Matt Thomas: It’s the seventh of January ‘91 and I’m Matt Thomas, and I’m talking to Arnold Bolle about...ordinances were the main thing I had in mind, is that okay with you?

Arnold Bolle: (unintelligible)

MT: I’m just going to start. I studied that sort of defining the terms, and I guess wilderness is one of the hard ones to define. I wonder what you think of wilderness as being?

AB: Well, of course there is no definition in the law itself. Essentially it is one of those left as it was before people, at least people in the form of how to get rid of the wilderness, how to get rid of the natural vegetation, and impose their own use for the land for creating crops or land for living and development. For roads and highways or what was needed for that civilization. This was strictly within the parks or land without owners. Then we started to alter the land, and I think that is the difference between wilderness and non-wilderness.

MT: Who do you see as being responsible, from a social and ecological definition?

AB: I see people, psychologically it was understood by men that the only other restraints was actually the natural course of the fire but whatever else could happened to it, like disease and so forth. Socially it’s a place where I guess it doesn’t change as long as it is in use, and I think in the law it says that man is only a visitor and life untraveled, and I think in the bill it says untraveled is a trap or a saying of this time that catches wild things and captures them and puts them in captivity where there has not been much change or altered by people. It of course prevents use, such as in terms people walking through it or camping in it or catching fish or hunting or whatever else, without altering its natural vegetation.

MT: I was reading in this book and one of the key points (unintelligible).

AB: In a way, there is no such thing officially as wilderness before the law had not been passed but the ideas had been developing. Bob Marshall was as big when he was alive and was a founder of the whole idea and the idea of protecting some of the land immediately as it was emerging at this point. It was the evolution of the Forest Service internally and establishing the various primitive areas, areas that would be kept undeveloped, no roads would go through and it didn’t become wilderness officially as we would designate it until sometime after that, at least 25 years...27 at this time.
It was very sympathetic to me, and I was very fond of that idea, and I would get into arguments and debates on it when I was in school. In the American Foresters, I was on the panel there, and one of the first things I got involved in was about wilderness, and recently I was in forest conservation services for a number of years in Oregon, Washington, Wyoming and back in Washington D.C. and in between times I would gain a reputation. After I got here [The University of Montana] on the faculty I began to formulate ideas on the use and management and care... Somehow management and wilderness were antagonistic because there is no wilderness left to stay as it was, and it was quite the debate for some time. It was a kind of oxymoron, it didn’t work.

So then people started thinking more in depth about it, and minus whether or not what people called it, that wilderness was deteriorating from overuse, and would become a problem. In particular areas, particularly popular areas, there were just too many people. They started talking about, and thinking about management and how to manage it, and maintain...its reputation and its capacity, which is a term used in range management determining the amount of cattle or people or livestock you could have on land, and they started thinking in these terms and some of the (unintelligible) thought that you could just cut down on the number of people because there can’t be that many people who want permits, they can cut down the number of permits. That sounded like a good idea except how would you determine how many people there should be before you started cutting down, and what would a scientist look for to determine that?

We started looking and said the trails were being overused and campgrounds, certain popular ones would get overused and other damages from overuse and too many people. So then it got to be cutting down the number of people...but you are still going to have some people in one spot, if you focus on one spot, that’s not going to do it alone. I started thinking and it gradually developed that we would have several spots and we would try and identify these: where are the problems, where are things unsatisfactory, and what to do about that.

The (unintelligible) developed and the Forest Service got people working on research, and in fact quite early when I came in here on the faculty when we were thinking of this particular area of concern, we had formulated and established a scenario...and when the Forest Service established its research station in the community of two people established it here. I like to think we had a little bit to do with it, we had Bob Lucas here, he had been working in the community in Minnesota and he had been doing studies on wilderness people use. He was a geographer but also had to deal with human attitudes and so forth. He was really the only person we identified as good for this research so I set out to hire him on our faculty. Well, he was attracted to the idea of coming west because this was where all the wildernesses were, so we were left with all kinds of transactions going on in the Forest Service, and he turned us down after some negotiation but the Forest Service then turned to step up their wilderness station out here. I think Bob never effectively admitted this, although he sort of smiled when I accused him of it...[Telephone rings]...of refusing when I tried to get the Forest Service to move.
him out here. But that job would pay more...but he came out here without having to hire him, which was great because we didn’t have to hire someone else.

[Telephone rings; break in audio]

So anyhow the Forest Service have done good work out here, and we have done with them, got together with them, and established the Wilderness Institute here at the school...then we got people into the area, Bob Green was involved with it, the wildlife (unintelligible) worked on this in Minnesota, and Lucas and Sid was involved in the end of this sort of the idea of identifying the telespots and then raising this question of...acceptable change, the ideas certainly that some change takes place when people start using it, and some areas people just can’t stay overnight...as more people show up there’s going to be campfires and foot trails...and the point was there going to be some change with regards of how much you use it. What is acceptable, and what is considered to be acceptable? The definition of what we considered wilderness and what isn’t. This was an important step to be thinking this way...

That was those, and the idea was sitting around not really being used...research was actually a big thing...At the same time the forest planning process was underway and I was working on that to quite an extent. Act of 1976 leading up to this process by having some management had to cover all the land in the ranger district or in the forest at some time and they would have the management in the wilderness which was just a bunch of (unintelligible) and said nothing and there was nobody there to have something in the files. The sheriff would be looking after things, along with other things (unintelligible) going into why the fire burned (unintelligible) fire research (unintelligible).

One of the other things that was recognized in fact I think the important one is that wilderness research above anything else was mainly the management of peoples use...of their own idea of management and manipulating the landscape...Essentially to protect can be accomplished by managing peoples use. The point then is that this was recognized that wilderness use was (unintelligible) entirely this idea developed the most important means of accomplishing long term use or the desirable use of the wilderness, was education (unintelligible) reached its peak at its most successful trial application in the Bob Marshall Wilderness. A lot of people know Bob, I’m bringing in another track...

Jerry Stokes, I first became acquainted with him (unintelligible) Blackfoot River out here runs through a forest, it’s a beautiful natural—it’s not a wilderness area, but it’s a wild natural river, very nice. We want to see the thing stay that way and not be made in subdivision like it already starting along the way in spots. So the manager of our course up there, Hank Goetz, I don’t know who hired him. We were having him do some teaching up there but he didn’t have his master’s degree, and the general ruling of the university was don’t let someone teach students without a master’s degree. Hank and I figured how he would earn himself a master’s degree (chuckles). He took it up right away—what were the interests, what was managing the protection? Then the various means of doing that that existed. It was a mixed ownership, it was
our ownership, most private ownership more than anything else...some of them would, but they were unhappy, that sort of thing...

[Following paragraphs are difficult to hear]

About that time we were looking for (unintelligible). Anyhow, we started talking with some of the neighbors, and about that time we were looking for (unintelligible) and got in touch with the old director of (unintelligible) hadn’t heard of that organization in years, it was established for the (unintelligible) commission for recreation resources. Jerry Stokes was working for him, and he was very much (unintelligible) worked together... He and I hit it off very quickly... he worked mostly with me and I worked with landowners (unintelligible) quickly got the landowners together. He didn’t want anybody using his land, got signs all over the place and so forth... they got us working on an agreeable system the state—they were always trying to open up gaps so people could get through... People weren’t too happy with that. At first they didn’t want to do anything different than what they were doing, but they finally came along, and very well. We worked out a plan with landowners and people around there... about a 30-mile stretch, but prevented the use of (unintelligible) and some of the land along the river. Anyhow that whole stretch of river now...

Jerry showed up and he was doing his doctoral thesis at Ohio State University using his experience in the Blackfoot for a thesis... and he asked me to be on his committee, which I did. (unintelligible) worked for the Forest Service and ended up on (unintelligible). When he came out of his thesis (unintelligible) of a bigger group with more people involved for the Bob Marshall Wilderness (unintelligible) talked to the supervisor, Tom Emerson. He was a timber man essentially, but he thought, by god, the Bob Marshall being a sort of flagship for the wilderness area that he should be the first one to get a good plan. I wasn’t sure how to go about doing this, the important thing is getting involvement of the public—the Forest Service—try to figure out how to do this. One of the interesting things here was that the Bob Marshall lies in four different national parks, the biggest piece—Lewis and Clark—are all a part of it. This was an interesting development, like many wildernesses, the bigger ones, it had this problem with boundaries between four different districts or whatever. So that led to some complications...

So we picked out the various groups that were represented by users and then tried to (unintelligible) sort of leadership found in the unobligated or unaffiliated public... we had the (unintelligible) Association and the Fish and Game Clubs around the state... all the different groups that we could identify and others. Men are always men, and we started talking first of all about if they would like to participate... we figured if we made publicity so people knew about it then anybody could come forward, and we were sort of inviting them and in a few cases they did. In other cases people were very disinterested about the (unintelligible) natural selection takes place we went through this we developed a selective process (unintelligible) every representative. We started what we thought was the most important thing was that we could reach a common understanding of what is there, what is available, what do we know,
what's new? So there were various surveys made, and we were asking about the range use up there in the Bob Marshall and identifying places and identifying effective tax brackets and so forth, and also a better use of wild land...

Looking at it we got some good information, everything else that was known about the place—wildlife and that sort, and also pointing out what was not there (unintelligible) in the process the Forest Service was providing the information at the same time as asking questions about (unintelligible) and one of the main things they were trying to get at is what did we see that was wrong? Maybe there were too many things we didn’t like...and that came up...and this was quite useful (unintelligible) trying to aim at, “What’s the goal here?” and it’s really interesting that the normal process of operation in the Forest Service (unintelligible) and people doing certain things and there are certain rules, regulations that you could hold people to. Virtually all in the process of negotiating some kind of agreement and getting insight and trying to compromise and work things out, using the same attitude as the Wilderness Act and they figured that no doubt they would have to be giving in at some of this (unintelligible) the law is supposed to keep it natural and all that, but...

I got to get along with something and it’s very interesting to see this develop as people start to talk that it was these users that were keeping us people out there in the wild who were really much more devoted to keeping that place natural and its best state and meeting all the goals of the Wilderness Act. The foresters were really going to do it for you and planning, and pretty soon they were being told, “What the hell is the matter with you guys? (chuckles) “Come on, there can’t be anything, we have to keep this thing as it is.” So that immediately came forward, and much stronger, and I felt (unintelligible) that I am gaining confidence, anyhow we developed this system and...we did research that was quite helpful here although they had figured that there would be places in the wilderness that maybe you couldn’t keep quite up to standard. We call these transitionaries and the people said, “The hell with that there’s no—”

[End of Tape 1, Side A]
AB: Then they developed things called four opportunity classes. There is a fourth level, essentially where you have your entry trials, and also it was just about the first day it kicked in and they seemed to be the places that were most heavily kept so these were the ones that required the most advanced attention. We recognized everything we had, this is where most of this would occur. On the other hand, were places way back, no trails, they were the most pristine. Practically nobody ever got into them, or very seldom anybody got into them, and didn’t get into them except maybe getting lost on trails, maybe hiking, maybe get a horse in there, but this was backcountry. There were in-between, so we had four different opportunity classes and we had certain requirements that are both for, the biological side of things, the (unintelligible) what you used in the soil, but also social—the number of encounters other people had, like this one here... Guy did research here, in the station had been doing this, many kept asking what quite, what they expect to find out there and what happens if they saw people, met people under these conditions. So they did this (unintelligible) where most people were, if you meet two or three parties a day, that would be, wouldn’t be too bad. In the free (unintelligible) areas you wouldn’t meet anybody. There was that kind of a spread (unintelligible) then the physical things like, we figured out some standard (unintelligible) what we’re going to do research here on coal, lugging it, what effect happens when people camp here, what happens. Signs of campfires and so forth and do they chop down trees and tie up horses to trees and these things. Nonetheless we looked at these practices to keep track of what is going on. Acceptable change, unacceptable... So we got that, to the very best knowledge of the people there, we worked a total of five years on this getting together and working, getting out in the field and looking things over and a whole lot of things that developed along the way.

Since the Bob Marshall was sort of the most beautiful (unintelligible) anywhere. I guess somebody out there who came up with this idea, “Let’s make this covered, let’s have limited fishing out there.” Some people were pulling in (unintelligible) and bringing out a whole darn cooler full of fish, or smoking them or something else, and this was no good. We limited—we got down to three fish a day all of them below 12 inches I think it was. The Fish and Game Department was (unintelligible) we got laws and stuff like that if it is in the wilderness or not. They listened very closely to what their clientele, what fishermen, hunters say. And boy, this became immediately popular with fishermen and the Fish and Game quickly changed its attitude and now they’re doing it...the fishing has greatly improved and now they’re taking full credit for it.

The side effects of this pact (unintelligible) came out and put out the first plan (unintelligible) somewhere, take me a while to find it (unintelligible) Steve McCool. By the way, decent guy, Steve has been in this deeply now. After the first or the second year I guess it was, Steve McCool left and took a job in the East. Steve McCool had been involved with us quite early as a graduate student. He was sort of observing at the first and studying anyone who was participating. When Jerry Stokes left with the (unintelligible) forest, which he put Steve on for a
year out there, and Steve had had it and he'd be the guy you figured you'd talk to because he had all the specifics, all the information. He had (unintelligible) Steve in fact, in this whole process he was just great. We came out with a plan, and the important thing to recognize in the process was that the end product of what we are doing is not a plan, not a management plan, it was a process. A plan is sitting on the shelf nobody uses it, a very different thing. Here we were developing a process and the plan that we put down on paper was the first step, and that's all, recognizing we had to make a lot of assumptions for lack of information. They also recommended certain things we don't (unintelligible) certain specific places. But then also along with it, as part of the process we made a monitoring plan requiring the Forest Service itself to do the monitoring, but involving other participants so that the police, when they were up in the area, that they would look at these things, examine these things, and see what happened. There was an extreme case, two cases (unintelligible) campgrounds up there that year, it was detected, or wasn't to some extent... People putting up a few signs (unintelligible) were doing all over because people were coming up to use it so that they understood what was being attempted and asking for their cooperation. Which is generally very good... Nevertheless, you recommend something and carry it out, but then go back and look at it and see if it worked. What seemed so logical and simple was seldom done... Reportedly they'd done it and they had not. But you'll never know or not if you never evaluate. So this monitoring system works, and every year at least once, there is a meeting (unintelligible) get together and just look back and see what happened and where to go from there. So this is a continuing, ongoing thing, and this is really part of the management process that these people are continually involved—

MT: (unintelligible))

AB: Is what?

MT: Has it been adopted in...?

AB: Oh yes. Word of this got out very fast. People here got very much interested in it. Steve was then going in to carry out workshops, which he did with the Forest Service and the people out of the BLM and the Park Service got interested in it. These people carried out a number of projects at this time. One of the processes was right here in the Rattlesnake, it was having some problems—working on that one. There was another group over here on a bit of the (unintelligible name), and that was getting along in good shape. There were a number of others... Steve would know most about what was going on, most were very, very good. In fact we were concerned it was getting out of hand and people were coming up with the idea and had a doubtful understanding of what was going on, but it was going very well. Now the Forest Service nationally had never really taken it up in a big way of course they don't provide much leadership at all nationally. In fact they felt somehow that they were giving away too much, by letting all these people in that they were somehow not really being in charge or running things. This was the kind of paranoia that comes out of Washington D.C. Because the people in the field think it's a great idea and generally are doing very well with it. The one tool we have is that they're likely to shortcut the social process of involving people; they get impatient with this,
and say (unintelligible). Every time we get attached to the people you’ve lost, as far as any valuable plan, you’ve lost it. You got to keep the people (unintelligible).

MT: Like getting the people in certain ways kind of being throughout your career?

AB: Yes, right. Yes, that’s right. I had earlier on in my experience with the Conservation Service...I had been with the Service earlier in Wyoming. I quit for a while and did some writing, then went back and on the West Coast and ended up being audited. Had a chance to look at the government from the human side, the people side and see what was important.

MT: (unintelligible) the Conservation Service in the process.

AB: Figuring out why they weren’t a little more effective, why it wasn’t being accepted. It was obviously good for them; in fact it was certainly improving their holdings. So we hired a guy who was a social psychologist, John Shea, who had done a study for the Forest Service earlier down in the Southeast, trying to figure out why the people had fires down there...it was very interesting reading it. I read it, and got a big kick out of this— superstitions about it—filled with snakes and, what did they call it, disease they get down there? They just enjoyed breaking the law or something. He would tell the Forest Service how they might improve their operations. He was hired with us (unintelligible) about human conversation, how people work together, live together. How they interacted, and how they made up their minds, really about what they did with their land... The idea was to get the people to do this, demonstrate (unintelligible) everyone would see how great it was.

Well it didn’t work. Sometimes it worked, but sometimes... You’d get a guy to do something and then pretty soon he’d go and wipe it all out. Now understand, if you’re making a person do things differently then is customary and then his friends would resist this and put pressure on the guy. The way to do this is to—people have normal social groupings, the people that they normally talk with, are friends with. They usually talk these things over, mull over them, do something. When a new idea comes in, they want to talk it over, look at it, and get accustomed to it. Then if they do it, it’s sort of a group decision...so they’re not inclined to...come forward or tell people...and they just regularly communicated with each other, they sort of had the grapevine going. If one knew, pretty soon everybody knew pretty quick. So the doctor instructed how to do this, how to find these people—and this is great—a lot of work goes in, but the doctor didn’t have much to say, except that you worked with them in a very democratic way, because you never told them what to do, but you asked them.

Well, we took from that and worked out a system that just worked beautifully. After I got some ideas on this I wrote it up and suggested that we try this out in a trial district. My boss, Van Dersal, a key player, hell of a nice guy, he said, “Sounds great, let’s try it.” So they got it set up for me. (unintelligible) So I got soils maps made and all the information I needed, basic knowledge of all the places. Meanwhile I was going out interviewing and finding out about leadership structure, and these were local groups, and there were levels of community leaders.
and larger leaderships and so on... The level above here are called the opinion voters. These are the people who generally you respect their opinion and think if they want to know something they’ll ask these people.

From this structure, I went out there first and I was starting to learn this structure, identify just by talking to people, a certain leader who (unintelligible). So I explained the whole structure of people, about 300 ranchers (unintelligible) and in the smaller groups. We got the information ready and then I started meeting with them and the first thing we had was a soils map. For each of the different soils and so forth we had recommended groups, suitable accommodation levels and the kind of practices you should carry out if you did that in order to save the (unintelligible) soil. Anyhow, it started and I had these soils maps. I let them know that we were doing this. I had a get together with the group. I’d go out and find out where they were just by talking with them, I’ve already got their information. I’d tell them what I’d like to do, I want to speak with these people just with each other...just talk things over. I’d say, “I’d like to come up, is there somebody I ought to talk to?”

Then they’d say, “Well, go and talk to Joe over there, he’s their leader and they respect him.” He’s not the leader in terms of leading a parade or anything but he was the one that they had looked to for advice. They trusted that he was most concerned with all of them. Well, you know, we’d then start in by (unintelligible) one question. Somebody looked at a piece of land with the idea of buying it, a living rancher or farmer who had done this somewhere. We’d say, well, what was he looking for?

“Oh, a type of soil.”

“Okay, what do you mean by that?”

“What’s the pitch? Well what else are you looking for?”

“How steep it is and if it’s got alkaline, or cedar or anything else.”

They got everything that the soil had not provided them, which are essentially what they had. We got away from the (unintelligible) but that’s all we were saying. So when they understood, they’d say, “Now this is the soil.” I’d looked at this, I’d certainly look at this and see if it’s right, we may have made some mistakes and anyhow...

Let me start talking about some other things—well, instead of telling them what they ought to do about things I started asking them, saying, “Now you people... I have got some things that I think can help you with, but you’re the ones who know more about your land than anyone else. You’re going to have to tell me what to do about it.” So now your main problem is, let me start (unintelligible) coming at it just blindly (unintelligible) these problems or how they relate. Water and soil washing down to the bottom and washing off irrigation and whatever else, and finally the trouble was the rain wasn’t getting into the soil...so we get to the problem and ask

Arnold Bolle Interview, OH 252-001, 002, Archives and Special Collections, Mansfield Library, University of Montana-Missoula.
them if they know what you can do about this kind of thing. Then it starts coming out, and so on and so forth and then we start finding out where we can provide some help and usually we come out then and ask them, and (unintelligible) them. The first thing we did was let them take a tour of some other place somewhere to see something like this in action. Then we’d go in and decide where we were going to do it first.

Pretty soon everyone was doing it. This worked so well, this organized the whole damn community and for seed the next year we went to the seed dealers and got them to use the proper mixture. From what research has recommended, incorporate everybody into it...We got the whole community involved and the whole damn...every damn ranch in the district signed up and working in the first year. Normally we’d get about 20. This was a whole new system—teach every piece of the 250 field units how to do it. It’s essentially using the same principle, has many people involved, drawing them in, first of all giving them credit for knowing something, respecting them...We’re fellow learners working together. The Forest Service learned a hell of a lot about the process through the Bob Marshall classes, especially the one on keeping the integrity of the areas. Another thing is important about ordinary people’s behavior in management—we better find out what behavior is, and why, why do people do it, and what would make them do it again. This involvement, when they think you’re being patronizing, by admitting that you’re a fellow learner or not, you sure as hell aren’t...From then on, it’s like—

MT: We were talking about the wilderness particularly but some of it (unintelligible) a different pattern, anything—

AB: I think the Forest Service could work out the whole problem, they invited people together—power I guess or something, I don’t know. I think if they would bring in the leadership of all the different users in their ranger districts in the national forest, put them together and start talking, they would be antagonistic for a while. But I think they would begin to understand each other a lot better and recognize that it’s possible, I think it would be possible to work out a more reasonable situation. Maybe not, but I think that (unintelligible) certainly a lot better than they’re doing, and I think that people are being totally unreasonable, that people who are really damaging the resource in the process are clearly identified by all—

MT: (unintelligible)

AB: Yes, well, now here’s another thing, another angle. In the while I was working out the code I got acquainted with people in the university and the social psychology areas. I looked them up. I’ve been reading some of their material. Great Reading, there’s a lot of stuff on this...they used to call it the Bethel (?) group, started in Bethel lane (?). People they were looking for, there’s plenty of leadership, management types. Then I went and carried on a great deal of research while looking at, they call them leadership types, and identified various types of management, leadership.
The autocratic criteria, where the guy is boss, and he ran things, he told people what to do and they did them. The lazy painter was the boss who sort of sat back and (unintelligible) ran off in every direction, the various levels of affect, they always figured, “What the hell?” Well bureaucratic, which is similar to (unintelligible) except they sort of dodge responsibility by just claiming, “Well we can’t do that because our law says this way and now you know we can’t change this, can’t, so on and so forth.” Then the democratic. This was really a tremendous breakthrough what I’m talking about here, the democratic type of leadership. The group that’s working together on this before we were brought together, now this could be any kind of association; I used the same process as Dean in the Forestry School. I used it earlier when I was working for the government. It works very, very well. It takes a lot of work. In the authoritarian leadership the boss is normally fully aware of everything that is going on. He has the program and...he’s in charge of, and he brings in the other people under him to the extent that they are involved. That’s their job, it’s what they do, and they don’t concern themselves with anything else. Everything must be given total authority, or lack of it or rewards them or punishes them, whatever else. He keeps them under his thumb. Very clear-cut...everything is defined very clearly, and everyone knows exactly what to do, and they do it and that’s it. General direction of the obvious, but you’re going to do your job and don’t bother me, okay but don’t bother me unless you have to. So he just lets them go, and they do a good job or a bad job.

They’re never quite sure whether, and they’re never fully aware of the program, in fact they might not be fully aware of what they’re supposed to be doing. They do something to figure it out (unintelligible) university or academics probably meant very little...but the democratic process, the leader sets out to build a team. He brings everybody in and tells them about the whole project, what they’re going to do. What their aim is, what’s the goal, what are we working for, what are we doing. So they all understand all of it. We explain what you are doing and how he’s working on this, and then for each one (unintelligible) and there are many places where their jobs may come together and overlap or join. These are fully understood and work these out. And they regularly work with the (unintelligible) form, so we got together for eight times a week, sometimes every day in certain circumstances. First thing in the morning, many places operate this, doctors and nurses who want to get together first of all and make sure everyone knows what they’re doing and what’s involved. They’re fully kept informed. When they meet certain problems they can fight them. They cause the success of the work. In dealing with this invites information in, and you give credit, credit all the way around to everybody for the job done...what’s been accomplished. Now the authoritative rule praises and also criticizes openly individuals in front of everybody else. It’s embarrassing. The criticism of the democratic criticism is on an individual, on a personal basis, you talk to them personally...not embarrassing. So anyhow, this is involving—

[End of Tape 1, Side B]
AB: Most organizations, this kind of training, when someone says, “Oh, I don’t know” in a natural resource program, he comes out of school, he’s trained in some area of resource and he knows things about trees, timber, knows a lot about wildlife, or soils, or range, a specific field, rather sometimes much too limited in a way. He goes out, and he does a good job, let’s say he puts out an outstanding performance, he carries out his duties. When I came out of school I was hired on a range survey and I went out, had a great time, wonderful working there. I was put in charge of chief of party and I worked my way up and then I was put in charge of the field office, you know all these things I stepped on up. Pretty soon, instead of dealing with the resource, pretty soon I was dealing with people. I had no training for that at all, noting at all, I just had to learn. They tell you to do this, and they have that guy doing this and so forth and to the best of my knowledge how to do this.

Van Dersal, I had read several books by the man in fact he was working on it when I was with him, and he sort of had the great sense to talk a lot of it over with him. And he pointed out these basic principles. The books, I’d like to look at those. In fact I need his last book, he just died last year. Great guy. But he was a—he had learned this. He had gone through the same process; he had to learn for himself. He was a wildlife biologist when he started. So he wrote some books on wildlife, then he ended up writings books on management. In fact he was the head of the Graduate School of Agriculture, the Department of Agriculture in Washington. So there was this gap, and everybody, in most resource manager’s education. We had filled this in, we did this, and we had this chart course at the university for many years that brought people in at just that level where they’d be getting into the management of people and operations. It was some of the basic knowledge that they needed. I came in, in sort of the same general way, step by step. Meeting Van Dersal was a big boost for me, because he was the one who got me acquainted with Shea, and his work (unintelligible) bringing him in.

After that, I got a fellowship, a scholarship to Harvard in public administration. My god that was a great thing because this started looking at these much broader areas and working with people, how to operate where people were and how these things were done. Our minds tend to get too narrow and can’t understand these concepts and I’d say you’d really have to be educated, you’d have to be deliberately taught, well most of us anyhow, to understand and work the democratic process. It’s very interesting that he came to me, talked and learned. It’s not inherent. People aren’t automatically (unintelligible) although in some areas people could do that very well. There was sort of a standing joke, the question whether engineers were authoritarian by becoming engineers because of that or were they becoming authoritarian by becoming engineers. This was sort of a case where you had an exact answer. It was either right or wrong, there was no question. Or pretty close to that, in most cases anyway. Anyhow that’s sort of the way I guess people naturally go. Left to themselves people just sort of became authoritarian.

Arnold Bolle Interview, OH 252-001, 002, Archives and Special Collections, Mansfield Library, University of Montana-Missoula.
A \textit{laissez faire} was just about as common, later on I studied these when I was in the Portland office. When I got into the field offices, I would study these with Van Dersal there, and see just about how these classified, how many we had in different areas because when I was sent out to work with them basically this is what I had to get to understand and learn. To find out where they were. It was interesting, I’d say about 60% I’d say were authoritarian at various levels. Then the other, almost 40 percent, boost it to 70 and probably more about 30 were \textit{laissez faire}. It was a pretty sloppy operation. We found two instances where there were littering of the democratic process. But these guys had sort of a come by instinctively, they didn’t know, that was just how they naturally lived. It’s amazing that it was that small, that small of a percentage had developed this way. But they just naturally would talk things over and invite everybody in on things and work this way and the operation in both cases was beautiful. The authoritarian, well let’s say the supervisor generally said, “Well he certainly got things under control, and he’s making things work but I sure as hell don’t want to work with the son of a bitch.” It was that kind of feeling. Nevertheless by god, he was doing it. Of course everybody he trained had the same stand, tried to be the same thing. So our main job in getting this transfer was to teach people this democratic process of leadership and understanding.

MT: So apart from teaching them the process of administration how to deal with people—

AB: Yes.

MT: It seems like this was a good example of something else that came up, another topic about the system (unintelligible).

AB: Yes, that’s correct. I think this was the big thing in Harvard, did these things together. While I was there, a friend had just gotten out of school they had asked me, they had a committee for the Conservation Society, educational training of resources people. We got this committee together, pretty terrific people. This is what came out, that really the education tended to just turn out, spring out in different directions. While the students had the basics of knowledge that we had to put together in order to figure out these things that the synthesis of these ideas was just all that was left in the end. It was not part of the education. This is where we came up with this senior, well actually starting in the undergraduate program but it was starting to get in four year programs was a synthesis that brought it together. The resources—resource needs of what had to be done, and the human process in these tougher...and through this process we would bring in—this is the basic thing. If you aim at achieving understanding of the problem, it sounds really simple. What we came up with was when we asked the question, What did the student learn? What did he know?

Take the forestry timber. What he learned was to figure out how much timber was on an acre of land. This was a key situation. To figure out how fast it was growing and all that, but mostly that was it. Nothing beyond that. The problem might very well lay totally somewhere else. We were trying to solve, whether it was the conservation of soil or the protection of deer, or some culmination of these. Till you understood what the problem was that you were dealing with,
you were in no position to try and talk about solving. The lack of—the tendency goes to apply answers to everything without finding out if it is right or not. If you have such good answers, well I don’t have to go find anymore. The focus of education was, should be to this point. We are able to analyze problems, and work out solutions. The decision that was being made, this is what characterized professional education...this was the defining ability that a professional would have. A professional would have those resources (unintelligible) put so many things together and synthesize them, make it simple.

MT: Seeing that it came more and more to your career and if it was more ecological versus the more (unintelligible) approach?

AB: Yes. They go together. The interesting point here is that the ecological approach left by itself...the whole process tends to make you believe you’re going to solve everything just through ecological processes somehow. This is lacking, you also have to decide what you are going to accomplish by doing that and to what extent, or what level of ecological processes you want to go. Ecological processes are, you have to see what you can do, weight them, the manipulation you find with certain things (unintelligible) something other than just keep it in its natural state. What would be suitable, without destroying or setting back the potential of this land, the capability of this land? You don’t want to impair it and say sooner or later it’s going to be land for other purposes. There should be a goal to try and maintain a high level of virility while certainly not using the soil or losing its virility. We have understanding of the processes and it’s up to you to decide how and in what ways to put them together to achieve other goals. You have to also understand the other goal to see if it—what the possibilities are for manipulation there too. If your goal is to get the maximum amount of timber out regardless of what, well then the process is total. You have to decide what method is useful for the area. In fact right now the ecological processes down next to this timber land indicate that it’s possible to do things with it, in the interest of it. While the economic processes say this is nonsense, you’re losing money on it, you shouldn’t even be touching it. In fact the economic ecological process can be much straighter. It’s good to know where the limits lie. You need to hit it in some combination.

MT: What made your revolution in seeing the way people think about natural resources?

AB: Yes, the whole—there was a tremendous changing in understanding how relationships with the land—it was really a long time. It was during my last time where Bennet discovered we had been losing soil and we had lost a tremendous amount of that and on top was a great deal of virility before we even came into the picture. So an understanding of this, this is major really.

The whole business of plant relationships I think, was just beginning to be understood when I first came into school. The first books on ecology were just being written at that point. Getting some understanding of the processes. Most of those have been sort of sneered at now, but they were some beginning ideas. The idea of plant successions, the idea of plant deterioration, of plant communities as the result of overuse and the interrelated effects of this to the soil and
to moisture, which is actually reduced by reducing vegetation and creates erosion by water running off and not going into the soil. An area that would get 20 inches of rainfall, you sort of impose about six. This was the kind of understanding that this was a long process heading back. The whole business of forestry I’d say, and its management in terms of the whole business of interrelationships between forests, and it was beginning to be understood. You just won’t accept it I guess. The effects of harvest on erosion, on floods. I think particularly on fish spawning and wildlife. These relationships in particular are beginning to come into understanding. I was reading a book on game management as it’s based on habitat. First time reading I put those ideas together was that habitat was responsible for the wildlife. Essentially most of our information on air and water pollution—we understood something about it, it wasn’t much of a concern. It was really quite recent that those that recognized any of the health implications of all these things. It was widely accepted. Thinking of that question I’ve lived through a hell of an interesting time.

MT: It certainly seems that things have changed.

AB: You young people, you got out of hearing all of this. We left you a big legacy.

MT: Well, that’s a good idea to learn.

AB: We should have learned something.

MT: This would be a good place to stop if you want.

AB: I think this might be a very good place.

MT: Okay.

[End of Interview]