

Interview with Bob Tarrant by Max Geier, on July 24, 1997 1:00 pm at his Corvallis home.
Transcribed by Keesje Hoekstra

After fighting in WW II, Bob Tarrant began working in the PNW Station as a forestry researcher in 1946 at a time when forest biology was just becoming a subject of Forest Service research. His science career was again interrupted by military service – the Korean War in 1950-1952 – but then continued until retirement as PNW Station Director in 1979, when he began working for OSU, including stint as chair of the Forest Science Department. His personal research touched on a variety of important topics, such as soil biology, effects of red alder on soil fertility, and the fate of pesticides in the environment and in terms of worker health. As an administrator, he was a very important supporter of the Andrews Forest program which was complicated by differences between the OSU and PNW Station home institutions of many people in the program.

Max Geier: This is an interview with Bob Tarrant at his house in Corvallis Oregon, on the 24th of July, 1997. The time is one o'clock in the afternoon.

Geier: You were one of the first six that it was recommended I talk to about the history of the Andrews Forest and the people working there. I got a couple of other people before you, just because I happened to run across them at an opportune moment. Here's the prospectus for the book that these interviews will feed into [Gives Tarrant copy of prospectus]. We had a workshop session last August where Fred Swanson and Art McKee and Ted Dyrness and others and I sat down and hashed out some general goals, what we wanted to try and accomplish with this book. I'll leave that prospectus with you, too. You might look especially at some of the ideas on science topics and other things that have been included in there.

Bob Tarrant: I just was interested in names.

Geier: On the first page are some names of people that are projected to be interviewed, and a fair number of them I've gotten to already.

Tarrant: This will be aimed at the Andrews only, right?

Geier: Basically, what we're looking at is the Andrews Experimental Forest and the research group that evolved out of that. It includes connections off the Andrews, but the Andrews is the focus of it, and then, the community of scientists that's evolved.

Tarrant: There's been a lot more work done there, but the Wind River Experimental Forest across the Columbia, is by far the oldest [exp. forest in NW]. I was interested whether this involved a general pulling together of research done in the Cascades of Oregon and Washington, or specifically, the Andrews.

Geier: Specifically the Andrews. It's coming out to essentially celebrate the 50-year anniversary which is next year. The work in the Wind River area is important because it put Jerry Franklin central to this work, he has been involved up there [and grew up nearby]. But the focus has been the Andrews, and then, we'll

be branching off of that to connections with Wind River, Cascade Head, and places like that, but the main focus is on the Andrews and the people who worked there. To recap, we had an interview a couple of years ago, I don't know if you recall or not, but that gave a general sense of your background. I want to focus here more on, specifically, your perceptions of the Northwest area forest research [mainly U.S. Forest Service/PNW Station], in the period from the 1940's to 1979, when you left to go to OSU. Is that right?

Tarrant: Yeah.

Geier: So, just to make sure I've got the time right, so it doesn't confuse me later. You got your B.S. from OSU in 1941 in plant science/agricultural resource economics, and went to the Soil Conservation Service in 1941 for three months until you went to the Navy during WWII, from 1941 till about 1946, is that right?

Tarrant: Yeah.

Geier: Then you came out and went directly back into forest research at the PNW Station, from '46 until '50, then fought in the Korean war until '52, and from then until '79, you were at the PNW Station? Is that right? And from 1979 until the present, you've been either here at OSU or doing research in forests?

Tarrant: Uh-huh (affirmative)

Geier: Let's start out here. At the time you became involved with the Forest Service, or with forest research, about the time you graduated from OSU, or while you were at OSU, from about 1941 to '50, what was your perception of forest research and the station in particular. Also, what was your understanding of academic priorities.

Tarrant: Forest Service research before 1946, which began essentially, one starting date is given around 1898, was based in one of the first priorities with the Forest Service, which is to discover what's out there in this new land [under their charge]. That's essentially what they called research. What kind of trees are there? Nobody knew what kind of trees there were. What condition the forests were in? There was really nothing known about it, nobody had studied it. That really carried through until 1946, when things changed a lot. There was little biological research in that early period. Research was conditioned on trying to find out what we had here in these new forests. It was a matter of counting the resource, a timber inventory [basic inventory/surveys], defining characteristics of the trees as far as their usefulness, forest products research which today is still pushed. How do you efficiently measure a non-cylindrical piece of wood that you can't afford to under-represent on samples? Some of that still goes on today. Wood as a product, essentially, drove this. There was very little biological research. You'll run into some reports by Leo Isaac. Leo was about, as I recall, the only person out in the Northwest interested in some of the biological aspects of it. I mean, research was crude in those days compared to now, but for the time, finding out anything, Leo concentrated on regeneration, did a lot to help regenerate, but again, it's about trees as a product. That may not have changed except for WWII, and that shut research down for a few years. When it came to open up again, there was much better funding, suddenly. That gave a chance to expand into things like soil science, things that didn't have much to do with much in a lot of people's minds [beginning of new paradigm].

Geier: When you started working at the PNW Station in '46, were there other people in soil science there, or were you essentially the only person who was doing it?

Tarrant: I was the only one there. I guess I was the first person interested in soils on the scene, except there was a little work done before, just kind of excursions from work in the agricultural soils by university crops from Pullman and Oregon State. From the period '47 to '50 or '52 or so, University of Washington and Oregon State, hired soil scientists, and it was suddenly legitimate to think about things like that.

Geier: You mean an ecologic forestry?

Tarrant: There was one professor in the soils department at Oregon State, Chet Youngberg. And Dr. Stanley Gessel, at the University of Washington. Weyerhaeuser had a soil scientist, and Crown Zellerbach did for a while.

Geier: Was there much coordination or cooperation between the different soil scientists and different agencies?

Tarrant: It was very close because we quickly built a working group, which runs still today. I've got a paper on it, I'll try to find a copy for you upstairs I ripped it off for some of the young folks today that have got this Oregon Soil Science Society going. Now that is a sideline that's an interesting thing. That group essentially is one of the new players that's going today.

Geier: You were part of the founding of that?

Tarrant: Yeah.

Geier: Well, to bring us into focus here at that time in your work. What did you consider to be the value and potential use of experimental forest research in general to the kind of research you were involved in?

Tarrant: We looked at them in the first few years, or many did, as a place where you could do research and expect to come back in ten years or fifteen years, and fifty years, and a hundred years. It was a place where you could put an experiment in and expect it to not to be erased by some action.

Geier: Long-term plots?

Tarrant: Yeah. Then, fairly quickly the point arose that, being confined to a particular situation like that, didn't fit a lot of the research. In other words, you wanted to sample a range of soil conditions over an area. Experimental forest was too small a unit for some kinds of studies, although I did a lot of my work at Wind River and at the Andrews. But they were limiting, eventually, because as we learned more, we needed to do different things.

Geier: So, you did more of your work on the national forests?

Tarrant: Yes, if there was something that you needed to work on that wasn't represented on an experimental forest. But, much of the early work was concentrated really on those two experimental forests. Wind River and the University of Washington people did their work on Pack Forest. Chet Youngberg did most of his work, I suppose, on the Pringle Falls Experimental Forest. He liked to dig in pumice, so that was nice digging.

Geier: It sounds like you did a fair amount of work down at the Andrews in that period in the early 50's?

Tarrant: Yeah. After I got back from the Korean War, I did most of my work at the Andrews, at that point. Have you got Roy Silen down as one of your interviewees?

Geier: Yeah, I was just going to ask you that if you were working there when he was there.

Tarrant: Well, Roy was there. We had a trailer down on the highway. I put in a number of studies there while Roy was laying the forest out. He spent several years there, really working by himself. In those days, nobody thought much about the safety aspect of a guy working by himself. Roy would go out for a week or ten days at a time. None of us wondered about safety. I don't recall anybody ever getting in real trouble. But, if you got far away from home, wandering around by yourself, nobody had done anything about it.

Geier: You were there after the access road was put in?

Tarrant: Before. I didn't put any studies in before that, but I was interested in getting a feel for what we had there and laying things out.

Geier: Backing up just a little bit, I was wondering if you had any recollections about the establishment of the Blue River Experimental Forest in 1948, as it was called at that time. Do you have any recollections of the origins of it when you were with the PNW Station at that point?

Tarrant: It became a matter of conversation, but I was not directly involved in it. I was pretty much brand new there. At that time, they were still looking at old growth. And somebody realized that, really, the way things were going, young growth, regeneration and young growth, were the real problems. Because at that time, a group of us was discussing the other day, nobody thought anything was special about the fact that the policy essentially was to replace the old-growth forest of Oregon and Washington with young, more productive forests. (Chuckle) Some of my work was directed towards "what ifs" as a result of logging. Some of that was probably the first concern about what were we doing. The point was that, what we needed was an experimental forest where you could log a piece of land and had a lot of information about that stand before you cut it. Regenerate it, and follow through with research on young growth. And most everybody's point was, "How can we make it grow faster?" Weyerhaeuser in those days had grabbed hold of this and had beautiful color ads, "We are growing trees a third faster than ever they were grown before," and things of that sort. Much of that early research was how do you get them to grow faster. But it had to do on the Andrews with starting with an old growth and getting a chance to go clear through a cycle, of cutting the old growth, regenerating and raising the next crop. Really thinking that we could do it better.

That was what I still consider a fallacy; where they could do it better, or how do you can do it better than nature did it. Things were very naive then, and we had no biological background whatsoever. What there was then was just very primitive. There was no background biological information. And that's part of the problem today. It was quite reasonable, cut these down and get you some trees that economically grew a certain way, that are going to be better for the world than these old trees are, just hanging on. Why not use the ground for faster growth. We had quite a discussion a while back about that.

Geier: Were you involved in some early theorizing about moving to a 300-year rotation instead of a 100-year rotation. Were you aware of any of that at that time? How important was that?

Tarrant: Roy was thinking about that?

Geier: Yeah, several people have mentioned that, and I'm not sure what the timeline was when he started being involved in that. He had a paper that, I got a copy of it, came out I think in '50 or '55, where he was talking about that possibility.

Tarrant: No, I don't recall anything. I never heard Roy talk about that.

Geier: Going back to what you were saying here about the need to replace old growth and get more vigorous, productive stands. What kinds of projects or programs were you involved with in that time that related to those kinds of concerns?

Tarrant: For five years, I pretty much specialized most of my effort into the effects of slash burning. There were concerns about what that was doing. I probably spent maybe a five-year period on that. I did some work early on forest-fertilizing, when that began to be popular with the companies. I never felt good about that as a silvicultural method. I did studies on individually fertilizing trees and fertilizing the planting hole that you put a tree in. Later in the game, 1965 I think it was, I got back into fertilizer, when people were having trouble using urea instead of other nitrogen fertilizers. And I put in a study that's become quite well known, and a landmark. I used ammonium nitrate, and we have re-measured that for 30-35 years. The effect of that single fertilizing is still visible in measurements. But it was certainly not intended as an economic measure, because it's a lot cheaper to throw urea out of a helicopter, because a pound of it is 50% nitrogen, and this stuff is 21-22%.

Geier: That's a study that you did on the Andrews?

Tarrant: Did that at Wind River. And then I got interested in using nitrogen-fixing plants, particularly alder, essentially as a crop rotation where you can grow it. I probably put more time into that than I did in anything else from then on. Attempting to find something like the use of legumes in agriculture. We wondered about the same possibility in forests with nitrogen-fixing tree species, but it's pretty hard to sell to people that can't see anything other than Douglas-fir, Douglas-fir, and Douglas-fir. But that's been an interesting thing. We published it in Oregon State press book about four or five years ago, and wrapped up what we knew about it and what needed to be done.

Geier: Well, if you could think here a little bit about what your first impressions were of the Andrews Experimental Forest when you started working there. What your first perceptions were?

Tarrant: Oh, it was another place to work. I really turned away from them, from the Wind River work, because what I was doing up there was pretty well along, and this was a chance to work on a new area. New climate, new soil, so I put a lot of time in down there, because, I guess it was new. New and interesting [H.J. Andrews]. I didn't think much of it or think in terms of it being one day a world-class operation. It was another place, another place to work.

Geier: Hmm-hm. (affirmative) Did you run across anybody else there besides Roy Silen? People that were working down there or people that were based there?

Tarrant: Yes, throughout the years. We had people based down there. Dick Fredriksen, who's gone. Henry Gratkowski [early HJA researcher who worked with Silen]. Much of the water work was done out of Corvallis, headquartered in Corvallis, because the watershed project worked both on the Bull Run Watershed near Portland and also had the basic watershed studies at the Andrews. I think this was the beginning of some really critical work at the Andrews, addressing a very critical problem. The first full-size watershed study was done down there, and I worked with Jack Rothacher on that.

Geier: When was that roughly?

Tarrant: Oh, it was 50's and 60's. That's still very productive work up there. Good example of something you can do on an area that's set aside and will be there when you go back in decades.

Geier: Do you remember where on the Andrews you were focusing your work, a particular watershed?

Tarrant: Oh, it's off the access road in there. They had to get concrete trucks in when they built weirs and, it's not too far after you pass the reservoir at Blue River there. I don't know if it's before or after you get to the headquarters site, but it's very accessible, partly for snow, for one thing. They had to have a place they could get to year-round [HJA watershed 1, 2 or 3; unsure which as description is unclear].

Geier: So, it's right down there between the headquarters and the river down there?

Tarrant: Yeah, somewhere in there, it's close to the river.

Geier: Do you recall, since you're kind of in the same area of research, do you recall working with Ted Dyrness when he started working there?

Tarrant: I never worked with Ted. By that time I'd gone onto something else, I guess. I knew Ted as a graduate student, and a couple of days ago I saw him. But I didn't do any work with Ted, directly.

Geier: Was he down there at all at the time you were working on the Andrews?

Tarrant: I don't associate him with the Andrews, but he probably was during the International Geophysical Year [1958].

Geier: Jerry Franklin came down there and started working in the late '50s, also [1957]. Did you work at all with him? Because he was not expressly in soils, more on ecology.

Tarrant: I knew Jerry all the way along there, from the time he came to the [PNW] station. We did some fertilizer studies down there together. But we didn't do any joint-studies. Well, I can't say that either, we published some stuff from Cascade Head. I didn't mention Cascade Head yet, an interesting study.

Geier: So, you've known Jerry for years?

Tarrant: I've known Jerry since he came there, before he left and did a Ph.D. and came back. He was there pretty early in the game.

Geier: Do you recall anything about living arrangements and logistics of going down there to work? Did you tend to go down there to work for the day and then drive back, or did you go down there and stay in the trailer you've mentioned?

Tarrant: I stayed in the trailer. Later on, there was a bunkhouse up there at McKenzie Bridge. Roy Silen lived at McKenzie Bridge over the grocery store. He'd just gotten married, but before that, he lived in the trailer, he lived there in a bunkhouse. It was an old CCC bunkhouse, I believe. But, just above McKenzie Bridge. But, nothing like there are today. This was sort of a crude arrangement.

Geier: I'm curious, because Roy talked about what you'd call "primeval forest" conditions. And schools of over a thousand fish and things like that. Do you recall your perception of the game?

Tarrant: Yeah. In the evening when we got through work, we'd meet somewhere down there along the Blue River, where some roads came together. We had one fly rod, used barbed hooks, and we traded off every night. One night one would fish that hole until they caught five fish or something like that, measure 'em, and they would keep records. We had a kind of informal competition. (Chuckle) That's before there were any fishery biologists up there. I recall there was one pretty good-size trout. He had a bite out of its side. An otter had caught it and missed, and we would catch that fish about every third or fourth night, turn him back. Had a name for it. Yeah, that was a pristine creek. Not much of anybody had been up there. You know, that wasn't too that long ago, that was the 50's. (Chuckle) A lot of the country is still unroaded.

Geier: There's a quite a change though when you go down there now. Have you seen that?

Tarrant: Yeah, it's a little much for me.

Geier: When you were working in Corvallis, you started a project with Bill Needham on forest chemicals in '64. I got this from the last interview. Who else at OSU were you working with in this period of time, in the late 50's, early 60's.

Tarrant: Rachel Carson wrote *Silent Spring* [1962], and industry groups wasted two years or more fighting her and writing white papers and defending [the status quo], until somebody in research was smart

enough to say this is dumb, we can get money out of this, and let's get some information. We got a dab of money and a big promise of a whole lot more [for research]. I was asked to go down to Corvallis and set up a project on this. Nobody knew anything about it, really. I certainly didn't. I hired one of my old profs, Dr. Bolen. Hired Logan Norris for that project. Hired the only two people capable of analyzing material for DDT and some of the other chemicals. We had a very successful project that ran about eight years.. Then, I left and Logan Norris took that over. [Mid-1960s to early 1970s, research on DDT/other chemicals].

Geier: About '72, is that right?

Tarrant: 70', yeah 70', 71', 72', something like that. Then I went back to Portland. That was kind of the end of research until I get to retire and come back to Oregon State.

Geier: As life went on you're more involved in the administrative side of forestry?

Tarrant: Yeah, I went in there as assistant director, and then became director [PNW Station] Well, I got frustrated with money situations and came back down here and went to work for the university for eight years.

Geier: The period when you were doing that was in the middle of that was the period when the RNA issue began to heat up a little bit in the Northwest here. Jerry Franklin and Ted Dyrness were talking about their efforts to build a "research natural area" system out here. Were you involved?

Tarrant: Well, yeah it was obvious that at the rate things were going at that point, if there were going to be any more research natural areas established, it had to be soon. That's my main recollection, that Jerry and Ted got together and were a very effective team for pushing this. They got a lot of those established, and I don't know the fate of those. They worked hard on that for a number of years.

Geier: From your perspectives, what's the relationship between an experimental forest and a research natural area? Are they are complimentary? Did you make much use of them?

Tarrant: No, I didn't. I never heard a good argument stated for them, except when you're interested in saving a piece of an ecosystem as an example for the future. The research part of that name, had to do with, "We need to save some samples of diverse things that we may need someday to get to for information and guidance on things." I don't think they were ever heavily used for research, and I think the research part of that title was really that we might need them for research. It was a good idea, but I don't know what's happened to that. We've got one out there on the Finley Wildlife Refuge, a patch of native grassland that was saved. I don't think I've ever seen a sign out there, for instance, indicating that there's anything there.

Geier: One thing I was thinking of here, is the perception of how the [USFS] research natural area program influenced the use of experimental forests. Was the concept of having this natural space area as something that is worthy of study? Did you get any feedback from that in case of the experimental forests?

Tarrant: No, I can't think of any relation. I haven't thought of research natural areas for a long time. I guess I'll be interested in trying to find out what's become of that movement. Whether that was a nice thing at the moment. The forest that's in the early days of forest research, obviously in the 20's, they immediately set out growth plots, which were measured every 10 years, I guess. Kind of forerunner to the forest survey. Had those all over, until latter days when funding became a problem. We just didn't have the manpower to measure them. Had to give 'em away (chuckle), all sorts of universities took over some, and that was the end of it. So, I can't speak on that subject.

Geier: I want to shift focus a little bit. Franklin and Ted both saw evolving perception of studies they wanted to do, individually. The way I understood it, it was a transforming experience for them, just like the politics of trying to set up the research natural areas. But it sounds like you weren't going in that direction?

Tarrant: No, I was not involved in that. That was really pretty much a two-man effort. They published some findings, basic reference books that are good today, encyclopedias of invertebrate animals. They did just a whole lot of work. Then Ted went to Alaska, and that's the last I recall of that activity.

Geier: Well, another tack here. The International Biological Program began to attract funding out at the Andrews or support research on the Andrews, between about 1968 and 1978, and I kind of roughly parallel the time you began to move into administrative positions and on to PNW Station Director, so I want to talk about that a little bit. Because several people have raised the IBP up as kind of a center piece for the emergence of the Andrews group.

Tarrant: I agree.

Geier: What are your recollections of the IBP program and the importance of that program to the Pacific Northwest Station at that time? And the responsibilities of the station?

Tarrant: I was not involved in IBP at all. Each assistant director had a different area, and I had Alaska at the time and other things. I was never involved in IBP other than continuing some of the studies I had down there, but I did not get involved in the IBP work as such. I think Oregon State University got more out of that as far as upgrading the level of the research that they did, and the station as far as getting out so much applied research of measuring growth, things of that sort, and looking at processes. I think Oregon State University's research staff probably gained more growth out of it than the Forest Service side, because we were hiring new people and the Oregon State people had kind of a different attitude. In the university it's hard to get a lot of interest in, "Let's all get together and do something." This is an unprecedented thing that happened. [Long-term ecosystem research - groups] Do you have Dick Waring on your list?

Geier: Yeah, I need to track him down.

Tarrant: Yeah, you need to talk to Dick because he was the young researcher who really found himself in that program, and had a strong hand in maintaining it, and being a supporter and getting support for it.

That would be my viewpoint. The university program was strengthened and led to doing more university-level process work, but that also it welded together better. When we [Forest Service] built this lab on this campus down here, there just wasn't any competition for anything. As administrators, we had a heck of a time beating on our people to work with other people. We're putting you on a university campus with libraries and all the things. It was always a chore, but the IBP drew those who got involved in it. And suddenly things were kind of integrated, as if they were one organization for that group.

Geier: So, it was more of a focused or coordinated effort.

Tarrant: Yeah, up to that point, I saw some of that later on lingering in a few people. Your counterpart over at the university that had the same title as you were – “so and so,” a plant physiologist or something – was a threat, if you weren't very sure of yourself. We had a heck of a time, meet with the dean regularly and talked about this problem, and how do you do it. But, the IBP had that wonderful effect of making everybody grow up and have some pride in the kinds of things they were doing, new things. I say there was no background of biological information. The industry and some people in the Forest Service had a pet saying that, “An old-growth stand is a biological desert.” Of course, this IBP [research results, holistic way of thinking] just blew that all away, but that was the level of thinking, the propaganda that was laid down. “Well, gee, this stuff's no good. It just sits there. Animals don't use it, no life there, these trees are barely living. Let's do nature a favor and get rid of it.” (Chuckle) So, it got rid of that “biological desert” idea about old-growth forests, and started informed, more mature thinking on the subject. So, although I was not directly involved in IBP because of the circumstances at the time, I was thoroughly familiar with it. Spent quite a bit of time down there with people or taking visitors into that to explain. I think IBP and the Andrews were just one of the really significant things of my time I observed forest research.

Geier: In terms of directing the station at that time, did the activities of IBP change the kinds of questions that researchers were encouraged to pursue or the kinds of questions that management was asking of research to try and address?

Tarrant: No, the IBP research really went beyond what managers could conceive of as a question. We had a little trouble at first, I think with managers saying, “What good is that gonna do us if you go around looking at angleworms?” or something like that. That's another long-hard-pull story but.....No, I don't think it changed the way research was done except again in that context of that group. They had a chance to do group thinking, had some group agreements, and group prioritizing. But within the station, there's so many different kinds of things. Forest products, forest survey, none of that practical work, you might call it, the meat and potatoes stuff, wasn't changed by it at that point, because that really didn't affect the questions they were asking. Later, of course, it would affect them, and they had to consider it from then on. To have a different idea of what that forest was. But the IBP was the glory days of the Andrews.

Geier: You talked earlier about the difference between applied research and more profit-oriented research. The period we've just gone over is the 1950's till about the mid 1970's. What kinds of changes occurred in that period in terms of what management was looking for from research? Was there much change?

Tarrant: I think that much of my time in research for that period, 30-some-odd years, that research was a threat to established ways of doing things. I was told quite frankly in a number of cases by people in the management side, that research really wasn't helping them. In fact, it hindered them somewhat, and threw out ideas that didn't jibe with policies. I was told that quite bluntly that this was one fear of the other side of the Forest Service [management]. Forest Service research, we were physically separated until I left the station. Up to that point we were housed on the other side of the river from the regional office in Portland [Region 6 office of National Forest system]. We maintained our own headquarters, our own personnel and business functions. That was for a purpose. If somebody wanted to talk about timber sales, they should go to the national forests. It may not a national policy, but research was physically separated most times from the operating [land management] branch of the Forest Service, for a good purpose. It's rather amazing that Forest Service research has got along as well as it has with the people raising the question we were accused of, "Well, you're working for the Forest Service, and you find out what the Service wants to know." Really, the opposite was true because I had some people in the operating branch [National Forest system] who would say, "I've got no time to read that crap," all that stuff. "Can't read it anyway, can't make anything out of it." Or, "Why don't you write simply," that sort of thing. Talking about the impact of research on management, was always an "arm's-length" thing. Now, that has changed to some extent during the crisis years ["Forest Wars," spotted owl controversy]. I know they were glad to bring some of us in when they were being attacked in the Congressional hearings about impacts on watersheds, the effects of forest chemicals and things of that nature. I did Congressional hearings and headed stuff for the National Academy of Sciences, things of that sort. It was a boon for the research side during the forest crisis.

Geier: In the mid 70's?

Tarrant: 70's? Yeah, especially. We had something to talk about then, as a result of work at the Andrews. Which was something other than, we measure these trees, or we did something to a stand, we measured the growth, and it did so and so. We had some concrete evidence these systems were tender things that could be harmed. And so, we had something to talk about the way they worked, which we never had to before.

Geier: Do you think that's something that's possible because of the IBP program?

Tarrant: I think the IBP contributed much more than anything, to that sort of information. The first part, zero to 1946, when things opened up after the war, everything was pragmatic. At that point, some new things were introduced that undoubtedly took a while to take hold, and there was a little more consideration given to soils; erosion, damage to soil, things of that sort. These are biological systems, they're not physical plots of [inert] material out there. So, I think from year-to-year, "Gee, we just don't seem to be getting anywhere with this long, full process, to start from ground zero with this biological thing." But at the end of my time I can look back and think, really, a handful of people at the universities, and Forest Service, some of the other agencies, really developed a heck of a lot of information. Starting from dark ages up to where there were some new concepts, and certainly a portion of the population knows that.

End of Side A, Tape 1 (of 1)

Begin Side B, Tape 1 (of 1)

Geier: Do you think that the adaptive management initiative of the Andrews in recent years is a shift, at least in the Blue River District and on Willamette National Forest, in terms of willingness to look through the research and to cooperate with them [researchers] in identifying problems you studied and how to apply the research on the national forests? Did that begin to change while you were director up there?

Tarrant: I suppose there were changes. They may have been subtle, maybe nobody was talking about it, but ideas were changing. I know about the adaptive management program, and have worked with Bernard Bormann on that since. I keep a courtesy appointment with the university for the working platform [for adaptive management, innovative methods]. I'm probably the oldest non-paid employee they've got. (Chuckle). I don't know if I speak with authority on that. I would be amazed if there was not increased interest in the management side, getting help and trying to do new things. But, I don't have observations. I would expect that to happen, and it's what we wrote in the book draft. That's the way it should be.

Geier: I was just curious in the specific case of the Andrews, if any names of people come to mind for you from the Willamette National Forest, people who might have been more receptive to working with research than others, at the time when you were director of the station?

Tarrant: When I came to the station in the postwar period, there was practically no conversation between the station, which was in the federal courthouse up on Broadway in Portland, and the regional office, which was on the other end of Broadway in the Post Office building. There wasn't much of a relationship at all. It must be entirely different, just because younger people were coming in all the time, as each generation comes in. I watched the arrival of "tennis shoe" rangers. The early rangers were non-college people, who were real woodsmen. [Cultural shifts in Forest Service regarding types of people gaining entrance.]

Geier: Tennis shoe rangers you said?

Tarrant: Yeah. (Chuckle). A number of them, instead of wearing cork boots [logging boots with spikes], they wore tennis shoes. Said they beat cork boots, and cork boots are dangerous. And those were tough, old guys, and there's a great story told about them. They had difficulties with a logger doing something they didn't like, and he didn't clean up his act. These guys would stand and beat each other up on a sandbar somewhere, and it was a pretty "friendly" thing. But, there were a lot of people who reacted like me; and I used to be aghast about that. I thought, "Gee, how can you do that?" They were dedicated people who knew their job in the woods. Their job was to facilitate getting these trees out. I recall as a youth that I thought, "What the heck are you ever gonna do to sell these people on some new ideas?" But, you could see that change. Unfortunately, a few funerals now and then, are a good thing [meaning generational turnover and change]. But you could see that change, and I watched changes in the attitude of forest supervisors. One would start out with one of them, suggesting we stay off of his forest, even when his people bothered me about standing around talking about the environment. Here you've got

people two generations into the world where you talk about the environment and environmentalism, and to be better, with programs or something else. It'd be pretty hard to measure, because, you take a person that on the ranger district that might have made an observation, "Gosh, I wonder if we were doing right?" and might see something in a research publication and say, "Gee, that's just what I was thinking!" I don't know.

Geier: Several people have identified Steve Eubanks as a ranger who was really receptive to working closely with research down there [HJA EF] in the mid 70's [Actually was early to mid-1980s].

Tarrant: Yeah, he's a good example. I don't know what ever happened to him?

Geier: I think he's up in Minnesota somewhere. He's a forest supervisor [Chippewa N.F.], now. I need to track him down sometime before the end of the summer [Eubanks was later interviewed for HJA history project]. Let me shift gears a little bit here. In about 1977 to about 1978, there were increasing concerns about administration of the headquarters site on the Andrews. And there was eventually, a formalization of the arrangement of how that was going to be administered between the station and the forest.

Tarrant: Well, the regional forester at that time, felt very strongly that first, as I recall, there was some reluctance to get involved in that [LTER site/system].

Geier: Who was that?

Tarrant: Oh, I forget who it was. You know that the Andrews is named after a Forest Service person.

Geier: Yeah, a former researcher in the Forest Service. [also a Regional Forester]

Tarrant: It was somebody after him. I often wondered, and was not privy to the arrangements in those days, but I often wondered if part of that naming of the forest didn't have to do with placating the National Forest system [regarding management classifications and innovation, with H.J. Andrews, Region 6 Chief Forester, likely future Chief in Washington D.C., killed in an auto accident while looking at homes for a family move]. At any rate, I do recall a period when the regional forester was fighting to get a ruling from the Washington office that any timber cut on the experimental forest for experimental purposes would be placed under his allowable cut number goal. And that any timber that came off there would be credited to his allowable cut. Well, you can see the obvious there. It was a good example of the two different goals that didn't ever come together very well [between USFS National Forest system and USFS research.]

Geier: Yeah, Silen talked a little bit about that.

Tarrant: Yeah, it went on and on and on and finally, whatever happened, it was not allowable to get away with it. But, that was kind of typical of the time.

Geier: Do you recall when or why it became necessary to draw up a formal agreement between the station and Oregon State University? There was formal memorandum of agreement. Steve signed it.

Tarrant: That came as a result of, what's the date? There are a couple of them.

Geier: Yeah, there were a few. The one that I'm talking about right now, is called Master Memorandum of Understanding 1978, August 1978. [Original OSU-USFS MOU was in 1961, a basic framework one.]

Tarrant: I think pretty much we had operated on the basis of the International Geophysical Year, which began that cooperation. This was an invitational sort of thing. My assignment didn't involve anything directly with that, but it was a sort of, "Come on over and, you can use some of our property." And then, the thing just sort of took care of itself, pretty much. There were things that would come up quite normally that required attention. So, with some years' experience in that thing, and then the IBP tapered off, as did all that great funding that was coming into us from outside the Forest Service budget, and the people didn't want to break this up. It was operating too well. So, we decided that we had to have some understanding about who paid for what, and all the nuts and bolts of finally running this thing presumably forever, I hope so anyway. This required a contract of some sort to keep from destroying it some way in sloppy operation. [Preparation for more permanent facilities and long-term arrangements, come to fruition under LTER].

Geier: What was the main concern then? What kind of problems might emerge, if that wasn't done?

Tarrant: Oh, I think the university people had one way of doing things, and Forest Service, another.

Geier: Protection of the resource?

Tarrant: No. I think it was kind of our "prenuptial agreement," something of that sort.

Geier: In case it breaks down?

Tarrant: In case it breaks down, who does what? What commitments are made by both parties? But, as long as the money was flowing in, it ran pretty well. It was just a housekeeping thing. I don't think it had anything to do with the resource.

Geier: Was there any difficulty in negotiating that or was that pretty straightforward?

Tarrant: No, I think it was just a matter of, "Maybe we better put things together." And I think the dean [OSU-COF] wanted to protect what they had in it. Maybe Dick Waring can give you some better insights on that.

Geier: He was involved in those negotiations then?

Tarrant: I think so. I think by that time [IBP era] he was pretty much the OSU representative. That's one of the kinds of things we wanted – to have one guy named by the dean to speak for him. That's what I mean, it was just housekeeping.

Geier: I think under that agreement Art McKee began as the on-site director at the Andrews. Was there any concern in the Forest Service about having an OSU employee managing a property of the Forest Service?

Tarrant: I think by that time, those people wanted to step out of things, that nobody wanted to rock boats.

Geier: What's your perception of how priorities in research have changed since you stepped down as station director? You talked earlier about your perception of experimental forests and what their purpose was. Looking at the Andrews now, from 1980 to the present, what would you see as the really more important changes?

Tarrant: Again, I'm not very closely associated with that, but I think there's been a move. I think the main thing I've seen is a move to stop doing the old-line research, like straight-out silviculture. Silviculture is still kind of the basic, "How fast and how good can we raise a tree?" And, I think the recognition by this time, is that this is a complex thing. That's been demonstrated as being certainly a more fragile thing than we knew 60 years ago. Things since I left the station have pretty much involved people, whose old-line, measurement jobs, are being threatened. There's kind of a fight to keep that going – just straight silviculture, doing the "growth-and-yield" sorts of things. Well, forest products research still seems to keep going, but Congressional hearings sometimes get around to the point of, "How come we're putting up money for something the companies do?" Well, there were several arguments for that. I don't know what studies are germane today but they still use that, "Well, it's about the small companies that just can't afford research," and that sort of thing. Good to favor of some of these new programs. Alternative ways of doing things. That's the only thing I've been really drawn into, is trying to say that some of this is passé, and the money should be going into more programs like Bernard Bormann's and things of that sort.

Geier: In your field of soil research, Bernard Bormann is one person you mention quite a bit. But, you mentioned earlier that you hired Fred Swanson, is that right? If we could back up a little bit and talk about what qualities about Fred attracted you to hiring him?

Tarrant: Well, I didn't have the direct hiring authority. Once in a great while someone would come directly to me and lay it out. These were usually people who knew who they were, and they fill out the papers and put in the applications, but they knew how to get things done. Fred was recommended to me. We asked around, and he fit a slot very well that we wanted to fill.

Geier: If you can tell me, who recommended him to you?

Tarrant: No, I can't remember that. I can't remember those details. But, by that time we were having enough budget troubles that every hire had to be looked at pretty hard. You always wanted to have at least one piece of money somewhere, so that if a really well qualified person came along, you could act. Like Bernard Bormann, a guy who did wonderful things in Alaska and the Forest Service probably has paid attention to what he found up there. A real example of a well-trained person, analyzing and showing a problem and solving it. And Fred had the background, so I thought of those as kind of special hires that

were direct interventions. Jim Sedell was another one, he was at Weyerhaeuser. There weren't many, but you were well paid off if you had somebody that really stood head and shoulders above the rest.

Geier: Somebody mentioned this to me and it kind of struck a chord, because I was an undergraduate at that time, looking for work, and there was a hiring freeze on. Fred was hired during a freeze. So, what you're saying is it was just, there was what you call a need for someone with his qualifications, and that there was a policy, or your approach to things was to make sure that, if that kind of person became available, that there was some way of getting them into the station?

Tarrant: Yeah. Got a grandson right now that's been working on temporary [employment status] since graduation at the Forest Service. Nine months a year job with no benefits. Of course, the agency is trying to meet their target by year 2000, to have a majority of women and minorities. He's a wonderful woodsman, hardworking serious kid, just the same as, and with the cutbacks on people, women's rights and other factors, makes it hard to find a job. But, there was a few people you couldn't pass up. I would say that I felt that was entirely justified, because they only come around once.

Geier: When Fred came in, did you have any expectation at that time that he would be going into leadership of the Andrews group in the future?

Tarrant: No, I didn't. He was capable. The Andrews group, another nice thing about it as far as I recall, that was something you didn't have to worry about. Of course, you did a little worrying about the outside money, but you weren't given any problems with these people. They were all sincere and eager to go and everything. I recall that as one of the nice areas that I didn't have to do much worrying about.

Geier: Would you compare the Andrews Experimental Forest with Wind River, Cascade Head, and Bonanza Creek. Was administration of the Andrews a different kind of responsibility than some of those ones, or, were the other ones as self-directed, as it sounds like the Andrews was?

Tarrant: Bonanza Creek was new enough and near enough the one unit up there, and it was selected for its adaptability to the kind of work that was supposed to be done, so that unit was set up well. Cascade Head was set up as a research headquarters for Sitka spruce-hemlock forests. It was one of the earlier ones, and they made quite an investment in the house and buildings and putting somebody there, but it never enjoyed a great amount of use, except when they had tests of skyline logging systems down there. And that was a time when the industry got a lot of Sitka spruce trees and we got some research ideas. So, it never attracted lots of people. I had studies down there. Most of the time I worked there, weren't many others there. It was kind of the same thing in each of the old experiments, that in the first days there was a lot of stuff put in, some of which turned out to be really valuable, but the techniques of designing good studies were not really paramount in the "old, old days." There were lots of side-by-side comparisons, and few replications. So, much of that older work, at the time, might of given some ideas, but I don't recall any great practices.

Geier: How would you talk about the success of the Andrews? As a long-term program that is, and as the station director.

Tarrant: Well, it's certainly a different world with a much more mature approach to research. We certainly have the facilities now that nobody has ever had before, as long as you keep people that are into it. What's that one study, 200 years, 300 years, something (chuckle) like that?

Geier: That's right. Gabe Tucker is putting in a long-term experiment now with different simulations, how to reconstruct or simulate old growth type forests, over a long period of time. It's a phenomenal idea.

Tarrant: I think one measure perhaps of the fact that people are these days much more comfortable with research than they used to be, is that I have never heard anybody snicker or laugh about the idea of thinking you can put in a study for 100 or 200 years. You'd have been laughed out of the room [in previous era], "Who's gonna make the last measurement?" And maybe the value of that study is that that will give some continuity to that operation. I don't know, I hope humanity lasts that long.

Geier: Well, I'm curious, you've been involved with this for a while. What changed that attitude about long-term studies, and where does that leave us in terms of the ability to complete a long-term study or continue it? There's a number of possible areas you might think about. Funding sources which might be involved, just the fact that we've been out here in the Northwest longer now. The Pacific Northwest Station has been here for pretty close to 80 years now, 70 years, I guess"?

Tarrant: Well, I think it's just betting on the word that the guy's got an interest and we'll put 'er in, and I'll do all I can to see that it keeps going, including making sure somebody is coming behind me.

Geier: Just individuals working there and bringing other people in with them?

Tarrant: Yeah. Quite a concept.

Geier: Do you have recommendations on things that you think a study like this should really look into, in the context of Andrews and the last 50 years? Chris Foster and I have talked about the ways in which the Andrews grew and found an avenue for taking their work off the Andrews, and connecting with other sites or groups. And one of the ones that he's pointed out here is the Mount St. Helens study, which I guess came right about the end of your period in the directorship up there, trying to get recollection of that.

Tarrant: Well, I was down here by that time, but it interested me that the people that turned around and watched St. Helens, were the same group. Which was really the one group in the Northwest capable of doing all that. There were people from the University of Washington and other places, but here was a group of people, who, well everybody was ecstatic with this opportunity, what a wonderful thing [study post-eruption dynamics]. Here we are trying to look at something after the fact, at the Andrews, and here, we get a chance to start from day one? Gosh, there's no way they could have done a study at the Andrews that would be as good as this area to see something start, from right after the big bang, and to watch it grow. About the enthusiasm, it was the same kind of thing at the Andrews, but I think I heard more enthusiasm about the St. Helens stuff. It turned people on, and it was a great opportunity, like a lot

of things were. I think they all could see the application of exactly what they were doing at the Andrews. That there was a moment of opportunity that they didn't miss a beat in taking advantage of it.

Geier: It sounds like what you're saying is that by the time of that event, the Andrews group had already established a presence in the research community that people thought of them as being the people that were set for it? [Prepared scientifically and logistically to study Mount. St. Helens eruption/recovery processes.]

Tarrant: Yeah.

Geier: Do you attribute that to IBP?

Tarrant: IBP gave the opportunity, and it so happened we had enough people with the ability to take advantage of it. That's probably the first generation of that kind of people, and enough time had gone by for that first generation that they could have done that [Study complex post-disturbance dynamics at high level]. They'd essentially done a lot of research out here as far as biology. Those of us that came in right after the war, you started out and by-and-large, you did the easy things, because there was a nice place to start. You had to start and pick away at getting some things done. There was a group that this IBP caught at the time, probably serendipity, that ten years before you wouldn't have had these people, maybe. Then, ten years after that you had a group all ready to go that could respond to the St. Helens thing. I'd never really thought about that, but that looks pretty clear to me. That is the first time we could have mustered that many capable scientists who were really focused deeply, and said, "St. Helens is neat, and let's run up there and take care of that." [Intensive studies first 5-10 years, tapered back after that.]

Geier: You mentioned the last time I was here, you were talking about the concept of getting a critical mass of people together in one location to do quality research, and that at some point you split them up into different locations. Probably what you're saying is that enough people had come together since 1979 at the Andrews, to be a really powerful unit.

Tarrant: Yeah. Well, at Andrews we had that many people that could do the job. And I'd never thought of that, but that's kind of a wonderful thing.

Geier: What do you think led to those people focusing out of that one location, what attracts that kind of person to that kind of location?

Tarrant: You mean?

Geier: The Andrews is what I'm talking about in this case. So, that by the time the St. Helens event occurs, you have this critical mass of people.

Tarrant: I think the Andrews was the best and closest of any of the Forest Service experimental forests. And the Forest Service was the only one [agency] that had big areas in experimental forests. The Andrews was the closest one of the forests to Oregon State. I don't think I remember ever of anybody doing research for Oregon State up at the Wind River. The other side of the Columbia River, and they are having the ceremony to note the passing of the Wind River Nursery. It must be that they can get

seedlings cheaper than they can grow them up there. And that's another interesting thing. One of the other things I did for a few years was work on regeneration problems. I observed that they were planting green seedlings in winter. They'd be green up into May, but the first couple of dry days, many times they'd call in and say, "We got a problem – an epidemic. They're all dying off!" But you could go around the edge of a clear-cut and dig up natural seedlings that had long, succulent roots with great big, long, white things on the end of them. So, obviously, I was able to get them to do some different things at the nursery. They cold-stored these things all winter in bales, and they would get mold on them. One pathologists at the station told them that they should wait till they get the below-freezing days up there in the [Columbia River] Gorge, and the sun was out, a clear cold day, and open all the doors and the whole works, get some fresh air in there. (Laughter)

Geier: Some concept, huh? (Laughter)

Tarrant: (Laughter) They were planning. That was somewhat pragmatic. Where were we?

Geier: Actually, we were talking about your trips out to the Andrews and why they were there.

Tarrant: Well, I think it was that we had people from the station who were working down there. I can't remember any Oregon State people actually doing anything down there before that time. But when this thing came along, somebody down there got together and suggested, and I don't know who that was. That's why I think Dick Waring would be a good lead for you.

Geier: Is he here in town?

Tarrant: Yeah, he's gone quite a bit. He's much in demand. I always daydream about picking the big "dream team" out of the two organizations [US Forest Service and OSU], and he'd be one. Dick Waring, Professor of Forest Science. What is he? He was awarded the Distinguished Professor award a year or two ago. Dick did some real fine physiology work.

Geier: As I was saying I don't want to use up your whole afternoon, I've spent a couple hours already, it's wearing I know. If something does occur to you, you're welcome to let me know.

Tarrant: Okay. I would like to get up to speed on what you're doing.

End of Side B, Tape 1 (of 1)