

Smithsonian Folklife Interview

Charles Hillary
Physical Science Technician
Forest Products Laboratory
Madison, Wisconsin

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Interviewer: Sandra Forney

[Charles Hillary and others outdoors at a table with several devices on it, including what appears to be a blender.]

Charles Hillary (CH): I'm Chuck Hillary. I'm a physical science technician at the Forest Products Laboratory. We work in the pulp and paper area, doing paper recycling.

[Hands microphone to Karen Scallon]

Karen Scallon (KS): Hi. My name is Karen Scallon, and I'm a chemical engineer at Forest Products Laboratory.

[Hands microphone to Gerald Cook.]

Gerald Cook (GC): And I'm Jerry Cook at Forest Products Laboratory. I'm a physical science technician in the Pulp and Paper Division.

[Hands microphone back to CH]

Sandra Forney (SF): Good. I understand that you have a demonstration here for making paper.

CH: Yeah. We've done this before for large groups: Wisconsin National Jamboree. We've done this twice now. Get large groups of kids; three of four thousand people go through in a little over a week's time. What we do is we recycle a small piece of paper, just like a paper mill would do. We take some paper, clean it, it goes in, a little water in there [Performs the actions as he is talking]. It's all pre-measured so there'll be no mistakes. Put a little colored paper in, a little construction paper; that just adds a little ink to it to make it look nice. These are shredded hundred dollar bills we got from the Treasury Department. Kids love doing that. Then we just turn the thing on, [Lets the blender run for a few seconds, then stops] This is our pulp; it's like a pulp mill. We're going to go right now. [Remove the top of the blender containing the pulp] This is basically a [word unclear] wire machine; [what this would be?] equipment in a paper mill. Just a piece of wire down there. This is just to hold it in place. [Places what appears to be a plastic funnel on top of the wire] We'll open it up, [static on tape obscures a few words] vacuum through there and pull the water out of the pulp. [Pours pulp in the funnel] Just put that on there, open it up, eater's pulled into the bucket. When we get done we're just going to have a piece of

pulp laying on top of there. [Removes the funnel and places a blotter over the pulp on top of the wire] Blotter paper, this pulls as much water out as we can get. Just going to go through [Rolls a rolling pin over the blotter paper] and roll that. Lot cheaper to press water out than to dry it out with steam or electricity. Just like a paper mill. Take it from there, go over here, we're going to press it again. [Removes pulp and take it to another piece of blotter paper and presses it] And we do recycle all these blotter papers; they're not wasted. From there we're going to go over to this section, where we dry it. [Places pulp on what appears to be a large metal block] We have a special pen; you can write on it there. [Writes on the pulp] Now Jerry's going to dry it, [GC uses a device that resembles a hair dryer to blow hot air on the pulp] and what we do is, we hold it. Kind of careful at this stage; this is the only one where somebody could get burned, so we don't let the kids do this themselves or anything. We'll do the drying, they'll get to watch, see what happens. It gets more efficient as it goes on. This pad will heat up a little bit [Indicates the metal block the pulp is sitting on] and that'll help dry the process a little bit quicker and go a little faster. In the meantime, as I finish with this, [Indicates the blender] each person behind me would continue with the next stage of the process, and we'd have them coming through one right after another. [Waits until the blow-drying finished, then removes the dried pulp and places it with similar pieces] Next up is, we have—we've done this at different Earth Day events and stuff, that's a little Earth Day sticker. Have little stickers, USDA Forest Service, Forest Products Laboratory written on it. We take those, and we've printed up some [Word obscured by static]. This is the actual bookmark. Just take a glue stick, dab on there, stick it on there, and then put whatever else you want on there to decorate it.

GC: The kids do this.

CH: Yeah, each person would do this individually. Right. And then we'll take it over here, we have a laminator, we're going to laminate the thing. [Goes to laminator at the end of the table] This is not heat or anything. This is just a glue laminate. Run it through there, cut it right off. And then we have them trim it up with a scissors, and that's the whole shootin' match right there. [Displays the laminated piece for a close-up] The other thing we can do, we do have some little pieces of magnet that we can put on the back here, if they'd like to hang it on the refrigerator or something also.

We set it up usually on two tables. We're in kind of tight quarters here. That way we've got more room, and we can have one person following the other one right straight through, all the way through.

Sandra Forney (SF): Chuck, tell me a little something about your background, experience, and your work with the Forest Service.

CH: Actually, my background here, I've been trained in electronics. I do the instrumentations, data acquisition, and stuff on the paper mill we have down here. We have a large process. We have many flow meters, temperature gauges. Basically everything we do we record on a computer and store that data, in case there's a change in the process or something happens, we go back and change it. I've been working at the Forest Service for almost twenty years now. Wonderful place to work. Just a great place. I love it here.

[Camera switches to Gerald Cook]

GC: Hi. I'm Jerry Cook here at Forest Products in the pulp and paper division. My background would be in economics and business and restoration of wood products. Mainly in furniture over the years. And I came to Forest Products with the recycling of the stamp program, to develop the pressure-sensitive adhesive stamps into a recyclable material, and I've been here about eight years.

SF: Had you worked with the Forest Service prior to coming to Forest Products Lab?

GC: No,. I did not.

[Camera switches to KS]

KS: Hi. My name is Karen Scallon, and I'm a chemical engineer at Forest Products Laboratory. I've been here for about three years, and I'm involved in the U.S. Postal Service project of recycling the pressure-sensitive adhesive. I find the work here very interesting and challenging, and every day we discover new things with stamp recycling.

SF: Had you worked with the Forest Service prior to this job?

SF: No, I haven't.

SF: And where did you get your engineering degree?

KS: From the University of Wisconsin, Madison.

SF: All right. Thank you very much.

[Camera changes to shot of CH]

SF: Chuck, for the purposes of sharing with the Folklife Festival folks, what kind of demonstration do you foresee there on the Mall in 2005 commemorating of hundredth year anniversary?

CH: What we'd like to do is make this paper demonstration like we're doing it here. We can get a person through this in a little over a minute basically, depending on how long it takes them to dry a sheet. People just follow each other through. The kids like to follow the person in front of them. They like to learn from somebody in front of them. It's fairly easy to do. Makes a nice keepsake. We can customize our sheets here. We can have the Smithsonian logo on there, the Forest Service logo. We can put anything we want to on these. They're very easy to make; they're made out of transparency film, most of these. Easy to put together, easy to come up with. If we don't have enough people, we can set up two or three tables. If it got to be that big an event, we could... it's very small, easy to set up, easy to use.

SF: I think adults would also be very interested in knowing how their paper's being made.

CH: Yeah, we've had two or three senators come through the Boy Scout jamboree before. Some people from the USDA have gone through. We've just had many people come through. Their kids make one, then they decide maybe they'd like to do that themselves. It was one of the most popular things at the Scout Jamboree eight years ago when I first went there.

SF: Very good. Thank you very much.

CH: Yeah. Thank you.

[Camera changes to CH seated at a table indoors]

SF: Good afternoon, Chuck.

CH: Good afternoon.

SF: Please give me your name, title, address, and phone number.

CH: Okay. I'm Chuck Hillary. I'm a physical science technician in the pulp and paper area here at the Forest Products Laboratory. Phone number is 608-231-9522. And my address is One Gifford Pinchot Drive, Madison, Wisconsin.

SF: Excellent. Tell me a little something about your background. Profession that you're in, and what you're doing here at Forest Products Lab.

CH: Okay. Well it started out I went to work for John Deere and Company. And I worked there about twelve years and decided it wasn't for me. So I went back to school and got a degree in electronics engineering. Actually a two-year degree, an associate degree. I got looking for a job, the Forest Service had an opening; I applied. And computers were just starting to come in to being used in, in about, I think I started in 1985. I started in the group, there were two computers in the group. They hired me as a physical, [corrects himself] or an engineering technician at that time. To come in and help implement the computers and get them into the engineering mechanics lab at the time. I stayed there about five years and I transferred to pulp and paper group. And we went through much the same thing there. We had all new equipment in the lab, and I've been instrumental in putting them in, making sure everything worked, recording the data, everything we come up with, [the flow with?] the computers and everything's that's down there.

SF: So where did you get your associate degree?

CH: I got that here in Madison at a private college, the Herzing Institute, [now?] the Wisconsin School of Electronics.

SF: Did you grow up here in Wisconsin?

CH: I'm actually from Wisconsin, the southwest corner of the state, a town called Hazelgreen. They're two miles from Illinois and ten miles from Iowa. So I almost lived in Iowa, but not really.

SF: So how did you come to choose this particular profession?

CH: Actually I always wanted to be in electronics. When I was in high school I signed up to go to college for it, and they told me I couldn't see well enough for it. So as time went by I found out I could see well enough, and I finally went back and got the degree that I wanted in the beginning. The problem was, they said you had to have perfect eyesight to see the colors of the transistors. Or not transistors; resistors at the time. I had no trouble with that, so I couldn't understand.

SF: So tell me a little bit about why you chose the Forest Service and the Forest Products Lab as an employer?

CH: The Forest Service I've always enjoyed. I was in the Boy Scouts. The Forest Service is very big in the Boy Scouts. They love the Forest Service. Articles in there all the time. Smokey Bear is one of their favorite characters. And I grew up with the scouting movement. Loved the Forest Service, but I thought, there's probably not anything there for me in what I'm doing. And then I found out computers were very big in the research, and they use them for all kinds of data acquisition and stuff, and I thought, well, maybe we can find something. Started watching the papers and the job opened up, and I applied for it, and a few months later I heard they had a different job open and I could apply for that also. So that's the one I got hired for. [Laughs]

SF: So tell me a little bit about the kinds of skills that you have, or the tools that you use in your work.

CH: In my work I do a lot of varied things. We do research in pulp and paper, mostly recycling. Getting out inks, getting out toners, removing stickies, which are glue or pieces of adhesive. Our last big project has been working with the Postal Service on the pressure sensitive adhesive stamps. These are the new stamps that you peel and stick on the sheets instead of licking them. When they first came out they didn't know if they were recyclable, if they'd create a problem in the recycling stream; so we brought them in here and we ran them through and we found out we can [emphasis] recycle some, we can't recycle others. With the Postal Service, we sat down with the ink manufacturers, the printers, the glue manufacturers, and come up with a set of standards that they all have to pass in order to be considered as a supplier for the Postal Service. A very good contract for us, and I think we've done a very good job with it.

SF: And what are some of the tools you use? I assume some specialized.

CH: We have brought in a lot of computer-controlled stuff, electronic data acquisition stuff. We measure all the flow meters on our flows to the pilot plant. We measure pressures on the cleaners that we have. We're monitoring water; we batch water systems. We have automatic temperature control systems, automatic batching systems to get a certain amount of water into the system. All our data goes into a computer, where we look at it. We can plot it, look for anomalies or anything

that might be different or strange in the situation. We can go out and, say, if something didn't work, why didn't it work; and if everything we did is fine, we all match up, then it's the adhesive or whatever we're testing at the time.

SF: Do you still do a little bit of work with the Boy Scouts?

CH: I get involved with the Boy Scouts through the lab here. Eight years ago my supervisor come up and asked if I'd be interested in going to the National Scout Jamboree and putting on a pulp and paper merit badge. I said I'd love to do it. I've made demonstrations for kids making paper like we are demonstrating here, at schools and different things, and it's always been well received. We went out, I went out I should say, the first year, with the help of the people at the Lab, and we set up, we had help from other people that were there also with the Forest Service, and we were... I think we did over five thousand people made a sample of paper that first time out there. It was exciting; we had the kids coming back every day to make a sheet of paper. We had two or three senators come through. I think we had one of the directors of the USDA come through one day and make a little sheet of paper. It's funny how it appeals to adults and children.

SF: Yes, you mentioned earlier. The tape here we did, we filmed a demonstration of paper-making with your initial colleagues. Are there some other ideas that you might have regarding sharing with the Folklife Festival about how to tell the story of the Forest Service, or Forest Products Lab, on the national Mall next summer.

CH: I think it would be nice to tell the story of how we do paper research and paper recycling. We've been doing that for probably twenty-five or thirty years, and that kind of... we get kind of lost in the shuffle. We do a lot of things for a lot of different people. We have different groups come in and watch the testing all the time. I've been photographed for The National Geographic two or three times I think. I don't know if it ever made the paper, made it or not. It would just... with the new, innovative products we make with paper, how they're taken out and put into the real world. We have two or three technologies now we're working on. Fiber loading is one; another is probably bio-pulp, which we work with a separate company on, which show great potential for changing the paper industry in the future.

SF: And in what way are those new innovations? Just in general?

CH: Well they'll probably save the cost of making paper, and cut the costs of making paper. The industry is in quite a slump now. There's not a lot of research going on. And we're one of the few places that are doing active research on pulp and paper right now. As money goes down companies cut things, and they cut research. So we're in a good position right now to do the research for the people, and help the paper industry. And by helping that, by recycling, by finding new ways to use paper, we can save the forests and help things go the way they're supposed to go. The small diameter tree project, we've worked a lot on that, and using that for making paper. Suppliers didn't want to try it or didn't want to use it, and we found out through a few years of research that, yeah, it can be used in most cases; in some it can't. But that's what research is. You find answers.

SF: Very good. Is there anything else you'd like to share with me this afternoon?

CH: Oh, I don't know. The Forest Service has been a great place to work for me. They've given me a lot of opportunities. I got a degree in electronics. Coming here, I had a great supervisor when I was hired, and he said, well, we're bringing computers in. Take the time you need to learn them 'cause we're going to need that in the future. I started out doing programming in, that was before DOS. I think it was called CPM. Most people don't know what that is now, Then we moved to DOS, and we came into the Windows programs, and through the years we've moved up and you have to keep up on stuff, and they've been very good in helping me keep up with the technology we need to keep our jobs going, to do the research that needs to be done.

SF: Very good. Thank you so much, Charles.

CH: Thank you.

END OF INTERVIEW