. So we're logging now. We logged all last summer when those big trail rides were going on, and just nobody complained. We go out there every once in a while just to monitor the trail rides, and what's going on, and how many are using the area. And it never fails. When we go out there, more than one time we will have someone expressing appreciation for the opportunity to use that land to ride on. It's a situation that amazes me. We don't necessarily want the trail riders out there to the extent that they're there, but they haven't complained at all about our logging. That's an amazing factor.

WS: Well, at some point did Mr. Smith just ask Mr. Drey permission to use that land?

CT: No.

WS: Or they just use it?

CT: They just use it.

WS: Mr. Drey just never bothered about that?

CT: Well, to be perfectly honest, it [the number of trail riders] blew up to a point that it is now at such a rapid pace that we weren't able to get a control of it before it did. Now, saying that they're using it without our permission -- and I have to go further and say that we have gone to Jim Smith and to his trail leaders and talked to them about closing and not using some of the trails that the riders have just been using, and they have been extremely agreeable with us, and very, very cooperative. As a result of that, some trails that were eroding pretty badly have been closed. The folks that come down there to ride tend to be repeat customers to that area, and they know that that's an area that we're trying to protect and correct a problem on, so they don't use it. Oh, you get an occasional rogue horseback rider that will do whatever they damn well please. But for the most part, they don't.

[tape meter, 300]

So even though they're out there without our permission, and using it without bothering to ask, they have been cooperative with us about helping us correct some problems that have come up as a *result* of that. We'd rather that they weren't out there in the numbers that they're out there in, but it's a difficult thing to get a handle on. Mr. Drey has opted to do it in as agreeable a manner as possible to reduce the amount of problems that we're having out there, rather than just throwing them off and telling them they can't

do it. That would make everyone angry. So he's agreed to allowing us to gradually get control of the thing. The riders themselves have been very cooperative. So I think in the long run it's a situation that's going to resolve itself, even though right now it's more of a problem than we would find desirable.

That's an old schoolhouse that's up there. It used to be the school for this area down here.

WS: [reading the sign by the road:] "Cedar Hill School." Is that owned by the state now, or something?

CT: No, it's a home. They've kind of perpetuated the image of the old school. And he's a really likable guy.

We're off of Pioneer now. This is a little in-holding of about 300 acres.

WS: I was hearing some of those people talk about this wild horse controversy they had between the Park Service and Jim Smith and some of them. From what I was told, they said when they approached Mr. Drey about what his feelings were about them possibly being on his land, that he said he just didn't care one way or the other.

CT: Yes. They've always run wild on Pioneer. They don't do us any damage or any harm. So it really doesn't bother us that they're out there running around. One of those things, I guess, if you're a horseback rider, you want to see them out there. And the Park Service views them as non-natural, non-native, so they want to see them gone. Eventually they'll be gone, because that's the way the Park Service is. But for now, the folks that are interested in horses and horseback riding have managed to kind of protect them and keep them out here. But sooner or later the Park Service will get rid of all of them.

[tape meter, 350]

I guess from their perspective, that's the appropriate management, is to get them off because they're not natural. But at some point you have to ask yourself whether or not the horses have become a natural part of the community that's endemic to this area. I mean, the horses are native to this country.

WS: A long time ago, right.

CT: A *long* time ago. And then, the Spaniards brought over a different kind of horse that started running wild over here. Maybe they weren't running in the Ozarks -- I don't know enough of the history of horses on this continent to know whether they were native to this area or not. Certainly these that are out there originally were not native. They were escapes or something like that. But they've been running in this country for, I don't know, a hundred years or fifty years. Whatever. How long does it take before something becomes part of the natural community? I think a lot of people that would like to see the horses continue feel like they are a part of this natural community that's around here in the Ozarks. I suppose it depends on one's perspective, whether they are or not.

[End of side 1, tape III; tape meter, 383]

[Begin side 2, tape III; tape meter, 000. Most of following "cursed field" account told while momentarily parked beside location.]

WS: . . . what do you mean by that?

CT: (laughs) Well, this field we're driving by right now on our left, that field's got a curse on it.

WS: Says who?

CT: Well, years ago, folks used to just kind of build a house and live wherever they wanted to. You know, squatters. There was a family living here; had an old shed here. National Distillers owned this place at the time. They had asked them to move several times, off of their land. The family wouldn't do it. They just refused to do it. Well, one time; a week or weekend or something, they found them gone. So they went in the house, and they moved everything they had out in the yard and they burned the house down. Well, the folks came back, and they found the house gone, all their things sitting out in the yard, and somebody from National Distillers was down here. And they said, "Okay. By God, the house is gone now, and we'll move. But I'll tell you this, there won't never be *nothing* grow on this field *forever*!" And with that they loaded up their wagons and left. And that's what has grown back on that field since 1946. (Laughs)

WS: I'll be darned. Not much.

CT: And there's nothing out there. (Laughs)

[Jeep ride resumes.]

WS: Where did you hear that story?

CT: I think Ed Woods told me that story about the first or second day I was down here.

WS: Oh, he was still working when you started?

CT: Ed was still working. Yes. He had had a couple of strokes and was having a little bit of trouble getting around out in the woods, but Ed was still here when I came to work. He worked here for probably about three or four years after I came here. And then he was still around for some time after that. Terry and I would go by and bring him out in the woods with us once in a while. He'd kind of tell us about different areas and what had

happened. He was the one that told me about the curse that was on that field there.

WS: Wasn't there another old timer by the name of Charlie?

CT: Charlie Kirk.

WS: Charlie Kirk, yes. Was he still around?

CT: Yes. Charlie retired about 1978, I guess. Charlie was around for quite a while after I came here. And, in fact, Terry Cunningham and I learned what we know about uneven age forest management in oak-hickory from Charlie Kirk; to some extent from Ed, but I mentioned Ed was already having trouble. So Charlie was mainly out in the field. And what we know about uneven age forest management, basically we learned from Charlie Kirk. He was a unique individual. He was one in a million.

WS: Was it Charlie Kirk, Ed Woods, and Rayburn Skaggs the group you were telling me about that told Mr. Drey that they might try him out for a while? (Laughs)

CT: Yes, it was that group. Of course Ed and Charlie had already decided they were going to stay. But they had Rayburn Skaggs, Russ Noah, Paul Corder; and I think at that time they had maybe two or three other folks that had been working for National Distillers. Of the bunch, Ed and Charlie, Rayburn, Paul, and Russ were the ones that stayed with him. They all stayed with him until they retired, just not too many years ago. But yes, that was the bunch that said that they'd try him out for a while to see how it worked. (Chuckles)

That big creek and valley bottom that we crossed back there was Big Creek. And this is kind of over on the western side of that big tract that you saw on the map. Round Springs is about four miles over here, just a little bit to the southwest of us. Right in here we had a little bit of a fire. Boy, it was a hot fire, and it killed almost everything that was

of any size at all except the shortleaf pine. But you can see that there's a lot of white oak coming back in there, even though that fire killed off almost everything else.

[tape meter, 50]

[Mr. Trammel stops the jeep and backs up to get sight of a sick tree.]

See that tree right out there with that real thin looking crown? And the ends of the limbs are beginning to die?

WS: Yes.

CT: That's kind of the way a lot of that oak decline started looking when it first hit. The crowns would get real thin like that, and then the ends of the limbs would start dying back toward the center of the crown. That's the way it started -- except it was over hundreds and hundreds of acres down here. We'll probably lose that tree this summer when it turns awfully dry.

[Traveling resumes.]

WS: Do you all ever sell any firewood with individual trees like that, dead and down?

CT: Oh yes, we do. We have a firewood permit system. If the folks around in the area are going to use it for themselves we'll give them a firewood permit and tell them where they can cut the wood, and we let them have it for nothing; you know, if all they want is just four or five or six cords, something like that, for their own use. If they're going to sell it, then we make a timber sale contract with them. Most of our firewood comes out of tops and residue behind a logging sale. But once in a while we'll go through and mark a stand of timber, if for some reason we think it's too thick we'll have some stands thinned that way. It's all manual labor. They cut a tree down, cut it into blocks, pick it up on their

shoulder and throw it on the truck. Not very many of those folks around left, that's willing to do that anymore.

WS: Yes. Well, actually, with a big enough area to mark for firewood, you could do a "low grade" cut. (Laughs)

CT: Absolutely.

WS: Just the opposite of high grade.

CT: When we go through and mark a stand that we want thinned, that's what we're doing in most cases, is we're taking out that poor quality stuff and just getting it out of the stand. Oh, we've got some beautiful stands scattered around the forest where we've done that, but it tends to be areas that are fairly easily accessible.

[Incidental conversation omitted, tape meter, 79-88.]

WS: When these people cut firewood for their own use, do you only let them cut dead trees, or are they allowed to cut green trees?

CT: No, we designate everything that's to be taken out. And usually we'll try to concentrate most of the firewood permits in areas where we have a timber sale going on, and they cut their firewood out of the down tops that they can get to. It's wood that would otherwise decompose and go back into the system, but no more than we have cutting [the loss of organic material is insignificant]. That's wood that's easily accessible for them. A lot of times some of it has laid their all summer and is pretty well seasoned for them. So they can go out and do it. But we don't let them just pick and choose what trees they want to cut, because they'll cut the tallest, straightest tree you've got out there. I mean, that's the tree that's the easiest to cut for firewood, so that's what they'll do.

WS: (laughs) Yes, it splits easier than the crooked.

CT: Oh! You bet it does. I mean, you get an old limb, trying to split that sucker, and that's tough.

[Jeep stopped.]

Now look here at this stand off on that hillside. But look at this right in here, the kind of trees that are coming back.

WS: Yes.

[tape meter, 100]

CT: Look at what we're getting. Those trees are probably 15% taller than what the original stand was.

WS: Look at that.

CT: Isn't that something?

WS: Yes!

CT: And they're fast growing, they're clean and straight. They've got good crowns on them.

WS: Maybe that's a hickory. It's only about five inches in diameter, but it's eighty feet tall or something. I'm looking at one of those down through there. Very tall trees. Very straight trees.

CT: Oh yes, I see where. Yes, it is. Now this is the kind of stuff that's coming back in as we remove that old residual timber that's been left here as a result of basically two high gradings. It's taken us just about three harvest cycles to get to the point where we're bringing that kind of timber back in here. Now *that's* the kind of stuff that the Ozarks can grow. It's head and shoulders above the stuff that we're dealing with otherwise. It's taller,

cleaner, straighter. It's got every bit of the same wildlife benefits that these old gnarly trees [do] that we're dealing with. But in the long run, we're going to have a much more majestic looking forest in terms of appearance -- height, diameter, quality -- than anything that we're dealing with right now.

[Jeep ride resumes.]

WS: That's impressive.

CT: We've managed to get a few stands up to the kind of timber stands that we ultimately like to grow. I've got one up here, just before we get into Highway 19 that I'll show you. This south hillside over here, you can see we've got a lot more shortleaf pine in this stand over here than we do on this northeast slope on this other side.

WS: Yes, I can see that.

CT: By the time you get over into this part of the country there is more pine in it than is otherwise, where we just came from. Look at that big old devil out there.

WS: Yes. Oh, that is a big one! Look at that.

CT: Isn't that big? A little gnarly, but, boy, that thing's big. And that's small compared to some of these pine that you'll see when we get down on that virgin pine strip. We'll drive down there as we go to lunch.

WS: You're talking about on Highway 19?

CT: Yes.

WS: That's Pioneer land?

CT: Yes.

WS: I'll be darned. Because I saw that from that road.

CT: Oh, have you?

WS: I didn't stop and get out and look at it, but there are some signs up and all.

CT: Years ago that was part of the forest, and it was given to the Highway Department, I think, by National Distillers. Some time back we started negotiating to get that strip of land back into part of the forest. We finally struck a deal with the Highway Department and got it back. And we put it into the L-A-D Foundation. That was part of the agreement, that when we got it back we wouldn't go in and cut it. Well, the reason we wanted it was to get it into the foundation so it would *not* be cut. The Highway Department was beginning to get a lot of pressure from folks wanting to get in there and cut that timber, so they were glad to give it to us to get rid of the problem. Now that we have it back, it is part of what was originally this forest ownership.

WS: Do you manage the L-A-D Foundation land differently than you do the Pioneer Forest as a whole?

CT: Yes, we do.

WS: In what way?

CT: The L-A-D land is not managed for any timber production at all. Eventually, when Pioneer Forest goes into it, it'll be managed the same as it is now, to generate the revenue to support the Foundation.

[tape meter, 150]

But the land that's currently in the foundation is actually kind of a preservation or conservation program -- either for unique plant communities, for geological features, or in one instance, for archaeological features. It has some Indian petroglyphs and things on

it. One of them has an old mill site on it that still functions. That's in the [L-A-D] Foundation. Most of the land is like that. A big chunk of the land that we have in the Foundation is along the Current and Jacks Fork river bottoms in a strip along those that Mr. Drey kept when the Park Service came in. He put those into the Foundation and the Park Service actually just owns a scenic easement in those areas. That's in the Foundation.

Right now, all of what's in the Foundation is in there to protect some feature of those sites. Eventually, when Pioneer goes into the Foundation, there may be one or two other sites on the forest that we'll put into the land with the same status that the Foundation land currently has. But basically the management on Pioneer will continue as it is and revenue that's generated from the forest, then, will be used to support the Foundation and its efforts. It's something that in the long run is going to be used to continue to protect those features [currently] in the Foundation that Mr. Drey has been trying to preserve all these years.

WS: So you've got two natural areas, you've got all these forest reserves, and then you have if I remember, it's 2,000 or 3,000 acres in L-A-D Foundation land.

CT: 6,000 acres, altogether.

WS: So really those are kind of like three special categories -- or maybe there are more -- outside of the general Pioneer Forest.

CT: Well, actually, the natural areas are part of Pioneer Forest. We don't put them in a separate category as such. We're only looking at basically Pioneer land and foundation land. And then we handle the natural areas the same way we do the Foundation land. I

think title to both of them are in Pioneer's ownership. It may be that the cedar area is close enough that it's on some of the Foundation land. But there's no separate ownership or title to any of those. Their title is either with Foundation or Pioneer ownership.

[Tape recorder momentarily off; recording resumes for another walking tour of the forest.]

CT: I'm going to pull off here, up in the woods, and show you what we're trying to accomplish with our red oak and stuff.

[tape meter, 200]

We'd been looking at that white oak area where we made that other stop? This tends to be more of a red oak area. We've logged through this twice since I've been on the forest. The last time was about five years ago. It was done the year Mike came to work for us. Look at the size of the trees here.

WS: Good golly!

CT: This is what we're trying to accomplish out in here on the rest of the forest. This whole area out in here, there's probably 1,200-1,500 acres that is kind of intermixed with this and shortleaf pine out the tops of ridges and that kind of stuff.

WS: You'd never know you'd logged it five years ago.

CT: Well, you can't. That's one of the unique things about the management that we do here. Oh, there's been a couple of trees die. This one right here died, and it kind of left a big hole in there -- but aside from some natural things like that that occur… This is what we're trying to do. This is gradually what we're working the whole forest toward.

WS: Sure looks different than a clear-cut after five years. (Laughs)

CT: Oh, it does, doesn't it? It looks a *lot* different than a clear-cut after five years. Before

what you're looking at is removed, we're probably looking at two more harvest cycles through here. But we're talking about fifty-five years by the time we finish out this cutting cycle and cut it once more. We'll take out probably half of what we're looking at. Another twenty, twenty-five years down the road we'll take out the rest of it. By then, an awful lot of this smaller stuff will begin to be up and [have] pretty good size stems. That last stop we made right there on the road? Imagine what that stuff will look like in another fifty-five years. As rapid as that's growing, it's going to put this stand right here to shame. I wanted you to see this one because this is a red oak area, kind of like the white oak area we were looking at back there.

[tape meter, 250]

[Walk back to the jeep; ride to Eminence resumes.]

CT: This area was cut through in the early '60s. It was cut through again in the late '80s, early '90s. So it's probably been a little bit longer than five years, but certainly no more than about eight years.

Right along in here we go off of Pioneer Forest. See that ridgeline across over there? [indicates a ridge distant some miles]

WS: Yes.

CT: It's on the other side of Current River from ____ side of Cedar Grove. When I came to work in '70, there were big, tall pine trees sticking up above the canopy out there; seed trees that were left. This area was pretty extensive to pine, and in the mid to late '40s it was all cut pretty heavily. Ed Woods talked National Distillers into leaving seed trees, pine seed trees, at the time. And as a result of that, all of the pine that came back into this

area was largely from those seed trees that were left out in there. I used to watch those trees. You know, you get accustomed to them after a while. And you see them but you don't notice them kind of thing.

One day I realized that there weren't any seed trees out there anymore. I thought, "Well, they've all died. It's been a long time. They're getting pretty old." And they were. A lot of them were getting up close to 200 years old.

[tape meter, 300]

So I got to walking around out there on that hill just to kind of see where they were and what they looked like. By golly, they're still there! The difference is, the forest around them has grown up. And that's why they don't show up anymore.

(Laughter)

You think that won't make you feel old! (Laughs)

WS: That looks like some kind of a cut up there, near the top. I don't know if that's a farm or a road.

CT: Yes, I think there's a road over there, and there's a highline that's over there, too. You know that big power line?

WS: Yes.

CT: That's over there as well, and then that's probably what we're seeing the edge of.

At one time Pioneer Forest had about the only white oak plantation in the state. It was down near the river bottom. When the Park Service came in, that was part of the land that they ended up getting. We don't have it anymore, but it's still down there.

WS: What do you mean by "plantation" as opposed to just "stand"?

CT: It was a planted stand of white oak. I'm not sure exactly when it was planted. Charlie took me down there one time and showed it to me. It was probably six or seven inches at the time, so it had been there for quite a while. I would say, just guessing, that it probably was planted sometime in the '40s. There seems to have been a lot of planting that was done around in that time to recover a lot of old fields that had been abandoned. They planted the white oak down there at the time, and I guess had phenomenal success with it, because hardwoods are typically pretty hard to plant and have any kind of survival rate on it. This was an unusually good stand of white oak that they had planted back then, and was still doing fairly well.

Look how much pine is mixed in with that over there.

WS: Yes, you can see it.

[tape meter, 350]

CT: I'll tell you what. If you have seen that virgin pine strip down there, I'm going to go back up and take you around by Akers Ferry and up that direction, looking at part of the forest over there.

[End of side 2, tape III; tape meter, 362]

[Recording resumes while on Highway 19, heading toward Eminence; a stand of pine on the east side of the road inspires Mr. Trammel to relate the following story:]

[Begin side 1, tape IV; tape meter, 000]

CT: . . . that patch of pine. He [name?] saw them [Alton Box Board Corporation employees] show up out there with all their equipment. They started planting pine. He just kind of sat down on a stump, and he watched them plant the pine. Never said anything, just sat

there and watched them. They got through at the end of the day, left, and he got up and went in the house. About fifteen years later, he was still living there. And they came out there and started marking the trees to be thinned. He watched them for a while. After a while he walked over there and asked them what they were doing. They said they were marking the pine because they were going to thin it. And he said, "Well, that's okay. You can thin that over there. But this over here where you're standing is *mine*. It's on *my* land."

(Laughter)

So they went and got their surveyor and ran the line, and sure enough, it went right through the middle of that patch of pine!

(Laughter)

WS: Were they growing trees for pulp? To make cardboard boxes? Or was it wooden boxes?

CT: At that time I guess they were just growing them for pine posts. They probably had some idea in the back of their mind that they would eventually have something there for making boxes out of. But no bigger field than that was, they were probably thinking in terms of pine posts and logs.

WS: So they were involved with more than just box manufacture, then.

CT: Yes, they were. They owned quite a bit of land around here at one time. They did a fair job of managing what they had. They finally ended up selling it, I think, to Kerr-McGee.* And then, of course, when Kerr-McGee sold out, they sold all of their different tracts of

* Kerr-McGee Chemical Corporation bought out T.J. Moss Tie Company holdings and other forest lands in the eastern Missouri Ozarks.

land to various people. I'm not sure exactly who bought that piece back there. The Nature Conservancy bought a lot of land over here in Shannon County; I'm not sure if that was one of them.

WS: Do you have many dealings with the Nature Conservancy?

CT: We haven't had any land transactions with them, but we work pretty closely with them. Their people stop out by the office once in a while, and we stop by theirs. If we have something that is of interest, we try to include them in looking at it. Once in a while we'll get a call from someone that will have some land for sale, and if we're not interested in it and it has something on it that we think the Nature Conservancy might be, we'll get in touch with them about acquiring it. We work pretty good together.

We've worked real good in the past with quite a few organizations that generally have been at odds with the state and feds. But we've had tremendous cooperation from them. The Sierra Club, the Nature Conservancy, even organizations like Heartwood and the Dogwood Alliance. Those folks have been down on the forest. What we're doing is different from their way of doing things, but they've never ever done anything but compliment us on the way we've handled the forest. We've been really fortunate in the kind of working relationship we've had with a lot of those environmental groups that have really been watch dogs over government.

But to be perfectly honest, the government has asked for it in a lot of cases. They've just deliberately ignored in some cases public desire for having things done different. As a result, they've kind of gotten crossways with Sierra Club, Heartwood, and some of those other groups.

[tape meter, 50]

We've been real lucky. We've got a good working relationship with them. We encourage them to come down on the forest and look at what we're doing. We get some feedback from them. All in all, it's been beneficial, I think, for everybody.

WS: I would think *they* would appreciate your approach to timber management maybe more than the forestry groups.

CT: Ah, they do. Yes. They have a much better appreciation for what's going on out here than any other forestry group that we've brought out. We've had people from Tennessee, Kentucky, Arkansas, Iowa, Utah, North Carolina; groups from all over the country have been in here looking at our forestry program. Some of them have tried to use parts of what they've seen here. And without exception, the ones that have tried to adapt some of what we're doing have been private land ownerships, private foundations; something like that. Never ever, to my knowledge, has a government agency attempted to do anything at all similar to what we're doing here. (Laughs)

It just kind of gets to be, "Well, here comes another tour group from the government. We'll show them what we're doing, and that'll be that." You really get frustrated after a while. I guess they have political constraints that they have to keep in mind, to some extent, that determines how their property is going to be managed. They're very, very reluctant to make any changes at all in what they're doing. I think, in time, it's probably going to happen; but boy, it's going to be a long time yet. Of all of them, I think the Forest Service has probably come the furthest in adapting their management program. They at least have some lands now that are classified for uneven age management. I don't

think the Department of Conservation has even considered that yet.

WS: [The Department of] Conservation just does clear-cuts? That's the only timber management they do.

CT: Yes. Oh, they'll point at some stands that they've logged through that are not clear-cuts, but what they are is, they're at an intermediate stage of thinning. You're familiar with the even age scenario: pre-commercial thinnings, intermediate thinnings, and finally the final harvest. Well, when they do an intermediate thinning they will point to that as being their selection harvest. But it's still even age management. Eventually they're all going to take off what's left. So, even though they can point to those things as not being clear-cuts, it's still even age management.

They just seem reluctant to make any changes in the approach that they take. But it'll happen. One of these days there'll be a lot of fortunate retirements, and young folks coming up have a different attitude and will get in a position to make decisions, and then it'll happen.

WS: The bureaucratic wheels turn slowly, it seems.

CT: They do. But they do turn. You get frustrated, you get infuriated with them; but sooner or later the change will happen. You'd like to see it happen in a reasonable time, but it'll happen.

[Lunch break in Eminence; recording resumes near Eminence, off of Highway V, on a Pioneer Forest site in the process of being logged]

CT: . . . old road, or a skid trail, or something like that, where occasionally -- like that right there, they'll get up a tree like that. They use that as a turn tree, and everything they drag

out will come in past that tree.

[tape meter, 100]

So that's the only one that they damage, then, as they turn. And if they use a bigger one to turn on, then after they get through logging in an area, that's the last tree they cut as they come out. So they pick up those damaged trees.

WS: So in the profession, when you're cutting, and you damage standing trees by the trees you're felling, that's called "residual damage"?

CT: Yes, it is.

WS: Well, I can see, with a little bit of care, it wouldn't be hard to drop the trees just the way you were describing: if you drop one, and then drop them in succession. But you've got to stop and plan how you're going to do it…

CT: You do.

WS: …rather than just jump in there and start cutting.

CT: You've got to think.

WS: (laughing) That's the difference right there.

CT: That's unfortunately what many of us don't do. We don't think. It doesn't take a whole lot of effort to get out here and do the logging that ends up doing a good job.

Now this is where he's quit. There's a marking on a tree there. Here's some that he's marked for the next time.

WS: So this is what Mike does, he marks the timber?

CT: Yes.

WS: And you do some marking yourself, I guess.

CT: I do some myself. We all do. We all handle timber sales and do the work out here in the field. Then, in addition to that, Greg and Terry and I have some administrative responsibilities that we have to take care of there in Salem. But everybody just pretty well pitches in and does whatever needs to be done; timber marking, boundary line work; whatever.

We made a conversion a while back from using a paint bucket and a brush to mark our boundary lines. We started using a backpack sprayer. That made all the difference in the world, in how much time it took us to paint boundary lines. Because we could go in at the end of the day after painting lines with a gallon bucket and feel like your arms went plumb down to your knees. Now the guys put this solo backpack sprayers on, and they'll put two or three gallons of paint in a solo backpack sprayer and take off marking. They will hopscotch. The driver will put somebody out here and then drive down here and park. The first guy paints to the truck while the second guy is painting away from the truck. The first guy picks up the truck and goes up and leaves it at the end of the line somewhere. And they just kind of hopscotch like that. It more than doubled the mileage of boundary line that we could paint in one day by doing that.

Used to, each guy was responsible for the boundary line work on their district. So they would go out, paint out as far as they could go with a paint bucket and brush, and then deadhead back to the rig. After we got these backpack sprayers, we decided that we could probably just send a crew out at one time and do as much boundary line work as we could do. Well, what we found out is, that by doing it that way -- or at least sending *teams* of guys out -- that we could double the amount of boundary line work we could do

at one time. We've got a little over 700 miles of boundary line! So that was a significant savings, right there.

Typically, we can do about two miles of boundary line a day apiece. So it takes us a while to do it, but we break it up so that we cover the whole forest every six years, and then recycle back through again. It's worked out pretty good. We manage to get it done. Everybody's exhausted by the time we get through with that. But it's done in the wintertime when the forest has opened up. You can see a lot better than you can today.

[tape meter, 150]

WS: I never stopped and thought about that being a maintenance factor, having to keep the boundary line marked.

CT: Yes, it is. And we've got every foot of it marked. Every tract of land that we own has boundary lines around it that are marked.

WS: That would be a great way to get to know the territory, though. (Laughs)

CT: Oh, it is! Absolutely. And that was the other reason that we started sending guys out together, is so we would have more than one guy that was familiar with the district. It give them a chance to look at every tract they have. They can check all the roads crossing the boundaries and see if there's any activity going in and out. It gets him acquainted with how to get in and out of every tract they have. Over a six year cycle, it insures that we look at every piece of ground that we own. And we get in on all of our land more often than that, but if for some reason there's a tract we've overlooked, at least we get in that often to see it.

WS: Well, there must be a science to marking this timber for sale. I mean, is that partly

personal judgement? I know you've got the overriding philosophy of what you're dong for the Pioneer Forest. But when you come in, I guess every given tract of land, you've got to look around and kind of make a tree-by-tree decision.

CT: You do. And you not only look at the trees that you put paint on, but you look at all of these trees that we want to leave as well. Now, you know, some of them obviously are good enough that you don't have to walk right up to the tree to make a decision on it. But you've still got to look at every tree on the tract to decide which ones you want to paint and which ones you don't. And if you notice back there where the timber was marked and hadn't been logged yet, the trees that have been marked are trees that have lost the competition battle. They're beginning to lose out, drop behind and get into the lower canopy. There are intermediate trees or co-dominant trees that are defective or something of that nature for some reason. There are trees that are too thick. Or maybe they're a good tree, but they're crowding a better tree. We take those out.

What we end up doing is basically thinning from the poorest to the best, and then if there's any more that needs to come out, we just thin the smaller of the better trees. That's kind of the way we do. We know that we want to take this down to around fifty square feet of basal area of saw log material that's left. And we know we want to get into a stand before it reaches 100% stocking.

So using those two parameters as the upper and lower end, we know about when we need to get into a tract of timber, and we will go in and do a timber inventory from time to time on a specific tract like this one. If we're a little bit uncertain about whether or not it was time to go, we'll take a walk through the whole tract; maybe run two or three

lines through here, and just look at it, see what kind of condition it's in. Then the next thing, we'll do a low level inventory to see what our percent of stocking is, how thrifty the trees are on this particular tract. And, at the same time, we get a count of how many stems we have in each diameter class.

[tape meter, 200]

We have a standard of how many trees *should* be in each diameter class in order to perpetuate this system, so the difference between what *should* be here and what is *actually* here is what we have available to us for a harvest. As long as we don't get below what *should* be here in terms of number of stems, then you could come out with a stand that looks like what we've been driving through here, even after it's been logged.

This one is in pretty good shape. It has some bigger trees in it as you get back down close to the river. We're on the top of a ridge right in here; or nearly so, so the trees tend to run a little bit smaller. But there's a lot of good, healthy trees out here. We're talking about trees that are probably going to be around for another -- oh, we're looking at another four thinnings before everything we're looking at here has been eliminated. That's eighty years. In the meantime, that will all have been replaced by growing stock that's coming in.

Then there's a lot of gut feeling, I guess, about whether or not you've marked the stand well. It comes with years of experience in doing it. All of those technical things that we were just talking about are all well and good, but when you walk out of a stand, you know whether or not you've marked it the way it should be marked, and whether or not it looks the way you wanted it to look when you got through with it.

WS: Now, as far as all the technical aspects that you were just describing to me, have you learned that *while* working for the Pioneer, or did you gain any of that while you were in forestry school?

CT: That's all techniques and information that are just standard in just about any forestry school. What I had to learn after I came here is how to use that technique as applied to this approach to management, because that wasn't anything that was taught at all. But that's all just mensuration. It's number crunching, and that kind of thing, that's applicable to just about any approach to forest management. The real knack is how to take that information and use it in this system. That had to be learned here, because I didn't learn it anywhere else.

[Jeep passes some boundary trees marked in orange paint.]

You see those orange spots and you have a little more appreciation for them, don't you? (Laughs) After knowing how many miles of them there is out there.

WS: Yes, I guess so.

[Tape recorder momentarily off; recording resumes while traveling back to Salem; comment from Sarvis about hoedads and dibble bars (both are tools used to plant trees) inspires the following account about Mr. Webb, a wizard at creative mechanics and welding who used to do work on Pioneer vehicles and equipment. The following account pertains to welding sections of pipe (three to four feet long) to sections of automotive leaf spring in order to make a tree planting bar similar to a dibble bar:]

CT: . . . [old leaf springs about] that wide [four inches, or so]. And they [Charlie Kirk and Ed Woods] took those and some pipe down to Webb and drew a pattern out for Webb and told him what they needed.

[tape meter, 250]

Webb didn't ask what they were. He *wouldn't* ask what they were. Charlie didn't tell him. So Webb went to work on them. About a week later Charlie stopped by there and asked how things were going. Webb said, "They're going all right. I'm about halfway done with them." Because he would just work it in when he had the spare time. Charlie told him, "No hurry." Webb wouldn't ask what they were. Charlie stopped down there and drank coffee and Webb was still working on them. Charlie would ask how they were going. He'd say, "Oh, I've got one or two left to go. I'll have them finished up. You stop by next week."

Well, something happened; Charlie didn't get by. Finally Charlie stopped back by the shop one day, went in and had a cup of coffee and visited with Webb. Webb sat there for a little while. Finally Charlie said, "Well, it's about time for me to go, Webb." He said, "All right. Before you go, though, I've got them fronicky bars you wanted done. They're all finished and over there in the corner."

(Laughter)

So that's all we've ever called them on the forest, is "fronicky" bars.

WS: Fronicky bars. The pipe is welded to a section of that leaf spring?

CT: Yes. You put a bar on it and a T-handle, and then you weld another piece of pipe on either side of the leaf spring to step on the spring for a foot.

WS: Oh, so it's like a dibble bar.

CT: Just like a dibble bar. Except it's about that thick [half inch], and just made out of a big, wide, heavy duty leaf spring off of a truck. Apparently they had scrapped a truck or something around there. They had some of those, so they just took them down and had

Webb make them. He put a point on them and kind of cut an edge on them. They're just a dibble bar; they're just made out of different parts.

But Webb refused to ask what they were, and Charlie wouldn't tell him, so he just came up with a name of his own.

(Laughter)

WS: I didn't know you all did much planting.

CT: We don't do a whole lot now, but at one time we had quite a few old fields that were scattered around in the forest, that were just old abandoned farm sites. We planted up a bunch of those. We put hardwoods in some of them. Some of them we put pine in. We've got a couple of walnut plantations that we planted. We've got one pecan plantation that we planted. None of them real big -- two acres up to six, eight, or ten acres; something like that. But that's about all the planting that we've done on the forest. Because of the way we do our logging, all of our sites are naturally regenerated, and we don't have to go back in and replant them.

[tape meter, 300]

We used a tree planter one time that we hooked up to an International Scout, and drug it through a field. A couple of us got out and collected walnuts until we had the back end of a Bronco loaded up. We hauled those down to a field and used a tree planter and planted walnuts out there. That was one of those places -- it was a good site, and took about two years for all the seeds to germinate. It looked like we had a real good stand out there, but by the time that plantation was about eight years old the deer had just destroyed it. They'd gotten in and they would nip off the new shoots. They just

completely ruined that thing. A bunch of the trees started dying after that, and I think we ended up maybe with a couple of hundred trees in that one field. And those are not real good. They've been bit back so many times they're pretty limby; a lot of branches with forks in them. That's kind of one of those things that you try once and it didn't work, so you don't do that again.

[Logging truck loaded with long, slender trees approaches and passes from the other direction.]

A lot of that is little stuff, isn't it?

WS: Yes. Think that's going to the chip mill?

CT: It'll end up there, yes.

WS: There's really kind of an overpopulation of whitetail deer in a lot of places, I think, causing some of these problems.

CT: It is. And of course there's more and pressure on the department for more and more deer. So they keep trying to increase the population, although I think they're beginning to realize that in some areas at least they have a problem. So they're kind of modifying their approach to it, especially around metropolitan areas. You get into an area like St. Charles or someplace, where deer herds get into town; they realize they're protected there, and they'll just run over a community when they start getting like that.

[End of side 1, tape IV; tape meter, 354]

[Begin side 2, tape IV; tape meter, 040]

CT: It [logging with draft animals] isn't very prevalent. When I first came to work here, we probably had three crews working on us with animals. They did a good job. But it's a

hard way to make a living. It's a slow process. Most people now are out for a quick buck, and it's difficult to do that when you're logging with animals. You have to be very patient, very willing to just kind of noodle out one log or two logs at a time. It's great to watch, but it's not real profitable. Most people that still log with animals, they try to make a living at it, but it's mostly hobby operation. You can still make a living at it, but it's not what most people are looking for nowadays.

When I first came to work here, animal logging crews were *common*.

WS: Really? In 1970?

CT: In 1970. They sure were. See, it wasn't very long before that that the first skidders came into the woods down here.

WS: Oh, they replaced the Caterpillar-track tractors.

CT: Yes. That would have been, probably, mid to late '60s that they came in; something like that. Up until then they were using Cats [Caterpillars] or animals. The skidder is what really made the change in the logging industry about the time I was here.

WS: Well, those Cats really did a lot of damage in the woods, didn't they?

CT: Well, they did. Because of the type of tread work that they had, they could go up and down a hill a couple of times, and basically what you had was a condition that was just ripe for erosion. If you got much rainfall, it would just follow those Cat tracks right up and down the hill, and before you knew it, you had a new gully getting started. So yes, they did quite a lot of damage with those Cats. One of the features about them, though, was because of the way they were made, if you had a tract of ground that you needed to get to to log, the Cat could build you a minimal standard road to get across a steep hillside

or something like that, and get timber out. But in the long run they did more damage than was appropriate.

We still have a few horse loggers around here. There's a couple of guys, I think, that still work in the Bunker area that have horses or mules that they log with. Most of them log with mules.

The last mule job that we had on the forest -- I guess the last one that I worked on was down at Van Buren. No; I worked on one up here, after I worked up here. But the guy down at Van Buren had [mules] and that's all he'd ever logged with. He had two of them, and he'd take them down in the woods in the mornings, and the logger would cut down a couple of trees and buck them up. They'd hook up the mule and just give him a couple of hits and he'd head for the truck. They'd load up the second mule. He'd head for the truck, too. And by the time they got both of them up there, they'd unhook the logs, turn the [mules] loose, and they'd go right back down to where they picked up the last log. The old guy that was a teamster would follow them back down in the woods, hook them up again, and do the same thing all over.

WS: That was a *real* teamster. (Laughs)

CT: That was a real teamster. He had emphysema so bad that some times he could hardly stand to be out there in the woods. And when he'd get mad at those mules, I've seen him yell at those things -- and then get to coughing trying to get his breath from emphysema, be down on his hands and knees -- and still yelling at those mules because they wouldn't do what he wanted them to do.

(Laughter)

He never hit them. But boy, he'd sure give them a lot of curious names, sometimes! (Laughter)

That was funny to watch him work. Then at the end of the day, boy, he'd take care of those animals. You know, rub them down then feed them up good before he left. They'd keep them in a pen out there during the week. And he'd rub them down good and water them, make sure they had plenty of food for the night before he headed home to take care of himself. But boy, he was funny! I've seen him get down there and just *roll* on the side of the hill trying to get his breath and cussing those mules at the same time.

[tape meter, 50]

WS: So you all actually sold some contracts to mule loggers?

CT: We sure did. We had a couple of mule loggers up here in this area. When I first went to work, I was down at Van Buren. I had three small timber sales at the time, and every one of them were animal loggers. Within six months after I went to work, one of them had bought a skidder. I came up here to Salem in '72, and they all had skidders. So it changed. That was just about the time the changeover was taking place, and an awful lot of people that were skidding with animals pretty well converted over to skidders at that time.

[Tape recorder momentarily off.]

CT: I don't think there's ever been a day I've gotten up to go to work that I haven't enjoyed going to work, or looked forward to the day getting started. I can't honestly say that there's ever been a time when I dreaded getting up and going to work. I've enjoyed what I've done. I've enjoyed seeing the results of it. I think that makes a big difference in why

time goes by so quickly.

WS: So it does fly when you're having fun? (Laughs)

CT: When you're having fun, time flies. It has. I don't think I have ever gone through a period of time when I dreaded getting up in the morning and going to work. And I see people that would almost rather take a beating than to get up and go to work in the morning.

WS: Yes. Oh, sure. Well, I'll tell you, it's a real privilege to ride with you today and go and see all this. It really is. I mean that. It's special. It's been on my mind for some time to do that, to go around and see this operation. I'm in danger of becoming intoxicated with the Pioneer Forest. (Laughs)

CT: It's easy to do, especially when you see what some of the alternatives are that are less desirable.

WS: Oh, yes. Well, that's all I've ever seen up until today, is the alternative, really.

CT: I'm glad you've enjoyed going around. It's something that we like to brag on a lot, about the kind of success that we've had. Folks like you come down and look around and see what we've done, and you can tell other people about it. And you can tell other people in a way that we can't do. It's coming from somebody other than us, so people take it in a different light. And I think that has a different impact than if it's us telling the same thing.

[Tape recorder momentarily off; resumes just after Mr. Trammel recounts an experience he had at a conference dealing with conservation and forestry.]

CT: . . . there was some guy there at this meeting that was going on about how there were too many people in the world, and some people just needed to die off. Euthanasia was an acceptable method of controlling population; that kind of stuff. I listened to him spout off

for a while. Finally I'd had enough. I said, "I'll tell you what. Every movement needs a leader. You lead, and see who follows."

(Laughter)

Of course, nothing came of that, because that wasn't his objective. What he meant was, *he* should be here, but everybody else should be gone. You're right, there's a lot of hypocrisy in that approach.

WS: This group you were talking about, the Forest Trust group -- the other group you were talking about is the Forest Stewards --?

CT: Forest Stewards Guild. Actually, the Forest Trust is the organization that has sponsored us getting this thing together and getting started. I met them -- gee, I guess it's probably been five years or so ago now -- at Petit Jean Mountain down in Arkansas.

[tape meter, 100]

They are very much interested in good, sound, sustainable utilization of resources, and community improvement for communities whose livelihood is based on the natural resources of the community. They want to see these communities thrive and yet not just mine their resources. So that's kind of a part of the thrust of their organization.

I got associated with them from a friend who had invited me to their meeting of forest practitioners, who are basically people who are [for] low tech utilization of the resources but are very concerned about the economies of the communities where they are based. And in meeting with them and talking to them -- several other people also had the same idea that I did, that this is something that needed to be larger, on a national scale. So I guess they went back and they thought about it a little while and started looking

around to see if there were any other people that were trying to do what we did.

About two years ago then, I guess, the Forest Trust got together a small group of people out in Santa Fe.

[Jeep passes a tract of many dead standing trees on the west side of Highway 19.]

WS: What happened over there?

CT: That, I think, was a woods fire. When you see it from the air, it's almost a circular area. I think it was just a fire that was pretty hot, pretty intensive, and got out of control. I've flown over that a time or two. It's kind of a circular area, kind of like a fire would be. It does not look like herbicide application, that would be more of a blocked off area. So I think I was just wildfire.

WS: I didn't mean to interrupt.

CT: Oh, that's fine. But anyway, after they'd thought about this for a while they started trying to get some people together, and they had the first meeting out at Santa Fe a couple years ago. I was not able to make it to that meeting, but the second meeting we had was up in Sugar Hill in New Hampshire. I made it to that one. They decided to do this at the meeting in Santa Fe. The meeting that we had in New Hampshire was basically the first regional meeting that we had trying to bring people together to do that. That's kind of where we got started.

That's how the Forest Trust and the Forest Stewards Guild kind of fit in together. They basically have sponsored and financed the organization and supported us while we were getting started. We're still not on our own. They're still helping us out. But we've set it up so that over about the next five year period of time they will gradually phase out

their funding. We figure by then we should be able to financially support ourselves. The rate that we're growing, I don't think there's any doubt that it'll happen. We're up to somewhere around 400 now. In the past three or four months we've picked up another fifty or sixty, so it's growing pretty fast. And everyone that's interested in it are people who are not into it for the money or the fiber production, or that kind of thing.

[tape meter, 150]

Their main interest is in utilization of the resource on a sustainable long term basis -- very much like what we're doing. So that's kind of how those two organizations fit together right now.

WS: Is there a home base for the Forest Stewards Guild?

CT: Right now we're based out in Santa Fe in the same office as with the Forest Trust. We have a coordinator out there who is praying that this all works, because he's been with the Forest Trust, and he's now the coordinator for the Forest Stewards Guild. And in about five years, they phase out his salary. (Laughing) So he's really hoping this works! (Laughter)

I don't think there's any doubt that it's going to, the way it's growing.

WS: Would it be accurate to describe yourself as one of the founding members of the Forest Stewards Guild?

CT: As one of them, yes. Right now I'm the chairman of the membership committee, and sit on the board of directors for them, to help with this initial organization of the thing. I think it's something that's going to happen, the way we're growing. We get interest from people all the time. We're not especially interested in folks that have spent a career in

academia and haven't been out actually either owning land and doing this, or who are trained foresters and have this philosophy of management. That's basically the kind of people that we're looking for. If you're an academician and you choose to join, that's great, but you have to understand that our main interest is in people who are actually doing this. We want people who are actively involved in this approach to management and doing it rather than talking about it.

[End of interview; tape meter, 176]