

Michael Kline: Now, tell me your name.

Janet Brashler: Janet Brashler.

MK: You came here from?

JB: The Midwest. Chicago.

MK: Chicago?

JB: Illinois.

MK: In what year?

JB: 1981 was my first year here. So, I've been here almost four and a half years.

MK: You are employed with?

JB: The USDA Forest Service.

MK: As?

JB: As a forest archeologist. I'm responsible for their historic preservation program.

MK: Can you tell me just briefly about your own background in this area?

JB: Let's see. I have an undergraduate degree in anthropology from Northwestern University in 1970, and a master's in anthropology in [19]73 and a Ph.D. in [19]78 from Michigan State University. Have taught college for seven years and have worked for the Forest Service for almost eight years now.

MK: What is your special area of interest?

JB: Particularly interested in the adaptation and coping, I guess you might call it, of prehistoric North American Indians, particularly in the Eastern United States. My dissertation research is largely on Michigan Indians dating from about 700 AD to about AD 1200. Since I've been in West Virginia, I've been interested in particularly in the relationship between prehistoric populations and their environment. The kinds of places that they chose to settle. The kinds of resources that they were extracting from the environment to survive and those kinds of things.

MK: So, you looked at a lot of Native American prehistoric sites.

JB: Yeah. Since I've been here, we've recorded something close to 200, 250 prehistoric Indian sites within the boundary of the Monongahela National Forest. Some of them are not – most of them, as a matter of fact, they're not very large. They're not very spectacular. They're rather small temporary camp sites. Some of them are a little bit larger. A lot of rock shelter sites. Sites

that are located in areas where Indians were probably hunting or collecting wild plant foods like chestnut or hickory acorns, that kind of thing.

MK: So, they were transient people? People on the move.

JB: Yeah, I think, for the most part the people who lived in the Highlands area of West Virginia. By that, I guess I would include the vicinity of the Monongahela National Forest. They probably stayed in this area. But I don't think that they ever lived in one place year-round. In other words, I think they stayed in a circumscribed kind of area territory that they identified as their homeland or their home territory. Well, I think there's very little evidence for agriculture. For example, the practice of growing corns, beans and squash in this area in prehistoric times. I think if you get over into the South Branch Valley, for example, there's good evidence for prehistoric cultivation. But here in the mountains, I think that the climate, the environment, well, here it is April 10th and it's snowing. [laughter] I think that the climate and the environment really restricted people in their ability to develop a stable food base, like you can achieve with agriculture. So, I think that they maintained a somewhat wandering kind of existence. It was a patterned kind of wandering though. I don't think that they were just sort of saying, "Well, where are we going to get our next meal?" [laughter] It's not that kind of thing. I think they were probably – had a scheduled kind of movement from one place to another as the different resources became available.

MK: Based on their knowledge of the –

JB: Based on their knowledge of –

MK: - the movement of herds or –

JB: Well, I don't think that there were any herds really, either here. Because again, the environment doesn't lend itself to herd kind of animals. The deer were probably quite abundant and during the winter, of course, they yard up. They have a tendency to yard up. But nothing like the Great Plains buffalo herds. I guess their resource schedule – and we're just beginning to get glimmers of this scheduling that they took advantage of, would probably have them down near the rivers in the spring, summer and maybe early fall. Then probably in the early fall, they would go up into the mountains more to hunt deer. Because the deer would be fat, heavier, more food on the hoof by then, and collect wild plant crops like nuts and chestnut and acorn and so forth. I think down on the rivers, probably they were collecting a variety of plant foods more than collecting fish. Because I don't think that the fish resources in this area were ever very abundant, pre-historically. I mean, those little trouts are [laughter] pretty small. It's pretty hard to sustain a large population on six-inch brook trout. [laughter] Yeah.

MK: It is not like catching a big salmon.

JB: No, it's not like catching a big salmon or catching a whole bunch of big salmon. So, the availability of riverine resources was probably a real limiting factor to population size as well as the harsher climate and the mobility problem here in the mountains too having to walk such a long distance just to get over the ridge.

MK: So, do you see evidence in your exploration of these sites of drastic changes or alterations in the climate – the weather cycle?

JB: The earliest evidence that we have for any prehistoric occupation in this area would've been at a time, at the end of the last ice age. Right at the end of the last ice age, probably around between 9,000 BC. The site locations don't necessarily reflect, any preference for warmer versus cooler areas within these mountains. Some studies have been done in adjacent areas of Maryland and Pennsylvania that have documented significant changes from the end of the ice age until recent times. It's likely that people were responding to those climatic changes. But so far, we haven't done many real detailed, in-depth explorations of the sites to be able to document those kinds of changes. Does that make sense?

MK: Yeah.

JB: Okay. Cut that part out. Does that make sense part, you can cut that part out. [laughter]

MK: That is nice.

JB: One of the problems with the sites around here is that the soils are very acid. So, a lot of the environmental data, which would allow you to reconstruct environment and changes in hunting and collecting patterns is rotten. It's dissolved by the acidity of the soil. I mean, the soils aren't so acid that if you put your hands in it, you get burns or anything like that. But over a period of hundreds and thousands of years, the low pH of the soil – average pH, for example, the soils around here are four or five, neutral normal is seven. So, with a pH of four, a bone will disappear in the space of a couple 3,000 years. I mean, there will be nothing left of it. So, that makes the problem of reconstructing the environment and reconstructing some of these hunting and collecting patterns a little bit more difficult and challenging. Requires certain degree of luck in finding the sites that don't have as acid as soil. We're beginning to locate some of those right now. So, I have hopes that in the next few years, we'll be able to tell that part of the story a lot better. Story of environmental change. But as the glacier retreated into the north, back way up into the Arctic, the climate did change here. We know it did get warmer. We know that over a period of 6,000 years, it got successively warmer and that the vegetation patterns changed in the area. The prehistoric Indian people who were living here certainly had to respond to that change in some way. We just don't know the real specific details of how, in terms of the animals that they hunted and so forth. We also know that, for example, between 12- and 1400 much of North America and probably over much of the world, there was a cooling off period. It was called the little ice age actually in climatologists' terminology. So, that the temperature that we see today, even over the last hundred years, is part of very broad weather patterns that have been going on for thousands, millions of years on the planet. It's quite likely that the averages will continue to change and human cultures will continue to adapt to those changes.

MK: In recent prehistory, have there been periods of excessive rainfall?

JB: How recent is recent, Michael? [laughter]

MK: I do not know.

JB: One theory pertaining to the Ice Age, to the Pleistocene that is being explored, I think currently, is that in the warmer climates, like in the tropics during the ice when Europe and North America were covered with continental ice sheets, there were things called pluvials. Which were periods of time when there was just excessive rain, intensive rain, in the warmer climates while the northern climates were being covered with these big ice sheets. There's some evidence to support that. We're talking about millions of years ago right now. In recent, and I would call that recent in geologic time, I guess. In human history time, I don't think that I'm familiar with events like that insofar as the occupation of a continent in North America by human beings. I think certainly those kinds of things occurred, floods, heavy rainfall. We have some good geologic data to support the fact that floods have occurred and always will occur probably, if the principle of uniformitarianism is a real and true principle, which I think it is. But –

MK: So, we were talking about human prehistory and floods.

JB: Right. The fact is that floods have occurred, I think, in the last 10,000 years of human occupation in this area. I think that we can document that fairly clearly from archeological sites. In some cases, even be able to date the frequency with which they occur. The best example that I can think of is in the late 1970s, there was a big flood up in Pennsylvania Williamsport area. I don't know if you're familiar with that at all. I'm only vaguely familiar with it. [19]76, [19]77, [19]75, [19]72, I don't know, sometime in the [19]70s. An archeologist up there spent a fair amount of time because he was working on a research project on the river. Anyway, recording sites that were affected and how they were affected. Coming up with a scheme for identifying the different kinds of damage that can be done to archeological sites. Then doing some documentation on the frequency with which flooding had had appeared to have occurred on some of the sites that he test excavated as well. We could do some of the same kind of thing here. But we haven't done it. It's one of the things that would be more interesting to work with, particularly over there around Seneca Rocks. The stratigraphy that is still visible from the channel that was cut through the picnic area, the Forest Service Visitor Center complex they're still intact. It's still there. There's some potential for coming up with a date for the last major flood episode that would've been similar, perhaps the one that happened here in November. That's a piece of research that would be very interesting to do. We haven't done it yet, though.

MK: Well, talk about this flood.

JB: From an archeologist perspective?

MK: Sure. From any perspective you want to.

JB: I guess, from an archeologist perspective, I think it's been a real kind of sad thing for me to see. Because not only was there a real tragic loss in human life and property and so forth and contemporary people, but there are archeological sites that we'll never know anything about. Because the flood was of such a magnitude that it really destroyed, I would say perhaps as many as 40 or 50 percent of the known and unknown prehistoric sites in the North Fork and South Branch Valleys where it was heaviest. I guess I'm personally familiar having been on the ground

with the loss of maybe eight or ten of those – eight or ten sites in those valleys. Some of them are sites that we were just beginning to document and get some understanding of. So, the flood had a terrific effect on what I like to refer to as a non-renewable resource. It destroyed a non-renewable resource for us - not for us – it just destroyed a non-renewable resource. We'll never know anything about those sites ever again. One of the things that's particularly interesting, and I guess one of the reasons that we're talking is the age of some of the sites that were destroyed. One site in particular at Seneca Rocks had some artifacts made by prehistoric Indian people on the surface that we had collected previous to the flood that have been dated at 2,000 years ago, or maybe even a little earlier than that, between 2- and 3,000 years ago. The site from which those things were collected is now gone. Now, as an archeologist, I look at that and what it suggests to me is that the flood was of such a magnitude. The effects of the flood were like, unlike the effects of any flood in the last 2- or 3,000 years in that area. I have to be very careful. I think that this is a real important point. It doesn't necessarily mean that it was a 2,000-year flood. I mean, it doesn't necessarily mean that it could only happen once in every 2- or 3,000 years. I think the fact is that the environment has changed significantly over the last 2 or 3000 years. It's changed in particular considerably in the last 200 years with the presence of European Americans in the area. Clearing the floodplains and building roads and building houses and putting in pipelines and doing all kinds of things that haven't been there in the 200 years previous to that activity. So, 400 years ago, when prehistoric people were still roaming up and down those valleys, they were wooded floodplains. It's quite likely that there were flood events of a similar magnitude. That there was as much rain and as much moisture in the soil, and there was as much water running off the mountains down those streams, probably many times in the previous 2- or 3,000 years. But the modifications to the land, I think in the last 2 or 300 years, have created a situation where the water could have a more serious effect. Okay. I think that that's my perception. That's how I read the land. I think you have to be really cautious about saying this is a 500-year, or a 1000-year, or 2000-year flood because those are statistical figures. It's a horrible - perish the thought. I mean, it's a terrible thought, but it could happen again next fall. I don't think you can really predict the series of circumstances. I don't think you could have predicted the series of circumstances that led to the event that happened on November 4th and 5th here in the state, based on what we knew from either pre-history or from weather and climate and the way the land has been cleared too. I know, for example, these sites that are in the Seneca Rocks vicinity had been flooded before. We have good evidence that they'd been flooded before. The distribution of archeological materials, little chips from making arrowheads and pottery fragments and so forth on the surface of the ground. Instead of the normal way that you see those things on an archeological site as in a fairly small or circular type cluster. It depends on the size of the group of people who were there. But in this particular case, the site would've been perhaps, originally, would have been perhaps hundred yards or maybe 150 yards in diameter. Pretty nice little sort of circular linear pattern paralleling the river. The displacement of artifact debris, or the placement of artifact debris on the surface of the site – this is before the flood now, was such that you could tell that water had moved there, through there, and displaced materials in a pattern sort of paralleling and going with the flow of the river. Some of the artifacts themselves had some signs of water wear on them. So, that we know that floods had been across that area previously. We know that from historic accounts. But the thing that's different is that is the magnitude.

MK: Now those sites are gone.

JB: Now those sites are gone. Another area that is of some interest is across from Smoke Hole Caverns. I don't know if you've been over in that area. You know where Smoke Hole is over there in the North Fork and -? The area across from Smoke Hole Caverns is just obliterated, devastated. I would say probably some of the site that are there was unaffected. It was out of the water. But those materials are probably also sometime between 2- and 3,000 years ago. In that particular case, I mean, the force of the water just picked up the all the earth and soil and just took it off and put it down someplace else. That site is gone. Sites near Seneca Rocks have material covering over them and have flood scours and channels cut through them. A little bit different kind of pattern of destruction. So, a lot of different ways that archeological sites can be affected by the movement of water over them.

MK: John Warner, who has an intimate knowledge of the Dry Fork River, says from Hendricks back up to several miles there, he had photographed the river extensively over a period of seven or eight years. Mentioned that there were rocks in the river, the size of this room or the whole end of this house, let us say. His archeological training, his archeological eye could see how these had moved through eons of time.

JB: I think eons is –

MK: From faults in the mountain in the upper plateaus, down, washed, gradually down into the bed of the Dry Fork River. He said that there were lots of absolutely enormous rocks that he had climbed all over. He had photographed moss and lichen and wildflowers. Had enjoyed fishing from them and diving into deep pools and water from them, all that sort of thing. He says those rocks are gone. I think –

JB: May have been pulverized by other rocks. [laughter]

MK: But we are talking actually about more than 3,000 years, are we not?

JB: Well, no, I don't think so. Because what he's talking about are rocks that got down there, I think over maybe hundreds of thousands or eons of time. But the water did so many amazing things that I don't think it would've had the capacity to move a rock as maybe as big, and as one solid rock. I think probably a lot of other rocks, a lot of other debris hit those things and maybe broke them up into smaller rocks and those were moved, perhaps. I mean, unlike houses which floated or portions of houses, which floated and were certainly heavy and massive and so forth, but they were lighter and did float, but these rocks wouldn't have floated. So, I think that probably there was some kind of mechanical things going on in the water or other rocks, other debris, houses hitting the rocks, that kind of thing. I think that in the North Fork anyway, the debris - and I think this is true to some extent, although I'm not as familiar with the stratigraphy of the Dry Fork and Shavers Fork and some of the other rivers closer here to Elkins. But the stratigraphy, or the deposition sequence in the floodplain of the North Fork is such that there's six to eight feet of alluvial soils, which is a nice sandy loamy kind of soil on the surface. Then lying underneath that is a sequence of maybe six to eight feet of boulders and cobbles and so forth that were deposited there from the last really major, big flood that occurred there, which we don't know about how old it was. It was probably twice the sea in the Ice Age. But in that

sequence of alluvial deposit in the North Fork is the evidence of many flood episodes that occurred in that valley over the last 10-, 15,000 years. That's how alluvial soils form, is by flood. So, flooding is a very natural phenomenon. It happens all the time. Happens every year in some place or another. But, again, it's the magnitude, I would say that is really unusual and different. The boulders and cobbles there in the North Fork Valley are all fairly small. They've been rolled and processed around and have slid off the hillsides and been modified and moving down the valleys for hundreds of years, thousands of years. Every time the water comes up, it moves a little further.

MK: But these great big rocks would have been in the riverbed a long time, do you not think?

JB: Oh, yeah, probably.

MK: The fact that they are not there now.

JB: The fact that they're not there now I think that - I don't know. I guess I couldn't even begin to speculate about what that means. I mean, it means that some big water went through there. [laughter] I think that's about all the further that I would take that. [laughter]

MK: Yeah.

JB: But, I mean, certainly with him living, they've probably have been there in terms of his living memory and maybe the memory of other people who've lived there. But that only gets you back a hundred years. One of the things the geologists that I've talked with about have found interesting about the flood is the landslides that they noticed. This doesn't even have that much to do with the water down in the rivers. But the landslides that occurred up on the hillsides as all of this rain came down 13 and a half inches or whatever it was. Ground got saturated, and the hillsides, which are really very fragile things around here. They've got a few inches to a few feet of soil overlaying the bedrock of the mountains. When that all gets saturated, it becomes very unstable and particularly in some kinds of soils. So, there were terrific landslides in some places, which are very much like some of the landslides that probably caused those big boulders to end up in the floodplain. But they were probably landslides that occurred thousands, hundreds of thousands of years ago. I mean, what was interesting about the flood or the intense period of rain? Was that it did create slides that allow us to say that's how that big pile of rocks has slid down this hillside and created this kind of thing. It's the principle of uniformitarianism, I guess. It allows you to see back into the past of how different landform and features in the landscape were created.

MK: Because they sort of happened all at once right in front of our eyes?

JB: Yeah. Really, that's exactly it. It happened all at once right in front of our eyes. Lots of different dramatic kinds of geological events.

MK: I think in my interviewing with people in Tucker County, which I have been doing since November, I have found people very anxious to talk to me on this tape recorder. Because I think they sense that they were a part of a historical event. For them anyway, and for me, it is an

example of how history is an evolving thing, which people that night actively participated in. It is not something that is tucked away in a book somewhere or something. People know about it. But this is very interesting what you are saying about seeing all those geological stuff.

JB: Yeah. I mean, you're seeing not only history in the making, you're seeing the landscape in the making. I think that's even a more rare kind of thing because landscapes and landform take millions of years to achieve their modern appearance. That certainly was an event that was really unique and allowed a lot of – I'm fishing for words now, Michael. [laughter] It's created the opportunity to see a lot of things in nature that that one rarely gets a chance to see. Certainly not in any of our lifetimes, I don't think. I mean, I've heard people talk about the [19]49 flood and the [19]36 flood and so forth. I'm sure that that some of the changes to the landscape that we saw in 1985 occurred back in the course of those floods. But I think that that clearly it was such a dramatic event here. The recent one that it really is something that gets the attention of not only archeologists and geologists, but the people who suffer from it too, as well.

MK: One of the surprises I had was seeing those valleys covered with the boulders and cobbles, as you call them. Those are great terms. At first it looked to me as though all the topsoil had washed away from those farms.

JB: No.

MK: I thought this was really tragic. All the topsoil is gone, it washed down to these rocks. I wonder if (Jus?) Douglas did not think that too. Because he said there would be miles and miles of land, which would never be farmed. But now I see heavy equipment and these bombs removing the whole spread.

JB: Yeah. I mean, that goes back to the depositional sequence that I was mentioning earlier. In many of the flood plains around here, the sequences, this layer of alluvium covering over a layer of boulders and cobbles and so forth. Frequently what happened when you see those massive strings or out washes of boulders, what happened was there was some kind of a blowout. The soil conservation service people that I've talked with referred to them as blowouts. Where the river was maybe going through a constricted area or a gorge of some kind or something. The force of the water got so high that it couldn't go up, it couldn't go down, or it couldn't go up and couldn't go sideways very easily. So, it went down, and took the unstable substrate of the valley floor and just picked up all that loose gravel cobble boulder material. Just picked it up and took it with it because the water had to go somewhere. So, it just picked it up, great big scours and holes and gaping areas and spread it out for as much as a half a mile to a mile in some cases downstream. I think that if you looked at aerial photo, what you'd see would be able to map are the locations of these big scours, these big holes, the big areas of erosion with little fingers or streams of boulders and cobbles deposited on the surface for the most part on the surface of the alluvial soil downstream from it. Then there'd be another scour and pothole kind of thing as you come to a constricted area again. Then more deposition of cobbles and boulders and so forth. In some cases, it was just an awesome amount of material that was moved. Just an awesome – [laughter]

MK: Do you happen to go Brushy Run?



JB: Only have been past where it crosses 33.

MK: Sometime or –

JB: It comes into 33. Okay. [laughter]

MK: Because I wanted to ask you about the implications of clear cutting, strip mining, surface mining, clear cutting. There is probably nothing that sets up the land more for a flood like this though than agriculture. But what about some of these other things like clear cutting?

JB: I think it's very important to realize that the condition of the headwaters of these streams that flooded so badly as far as the vegetation growing on them, it is probably better now as far as the quantity of vegetation and so forth than it has been since European peoples came into this area. This is largely due to the wise – in my opinion. [laughter] I'm biased, of course, I work for the agency. The wise management of the forest service in terms of not – we don't have large clear cuts. We have very small, clear cuts. Twenty-five acre maximum is the size that we have. If you're looking at a clear cut that is larger than that, you're looking at a commercial operation. So, there it's quite possible that there are larger clear cuts in some areas. There are large open areas due to strip mining and so forth. But the majority of the land at the headwaters of a lot of the streams that flooded is currently managed by the forest service or the state or is so remote that people are not doing much in terms of land management. It's those areas up at the headwaters that are critical in terms of a flood. One of the reasons the forest service exists is that in the early 1900s, there were a series of serious floods, particularly the forest here in the east. Series of very serious floods that caused tremendous loss of life and property in the Pittsburgh area and downstream from where we are now. Those can be fairly closely attributed to the fact that that vast majorities of the highlands of West Virginia and Virginia had been clear cut by that time. Large, huge areas had been clear cut and the floods at the turn of the century were of significant magnitude downstream. The flood that we had here, I think is really – can't be attributed to land management practices anywhere outside of the floodplain. I think that the effect of strip mining, which is almost negligible in the highlands area I mean, compared to southeastern Ohio, for example. I think the effect of strip mining, I think the effect of clear cutting, which at least as far as a forest service is in small, controlled patch cuts. I mean, they're just little under twenty-five-acre cuts that are spaced out to accommodate these very concerns of drainage and runoff and so forth. I just don't think that the land management in the highland areas, really had that significant effect on the magnitude of this flood. In fact, if anything, I think that the fact that we've wisely managed these lands here on the Monongahela for 75 years almost now may have reduced the severity of the flood. We will never know the answer to that question, I hope. [laughter] But I think that the management, at least as far as federal lands is concerned, has been sound, and did not contribute to the severity of the flood in any way. The mining issue is not as clear in my mind. The areas that have active mines right now that I'm familiar with are like up on the top of Cheat Mountain. Those are very small mines, that are shaft mines, they're not strip mines. We don't allow strip mining on the National Forest in this state anyway. So, at least within the highlands area, there aren't any active strip mines that I know of. Now, there are strip mines immediately outside of the area up around Morgantown and Clarksburg and that area. I know that –

MK: Those are downstream from here.

JB: But they're downstream from where the problem occurred. So, that's my impression of that particular issue. Then again, this is a personal opinion and impression. My personal opinion is that the more serious problems were perhaps not caused, because the significant amount of rain, in my opinion, is what caused the flood. But aggravated - is a good word. The significant rainfall and flow of water was aggravated by the fact that the floodplains are cleared. The National Forest System owns relatively little land in the floodplains that's mostly in private hands. It's cleared for good reason. It's cleared for agricultural land. I think that it's probably a mistake to say that land clearing practices cause the flood of any kind. I don't think that mining timber harvesting in the headwaters, or even timber harvesting down in the floodplains caused the flood. I think that the absence of vegetation in the floodplains because they're agricultural lands may have aggravated the flood. That's all the stronger I would state I think, on that particular topic.

MK: It would be interesting to know more about Brushy Run where I have not done any work outside of one interview. The informant there said that the head waters of Brushy Run had been timbered for two years. In her opinion and the opinion of other residents, it was an aggravating factor.

JB: Yeah. I think in times like that, in times like the flood or in times of any kind of life crisis, people have to feel like they can blame something –

MK: Or at least explain.

JB: – or explain it. They have to have some reason or some kind of cause or some kind of explanation for why did this happened to me? I mean, even when someone in your family dies, why did this person die? Why did this person die now? Why is God doing this to me? I think that there's a pattern that's been known in this area as long as those floods from the early 20th century. That when timber harvesting practices are not controlled and not done with watershed preservation in mind that you can have those kinds of effects of serious flooding and so forth. I saw there's an association, a lot of people's minds, and it's a convenient explanation. I don't know the specifics of the harvesting up at the head of Brushy Run. I wouldn't even begin to speculate, not knowing the size of the clear cut, how close to the headwaters it was. What the type of soil was. Whether there's been any revegetation in the last two years. There are just so many different factors that you have to consider. But at the same time, if it's happening to you, if you're seeing your house float down the river or being pushed over by a pile of rubble or whatever, or you got to be able to explain it some way. So, you're going to turn to the thing that looks the most convenient, I think perhaps. Especially given this historical pattern that did exist. But I think that it's very chancy to say that any kind of timber management practices caused the flood or caused that particular woman to lose her house. I think it's a very clinical kind of statement on my part, I think, but [laughter] it's an objective statement.

MK: Yeah. That is right.

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