

Molly Graham: [00:00] This begins an oral history interview with Suzanne McCarthy on August 16, 2023, for the NOAA Heritage Oral History Project. The interviewer is Molly Graham. It's a remote interview with Mrs. McCarthy in Portland, Oregon. I'm in Scarborough, Maine. Suzanne, I was going through our last interview, and there were a few things that I want to follow up on. You mentioned Harris Stewart, and that name rang a bell because he's come up in a number of other interviews I've done. I'm wondering if you can tell me a little bit more about him and your interactions with him.

Suzanne McCarthy [00:36] Well, I remember when he came to the Coast Survey, he was lauded for having a doctorate in – well, I don't know, I'll just use the term broadly – oceanography. I'm quite sure it was something a little bit more specific. He was a breath of fresh air, in a sense. I remember that his arrival was sort of considered an entry into the modern age or a modernizing or progressive move. He was quite the nice guy, really. He was very pleasant. I'm sure that we did things based on what he worked on. As I recall, the Coast Survey was really just about the coast. And he was encouraging the deepwater activities.

MG: [01:36] That's right. He was a certified scuba diver. And you're right that he earned his doctoral degree in oceanography from the Scripps Institute. That's where he had been previously. Do you know what his role was when he first came to the Coast Survey?

SM: [01:51] Well, I don't know. But my memory is more or less that he was an advisor. Maybe someone who – wasn't doing day-to-day things like reading tide rolls or anything like that. I'm quite sure he was in developing new programs or encouraging further activities.

MG: [02:20] That's right. He went on to later establish the Atlantic Oceanographic and Meteorological Lab, which was headquartered in Virginia Keys, Florida. This was a time when there was lots of funding for ocean exploration because Senators Weicker and Hollings were supportive of such efforts. There were increased efforts and funding to support ocean exploration with submersibles and underwater habitats. Someone else I interviewed who talked a lot about Harris Stewart said that when John F. Kennedy was elected, some of the money was taken away from ocean exploration to pursue space science and exploration. Was that something on your radar at the time?

SM: [03:12] No.

MG: Someone else I interviewed, Admiral William Stubblefield, who was with the former director of the NOAA Corps, said that Stewart was a “gentleman's gentleman.” What do you think he meant by that?

SM: [03:29] I have no idea what he meant by that. But he was a gentlemanly person. He was very nice. In fact, he had an unmarried brother, and his brother and I – he set me up with the brother a couple of times. We went out a couple of times. It never became a romance. He was a social person, clearly, because he set up his brother with somebody to date. I don't remember anything bad. If you say he was a gentleman's gentleman, to me, that means he was always kindly, well-mannered, and taking the high road of things, and those are my only memories of him and his character. As I said, he was working to expand the Coast Survey's role in ocean exploration.

MG: [04:33] I wish I could have interviewed him. He very quickly made a big impact on the agency.

SM: [04:42] I don't remember his leaving. My last date there was probably in June of 1963. Do you have data on Dr. Stewart that would say when he left the agency?

MG: [04:58] No, I didn't get that far. I could find that out, though, and I'll add it to the transcript. [Editor's Note: Dr. Stewart served as Director of AOML until 1978, when he retired from his federal service career.]

SM: [05:02] As far as I can recall, he was still there when I left.

MG: [05:09] He must have been. He founded AOML in Virginia Key and, I think, headed the dive program as well. The other person you mentioned was Clem Arens. I read that he served in the D-Day invasion, which is interesting because – and this was before your time – the work of the Tides Division helped inform the Normandy landings.

SM: [05:33] Right. Yes. I did not know – I was twenty when I started there in 1957. Clearly, he was at least fifteen years older than I was, maybe closer to twenty. I had no idea about his history. He was just somebody that was there, knew his job, and was always pleasant.

MG: [06:02] Were there a lot of World War Two veterans who worked for the Coast Survey?

SM: [06:06] I never asked them about their history. I don't know. There was one man who was a lot older. His last name was (Simons?). He could have been my grandfather. I mean, I was only twenty. A lot of people could have been my grandfather. He was older. There was Bernie Zettler. There was a Captain Stone, Raymond Stone. But the officers were not really there day to day. I mean, they were, generally, out on the boats. They were not people that you saw every day. Gosh, I haven't thought of this person in a long time. (Gerhart?) – something like that. (Tony Dinardi?) – I don't think he was a veteran because he talked about – I remember he talked about his going to university. Maybe he was a veteran, but he might have been in the Korean

conflict because he had gone to school on the GI Bill in the 1950s. I'm sorry, these are fragments of thoughts, and they're not very well put together.

MG: [07:38] That's okay. You never know where a fragment will lead you. I also found an organizational chart from this time. Were you with the Tides and Currents Branch?

SM: [07:50] Yes.

MG: [07:51] Not the Predictions Branch?

SM: [07:56] Well, I remember the first phrase, but I don't remember the Predictions Branch as being a name, and maybe under some subsequent reorganization, it might have been. But I don't know that Predictions was separate from Tides and Currents at the time.

MG: [08:13] In this chart, under the oceanography division, there is the Tides and Currents Branch and the Predictions Branch. I was curious about the different purviews of each branch. Under the Currents Branch is the Tides Section, which is where I imagine you were.

SM: [08:29] What was the date on this chart?

MG: [08:32] This was before the Tides and Currents Division changed to the Marine Data Division. This chart is pre-1960.

SM: [08:46] Is this just the names of the branches, or does this include the workers as well?

MG: [08:52] Just the names of the branches.

SM: [08:56] Well, I certainly worked on predictions. So, I can't help you.

MG: [09:10] That's okay. I was curious how closely you worked with the other branches and divisions.

SM: [09:16] Well, there didn't seem to be – there was a general division, as I said. I remember reading tide observation rolls, which are like giant Roman-era scrolls. I also remember reading tidal current tapes. Now, the current division was physically at one end of a long L-shaped set of offices that you could walk from one – there was a corridor, and then there was the office. It was an L-shaped office, and you could walk inside that office. There were no restraining walls that kept you from doing that. The currents were at one end; the tide predictions were at the other end of this L. And the tide observing part was in the middle, more or less at the corner. But

people talked with each other all throughout that whole area. I expect there might have been about twenty-five people.

MG: [10:28] And what led to the reorganization to the Marine Data Division in 1960?

SM: [10:37] Nobody asked me that. Nobody asked my opinion. Well, if Dr. Stewart arrived in the late 1950s, he might have been the catalyst to encourage the organization to re-shuffle itself.

MG: [11:02] How closely did your division work with the Army Corps of Engineers or other entities like the National Academy of Sciences?

SM: [11:12] I don't recall any cooperation with the Army Corps. We did work with the Navy Hydrologic Office. They were in Suitland, Maryland, which is right down the road from – I mean, it bumps its shoulders against the District of Columbia. We also, I think, paid attention to the National Academy of Science, but I don't believe that we – if we worked with it, it was on a higher level than what I had anything to do with.

MG: [11:48] Right. We had started to talk last time about “Old Brass Brains,” the Tide Predicting Machine No. 2, and how it operated. So I'm going to ask you just a few more questions about the machine. Do you remember what issues you would have with it or any challenges that came up because of the machine?

SM: [12:11] I'm thinking. [laughter] Learning to make sure that you turn the crank – after we talked the last time, I looked it up and saw a picture of the front of it again. And that helped remind me that – I think I explained this – you hand-turned this crank, and all these things worked together, which was mathematically a physical expression of the sine waves; each one was an individual component of the tide in that particular place so that you were looking for high water or low water. One of the details was that you couldn't just slide up to the – you're supposed to get this single needle, like on a clock face, up to twelve or zero. You couldn't just stop there; you had to make sure that you had not overturned and had the needle fall back or something. You had to make sure that you really landed on zero. It had to be calibrated, in a sense, and you paid attention to that. And then, you could read the times and the amplitude off the smaller dials that were in the front. Did Brass Brains react to the temperature and humidity? I don't recall that. I do believe that that – was that air-conditioned? I don't think so. I mean, none of it was air-conditioned. Did the actual metal require oiling? Nobody ever asked me to even observe any of that. So, if it happened, I was unaware of it. I'm trying to dredge up what might have been a problem because I don't really specifically remember any. But I'm considering what might have been, and those are the only things I can think of. I do remember needing to make sure that when you stopped cranking, you were actually on the zero, and you

hadn't overshot or undershot it. So that was not a problem, so much as a specific – you got to be careful of this. It wasn't the machine so much as the operator.

MG: [14:46] Was it a one-person operation?

SM: [14:48] Yes.

MG: [14:51] And it sounds like your math degree came in handy having to measure the sine waves. Or was that automated?

SM: [14:56] That was done by some genius ahead of me and which ones were more important, and in what localities also. I mean, it also took into effect the shape of the estuary or the river, or the spot, as well as the latitude and longitude and prevailing ocean currents and other things.

MG: [15:23] Was this work performed at a certain time of year or done each day?

SM: [15:30] Well, the thing was, in the predictions, it all had to be done to put out the next year's tide tables. So this was a just keep going type of thing. I don't recall that there were any – quote – production deadlines or any layoffs either; it was just: keep going.

MG: [16:02] In the article that I sent you today, it said that the device does the work of two hundred oceanographers. Were folks worried about their job security the way that people are about AI [artificial intelligence] today?

SM: [16:16] What device? Brass Brains?

MG: [16:21] Yes.

SM: [16:24] Well, if that was the case, then that had already been done by the time I got there. So, building it was not on these people's radar unless they were like Mr. (Simons?), who was already old enough to be my grandfather. But that Brass Brains No. 2 had been finished in the first decades of the 20th century. So anybody there – it would have been forty to fifty years earlier. I don't think job security had come into play, really, for the people that I knew. Maybe in 1910, it did. Because all we did was use it and maintain it.

MG: [17:09] We've talked a little bit about some of the applications for the Brass Brains data in terms of military usage and for the Naval Hydro Lab. What other applications were there for the tidal data that you were helping produce?

SM: [17:23] I don't think there were any others. I mean, the predictions – oh, you mean, who would use the tide tables?

MG: [17:31] Yes.

SM: [17:32] Oh, well, almost anybody that lives near the ocean – fishermen, pleasure boat people. The military usages. Really, you live near the seacoast. It's an active thing. People need to know when the tide is going to be coming and going. Boatyards for launching boats or pulling them into dry dock or getting them out of dry dock. It's widely used. Of course, there's a tide almost everywhere there's water. It's just not measurable in adequate amounts. I think that answers that.

MG: [18:36] That same article I sent you mentioned that accuracy tests were being conducted at different tide machine stations, like in Hong Kong. Was that something you were in charge of or aware of?

SM: [18:49] No, I didn't see your article today. But the answer is still the same.

MG: [18:57] Were there ways that your office shared tidal data or collaborated with other countries?

SM: [19:09] I'm sure there were. I have one example. Some time, probably in my earlier years – because I was there for six years – and probably in the first two or three, we hosted a visiting group from Indonesia. They were either installing or updating, and we showed them everything we had in that division. So, that's one example. I remember seeing those people and meeting them. So, yes, I'm sure there was more.

MG: [20:00] Was it in 1963 that you left this position?

SM: [20:03] Yes.

MG: [20:05] Brass Brains retired in 1965 and was replaced by electronic computing. Was that on the horizon before you left?

SM: [20:19] No, no.

MG: [20:25] And then what efforts were there to publicize the tidal data? Was it distributed by mailing lists? I was curious how this information was shared.

SM: [20:37] Well, it's a product of the Commerce Department, and I would imagine that it was not sold as a book publisher would promote the latest. It was just people that wanted to know would be told, "Okay, well, you need to go to the Department of Commerce." Now, this is before Department-of-Commerce-dot-gov. So, where would you find this information? Word of mouth, in the newspapers, Joe's Crab Shack. How would it have been publicized? Yeah, I just think you would just be – if you were interested, you'd find out because the government is not in the business of making money from these kinds of things. It's in the business of helping its citizens. I'm sure they were sold and not given out. There was a whole set of them. I think there were six from around the world. I think I told you about the private boater that was very angry about physical change in the book.

MG: [22:04] I think you need to refresh my memory.

SM: [22:06] Well, just after I got there, somebody got this angry letter. Just before I got there, the whole format of the tide table had been changed, and the books were maybe a quarter of an inch taller. I could see the difference. They looked more modern versus this fusty old government publication. Somebody had spent a lot of time and effort building this shelf in his private boat. I mean, maybe it wasn't a big boat. I don't know. I don't think he was a yachtsman, necessarily, but had this recreational boat, and he was furious. He had just gotten this thing, and then we changed the size of the books. So, somebody was unhappy. He had to rejigger his shelf. But I don't think we went to any great lengths to sell the books.

MG: [23:11] Suzanne, do you think you were the first woman who worked on this machine?

SM: [23:15] No. There was an older, single woman. She'd been there for a while. I don't remember that she was working on at the time I was there. But chances are she had done that.

MG: [23:31] And now I'm curious to hear about some of the other things you did for the Coast Survey. Last time we talked, you said you weren't on the machine all the time, and you did other things. So tell me about the other things you worked on.

SM: [23:43] Well, as I said, I read tide rolls. What you did was take a physical thing, the mark on paper, and put the value of that in a table. And then that was – people kept taking tide measurements in order to make sure that the tide predictions were going to be in the proper range. If the tide changed a lot in a location, you needed to reset the tide machine for the next year to make sure that the amplitudes would be about right, or the phases, really. So, we did that. And then, as it moved over to the currents, that consisted of reading these tapes. They were about the size of a sewing tape measure, maybe five feet long, and about an inch – I mean, not an inch wide. A half to five-eighths to three-quarters of an inch wide, just like this. You just sat and read them and put their values down. You had to estimate the time and the amplitude of the

current. They were made by some stylus marking this little tape, which had a wax coating. The time was the distance between the marks, and the amplitude was the number of marks. A little group might have two or three marks. And they were – oh, gosh. There were three things: time, amplitude, and direction. Anyway, I read a lot of those. You just sat down and estimated – really, you estimated these things off this mark as to the knots and the direction. You marked it down on a sheet, and that was tabulated and then compressed into a summary of values.

MG: [26:37] Which currents in which locations were you looking at?

SM: [26:41] I remember New York Harbor. But I can tell you that observations were probably done up and down our coasts – San Francisco Golden Gate. I mean, the currents – *swoosh*, *swoosh*, *swoosh*. New York. Hampton Roads, Virginia. Chesapeake Bay. All around, up and down, because the currents affect the way you drive a ship, basically. I'm sure driving is not the proper verb, but you know what I mean.

MG: [27:25] I think it works.

SM: [27:28] Okay, good. [laughter] I was thinking piloting.

MG: [27:31] Yes, that works, too. Was this a separate machine that generated the current rolls and data?

SM: [27:36] Yes. They were not in the office. These were things that were in the water. The Coast Survey crewmen would drop these things in the water. I don't remember ever seeing one. When they were done, they would extract these tapes and send them to us for analysis.

MG: [28:08] Was this related to the work you did around drift bottles?

SM: [28:11] No, that was not the same thing. It might have been Harris Stewart's idea to do this. But somebody said, "Oh, that's a pretty cool thing. Why don't we just –? People find bottles. We will take these bottles and drop them off the ship and see where they land." When I think about it, there wasn't a whole lot of incentive for the finder to do much. All you got, if you sent – there was a postcard inside the bottle and a set of instructions on the sheet. They said, "Well, if you tell us where this landed and send it back to us in Washington, DC, we'll tell you where it was dropped off. Now, if it got to Canada or Greenland or Iceland, or even England, which it might have if it had been dropped off the East Coast, you're out of luck because we didn't pay postage. [laughter] There was postage paid as long as you're in the US. I don't remember ever getting any postcards back from someplace that wasn't in the US. But basically, it was just verifying the Gulf Stream. It was a very interesting thing. It was low-tech tech; it didn't cost



much. At that point, they gave me the job of writing up the summary of the program, which I did.

MG: [29:55] I wondered about that. I wondered if you ever contributed to papers or conferences.

SM: [30:00] No, I didn't contribute to papers. Once or twice, I went to some meetings on Capitol Hill, and I was such a greenhorn. I don't even remember what they were about – took some notes and went back and reported. I don't recall that people went to conferences a lot. You probably had to be somebody who was a little bit higher up the chain than I was.

MG: [30:37] Was there anything else to share about the drift bottle work? Were there any interesting surprises where people were finding them?

SM: [30:46] No, I don't think so. I think that there were some discoveries that verified eddies in currents, but most of them landed in Massachusetts and Maine. People found them and sent them back.

MG: [31:05] What was the return rate? If you sent out a hundred drift bottles, how many would make it back to your office?

SM: [31:13] I'll look that up before we talk next time. Or I'll send it to you. That might be in the pamphlet, and I do have a copy.

MG: [31:29] It's interesting to me. And the message in a bottle is a romantic idea.

SM: [31:33] Right. Yeah, it was. It was kind of cute. The time it took for the bottle to make the journey, too, also entered into it, but I don't – I'll have to look into that because, certainly, that's an important aspect of it. I mean, if you only get a fifteen percent return, you'd think, "Oh, well, I'm not going to do this again." I don't think we did it on the West Coast because, the prevailing current is southerly, going to the south. And there's no Gulf Stream. There is an Alaska current that shoots down the West Coast, but I don't think we ever did it on the West Coast. I mean, didn't in my knowledge anyway.

MG: [32:34] Did you have colleagues on the West Coast or a West Coast office?

SM: [32:43] No, no. Well, we had tide observing stations. And, of course, we had the ships, but I do not recall any current data from the West Coast whatsoever. There was tide data.

MG: [33:04] Interesting. I asked you about training opportunities. I think in the survey you sent me before we started doing these interviews, you mentioned taking some courses from the US Department of Agriculture in ocean studies around this time.

SM: [33:19] Right. Yes. They were not directly applicable to what I was doing. They were just an interesting enhancement of knowledge.

MG: [33:34] What else from your time with the Coast Survey stands out to you?

SM: [33:42] I think, by and large, the employees were a dedicated group of people who, yes, they showed up for work every day, but they really wanted to get the information about tides and tidal currents observed, analyzed, collated, and returned in usable form to the public. It was a group of just ordinary folk. But as I have found out through you and the other interviews that I had – the earlier one – some people had some very interesting backgrounds that I knew nothing about. Of course, why would I unless you really got deeply friendly with them? Then, there was a social side to it. There was a newsletter. I think it was called the Welfare Association that sent it. That doesn't sound quite right. And planned social events and so forth. I think that was it. I would probably not have taken any of those classes if there hadn't been people around saying, "Oh, USDA is having classes, and I'm going to go. It's Monday night from 6:30 to 8:00 or something." So, there was a general appeal for most people, if their personal lives permitted it, to increase their knowledge of the water world.

MG: [35:39] I wondered if there was a period before you were married and had kids where you considered staying in this kind of career?

SM: [35:46] Oh, yes. Oh, my, yes. I was going to go study at Scripps. I wanted to be an oceanographer. I think I applied. In 1960, three gal friends and I drove to California. One of the things that I did was stop in there at Scripps. The thing that stopped me was, on my own, I couldn't figure out how I could go to school and study without a job. What was going to support me? So, in that sense, there was nobody around saying, "Oh, look, you should apply for a grant," or, "We can make sure that you have your classes at such and such a time, and you might try here for a job." There was none of that whatsoever. And so this wall of contradiction just stopped me in my tracks. So, yes, I would have considered it.

MG: [37:09] What about the two friends you traveled with? Did they end up applying or going?

SM: [37:14] Oh, no, they were entirely different. Two were school teachers, and the third one worked for the CIA [Central Intelligence Agency]. I can remember we stopped in some little town in Utah and chatting away at the motel where we stopped. "What do you do?" "Well, I'm an oceanographer." "You're a stenographer?" "No, I'm an oceanographer." And then the next

gal. “What do you do?” “Well, I’m a spy.” And then, the last two girls were teachers, and they got all the conversations. [laughter] Two of them were my housemates, and one was a third friend. The CIA gal didn’t live with us.

MG: [38:09] It must have been an interesting time to work for the CIA. This was during the Cold War era.

SM: [38:14] Well, I’m sure it was. But since she worked for the CIA, she didn’t talk about it. [laughter]

MG: [38:20] Tell me a little bit about your life in DC and how you met your husband, which would have been around this time, too.

SM: [38:27] Well, I actually met him early on. He worked for the patent office, which was at the other end of the big Commerce building. Neither one of those agencies is in the Commerce building anymore. So, I don’t know who’s there. Because the building certainly is there. It’s got to be. It’s too big and solid to do away with. But he was going to law school. So, we would date on the weekends. I think he waited for me to grow up. As I said, I was twenty-one when I graduated from college and very, very unused to the way of the world. Not to say that I didn’t date people in college and all that, but I was pretty innocent and not just [with regard to] being grown up and that sort, just innocent about lots of things. Anyway, being in DC at that time was grand. I mean, going to the movies, going around. The Watergate that people hear about was actually a set of steps that went down into the water at about the place where that group of theaters is now. There was a barge there. And in the summertime, they would have concerts. So you could sit on the steps and listen to the music, and that was fun. The movie scene was fun. We went on picnics. Went to the theater when it came around. How did I meet [Pat]? How did I meet him? It was a blind date. But how did it –? Oh, yeah, I remember. Okay, so there was this guy in the office, and he asked me out. I went out with him a couple of times. While we were going out, he had a friend, and I had a roommate. Not one of the people that I was talking about the trip to California – somebody else entirely. She had a boyfriend, but she had broken up with her boyfriend or had a big spat with him, so they weren’t dating. My office guy got my roommate to go out with his friend. I stopped going out with my office guy, and my roommate and the friend went out a couple of times. They got me to go – they introduced me to Pat. Then, my roommate got back with her first boyfriend. And the other guy was annoyed because he really liked my roommate. But Pat and I continued on, and we dated for quite a while before I realized that he was the one. I went out with other people, and so did he. But things were a lot more restricted in what you would do. I mean, people spend the night together these days. Most people did not do that. You didn’t do that at the beginning. I knew one girl that did live with her boyfriend under the pretense that she was rooming with a girl. And every time this person’s mother called from out of town, the roommate would say, “Well, she’s not here,” or “She’s out

shopping,” or something, and quickly call the friend. That's dumb. Not nice and dumb. If you're going to move in with somebody, do it and tell your family about it. But I didn't. Anyhow, I met Pat's family. I had cousins. I think he met a couple of my cousins. My immediate family was just my mother. He met my mother. I moved from roommate to roommate because a lot of them got married a lot quicker than I did. I would be in an apartment – one summer three, all three of them got married. At that point, I was living in Arlington because they were teaching in Arlington, which is the county in Virginia that's adjacent to the District of Columbia. That's when I moved to Georgetown. Georgetown itself was fun and closer to work because it was in the district. I think if you're healthy and if you are happy with yourself and your life, you have a great time in your early twenties. It's just a good time. I went to a Presbyterian Church, and there was a youth group. [I] joined and did the youth group thing. We had good times. I really can't quite remember what we did, but I remember we had a good time at it. There were picnics in Rock Creek Park. The Coast Survey would have a picnic, usually in September or October, in Rock Creek Park. It'd be on a Saturday afternoon or a Sunday afternoon, and people would go together and get together. I didn't go to the bay too often. I went over to the Eastern Shore to the ocean sometimes. It was nice. It was a lot of fun.

MG: [45:20] Tell me more about Pat's family, his background, and where he comes from.

SM: [45:24] Okay. He's from suburban Philadelphia. He was born in 1930. I was born in 1936. He graduated from high school in 1948 and went to work. His father was an office manager for an American tobacco company factory in Philadelphia. So, Pat went to work there and, at the same time, signed up around that time to be in the Marine Corps Reserve. So, for several years, he would go to Reserve meetings whenever they had them [inaudible] Philadelphia and New York. Well, along comes the summer of 1950. And that's when the North Koreans started moving down into South Korea, and the whole world goes wonky again. They called up his Reserve division. So in the autumn, it turns out, I'm pretty sure – because I didn't know him then, so this is a whole put-back-together – of 1950, he went to Parris Island for boot camp. Then, they were supposed to go to Korea. By then, he had learned how to be a radio operator, and Morse Code was the thing. He had a crew. So they were on this US Navy ship to go across the Atlantic, through the Suez Canal, and around to Korea. Well, some unrelated event happened, and the Suez Canal was blocked. Some other squabble or total accident or something, and that has happened several times, apparently. But rather than wait until that got settled, it shifted maneuvers around, and they had a practice landing in Sardinia. So they sailed around in the Mediterranean. He said he went to Crete, and he stopped in North Africa. He's a Catholic and had a group audience with the then-Pope. Went skiing in the Italian mountains and broke his ankle. I think the ski trip was just about the time to come home. So, he came home and went back to school. He got to go to more code training while the rest of his crewmates were then put on trains and shipped across the US to actually go to Korea. So even though he was in during the time of Korea, he didn't go, which is a blessing because Korea was terrible. It really was.

And the Marines suffered horribly. So he was lucky. When he got out in 1952, it was before the armistice. The armistice wasn't until 1953. So, his enlistment time was up. I remember he said that they asked him if he wanted to return/re-up, and he said no. Before he got called up, he had been accepted at Penn State. So he then, in the fall of 1952, went off to Penn State. Fortunately, he had the GI Bill because he said his parents weren't really ready to support him with much. I haven't dwelled on his family, but I'll get back to that. He wanted to study – he wanted to be a forester because he loved being outside. He'd been a Boy Scout, and he loved all the lofty ideals scouting can bring. He was doing that when somebody said, “You can't make any money in forestry. You'll be stuck out there, counting trees. You ought to be an engineer.” Well, it turned out he didn't really like math. So, that didn't work out too well. But then it turned out that the university had this curriculum of using forest products. So that's what he majored in. When he finished at Penn State, it took him five years, which is not unusual, but it did. It took him five years. He got out in '57, the same time I did. The Patent Office had come to Penn State to recruit. And he had just enough engineering credits and just enough background in something that was actually physical for them to say, “Well, why don't you come work at the Patent Office?” And when he did, everybody said, “Oh, well, we're all going to law school.” So, he signed up for law school. He started at Catholic University, but he finished at what is now the University of Baltimore in Baltimore. Anyhow, it took him – he started in '57, and I think he finished in – he didn't finish until '63, really. Yeah, '63. When you go at night, which is what he was doing, it takes a lot longer. It's nice to be able if you're going to school, to just go to school. But a lot of people managed to juggle both and get through, but it does generally take longer. Anyway, his family – his father was one of five boys and one girl [inaudible] totally McCarthy. [laughter] His mother's family – her parents were Lithuanian. But both of them were actually born in Pennsylvania. They married, and Pat was born in 1930. In 1931, he had a sister. 1937, another sister. In 1942, the last sister. So, of those people, the one that's closest to him died in 2019. The other two are still alive, and they're both in New Jersey. They welcomed me. They were loving. The two families could hardly have been more different in cultural approaches to life. My mother came from this precise engineering-type group of people who said, “You will do it like this, and you have to measure it and make sure it's careful.” His family was a lot more just do it seat of the pants, a lot more get-it-done-ish. So, it's been an interesting journey for the two of us. I don't think his mother knew what to make of me because I was so restrained, in a sense. I mean, I didn't dance much. I wasn't particularly physical. His sister was a big acrobatic person. I don't know. Since I've only been married once, I've only had one family to learn about that wasn't mine. I suppose that most unions are like that, but not all. I mean, if you'd grown up in the same neighborhood and married the guy or gal next door, you would have known these people. But the fact that we both came from Middle Atlantic states and were both middle class, there the resemblance ended.

MG: [54:43] Were they concerned that you weren't Catholic as well?

SM: [54:46] No. No, they weren't. They didn't care about that at all. We did get married in the Catholic Church. I promised to bring up the kids Catholic, which I did. And eventually, when I was about fifty, I converted. It always just seemed like, "Oh, well." I realize how intellectually different the two denominations are, not in terms of their dedication to being good people, but in the way you approach getting to that. There's quite a difference. Again, a cultural change.

MG: [55:38] Did Pat work as a lawyer then for his career?

SM: [55:42] Yes. Not hanging out a shingle. But he worked as a lawyer. He continued working with the Patent Office. About 1966, he went to work for the Office of Naval Research. He maintained his status – you had to be a lawyer to do this, and he worked, determining things like licensing the use of patents. Suppose the Acme Company invents a new sonar device. They're a private company, and the Navy says, "Oh, boy, that looks like a great thing. I need that." Well, they might spend a lot of time negotiating a license to use that patent. Or they might, in a desperate situation – suppose they're outfitting a new submarine, and they want to use it, they might just go ahead and use it. Then, the Acme Company might sue the Navy. Then, Pat and his colleagues would be negotiating the settlement and negotiating the terms, understanding that there was an intention in the background to pay for the license, but we're going to go ahead and use it right now. I mean, we need it now. Or determining whether or not something that the Navy wants to buy the use of is worth the money. He would tour universities to see what they were working on. It was an interesting thing. In 1990, they had their liaison office – I imagine it still exists – in London. He got the opportunity to go to London, and, of course, I went with him for three years.

MG: [57:49] Were your kids grown by then?

SM: [57:51] Oh, yeah. Anyway, that's the next chapter, I guess. We spent three interesting years in London. Then came home to the D.C. area.

Through the years we went to visit his family and friends.

He had a lot of hometown friends. He had stronger hometown alliances than I did because I had moved around and didn't have that long time growing up in one place. I had my collegiate friends. In fact, some of them I roomed with in the early years there in the Washington area. He had hometown buddies, and we would go back for his hometown things. And, of course, his sisters were there, and we would go for weddings and christenings and things like that.

MG: [58:37] You left the Coast Survey when you started a family. Can you just talk a little bit about that time period and how you made that decision?

SM: [58:45] Well, I don't think that I ever considered going back to work. You were fortunate enough if you had – I'll just say husband because ninety-nine percent of the time, that's what it

was. If you had a husband that had a good job, you were staying home, and you were doing the house thing and the baby thing. And he was doing the going out to work thing. So, I settled into that life. Our daughter was born in July of '63, and our first son in November of '64. And then the third child, another son, was born in October of '67. In that interim, we decided we're too busy to have any more children right then. He was studying to take the bar and taking the bar. We were in a house we were renting, and the people decided to sell it. So, we moved to another rental house. When we got married, it had always been in the back of our minds that we would eventually return to Pennsylvania for him and go to Pennsylvania for me. He never really intended not to go back. But the longer he stayed, the more settled we got. In the spring of 1967, we actually bought a house, which kind of changed the dynamics. As long as you're renting, you can always leave. He finished studying for the bar and taking the bar. He passed the bar in 1968. Years later, the youngest son said to his sister, "Oh, well, I was an accident." And I had to tell his sister, "No, you weren't an accident." In fact, we had planned for four. But after I had the third, the doctor said, "You might want to think about this again." So we didn't have any more. So, we had to disabuse him of the fact that he was an unplanned-for accident. I hope he took that to heart. It was true. Anyway, we settled into life in Maryland, and I lost track of the district. Pat went to work in Arlington. He went to work in a place called the David Taylor Model Basin, which is in Maryland, which was built by the Navy to study – they built model ships to scale, design, and test them in this tank of water, which is about a quarter of a mile long, and actually had measurable tides. He just stayed and moved in different aspects. I mean, if a better-sounding job moved on, he would stay with that. But as I said, in 1990, our kids were all grown. They weren't really settled, but they were out of college and working. We said, "Kids, we want to go to London for three years." And they said, "Cool," and off we went, which was just a fantastic section of our life, really. Before then, though – it was probably about 1968 or '69. Pat came home with some folders about taking extra classes. There were all kinds of colleges around. One of them was from Johns Hopkins. They had this program for a master's degree in something called numerical analysis, which wasn't strictly speaking computers, but it was more of an applied math. I took one class a semester and didn't go in the summers. It was five classes, and I got a master's degree. So that ended in about 1975. And still, I didn't go back to work. So the youngest one in that summer was seven. And in 1979, there was a local – a mile away – Beltway defense contractor that had an open house. I went to the open house, and they were looking for people that had my kind of education. I didn't have any talent – didn't have much in computers, really. But this company was then known as Vitro. As I said, it was less than two miles from the house. So in 1979, our youngest one was almost twelve, and the kids were big enough to understand that mom wasn't home all the time. And I went back to work. I stayed there until this dream occasion to go off to England. "I'm going to stay here and continue working. Goodbye, dear." [laughter] No. I actually said, "I don't really want to quit. I want to get a leave of absence." When I came back, they really didn't have any opportunities. So, I actually quit work. But while I was working, what I worked on was programs that supported a missile system for Navy ships. Again, it was classified work. The programs [and] the languages

were fairly specific to that system, although I had taken some Fortran and things like that. So, I did augment what I knew by taking classes at the local community college. Eventually, just before I left, I got a little promotion; I was a section leader. Then, in January of 1990, there were great cutbacks. I was laid off from that job but found another job within the corporation, which was using the language C+, which people don't talk about much, but it's still there. And it was a computer language. So I set about learning that. By that time, the winds of us being able to go to England were around, and I left in October of 1990. But working at Vitro, which then was sold to Tracor and then was sold to BAE, which is British Aerospace Engineering, I think, and that company is still around. I saw it in the paper the other day. This system was a missile – there were several missiles which we supported. Even in 1979, they'd been around a long while. I'm not even sure that they still use those. The ships that they were on may no longer be commissioned. I mean, that was thirty years ago. And as I said, they were downsizing in January of 1990. That phase of the Navy was closing down bit by bit. I don't believe that they're still doing the same thing. It was fascinating work. I learned a lot about what's the difference between “hold fire” and “ceasefire” or how you write to make sure that your missile was going to hit the target when a target isn't standing still. I mean, I'm not giving away secrets at all. But it was good work.

MG: [1:07:38] What were those three years like for you in London? What section of the city did you live in? What would you do for fun?

SM: [1:07:44] We lived in West Hampstead. The City of London is divided into cities. One of the posh places was the city of Westminster. You wanted to get in Westminster, but we didn't. And the man that Pat replaced had bought a flat. He wanted us to buy his flat. We went and looked at it. And I thought, “I don't want to live here.” So, unfortunately, we said to Al, “Sorry, we don't want to buy your flat,” and we rented. We rented in West Hampstead, which is in Camden, which has some not such wonderful parts, but we learned to ride the Tube and the buses and the trains. We had PX or base shopping privileges. We met English people, and we met American people. We took bus trips all around the British Isles. When we first got there, we saw this ad for this couple, an English couple who managed what they call coaches – buses to different places. That first winter, we went to New Year's in Scotland and went to this old castle that had bagpipes. Pat rented a kilt, and I wore the tartan. We learned all about bagpiping. Actually, our daughter's high school had a bagpipe band. She had been in the bagpipe band. We were ready to hear more bagpipes, and so that was cool. We took trips with that same couple – their business –over to Northwestern Europe. We went to France. We went to The Netherlands. We went to Belgium. We didn't really have a plan. Some of the people that we knew – Americans – they sat down, and they mapped out what they were going to do the time they were there. We knew our time was three years. But we didn't do that. We just sort of said, “Oh, that sounds good. Let's do this.” [We] made really close friends with two other couples that came back to the United States and kept up with them for – one couple not so long, but the other



couple, through the years. And went to Westminster Abbey and went to – I joined a women's club. There were a lot of English people there. We did things like toured Parliament when it was not in session. It was just grand. We got into the tower that has Big Ben in it and stood behind the clock. And just went to Hampton [Court] Palace, where King Henry VIII liked to stay. And went to the Tower of London lots of times. And just like in the United States, I would meet English people who say, “No, I've never been there.” And I thought, “Well, I've never been to Congress.” There are these things that are around you all the time, and you don't go to them because they're there. We also took our left-hand drive car, which was a Saab – we still drive a Saab. It wasn't a huge Lincoln or a Buick, but it was big enough. It took two of us to drive it. I mean, you really need the person close to the other traffic when you're driving that left-hand other-side car. So then we took trips around. I just wrote a letter yesterday to one of several friends that – some of them have died, but friends that I made there, we've kept up over these years. I didn't really want to come home. We were long enough there to understand the problems that any place has. But the thing was – we were supported financially, very generously, by the US government because it was expensive to live in London. We couldn't have stayed. I mean, there was really no way. When we came back, I made some feeble attempts – because then I was in my mid-fifties and thought, “I've worked long enough.” Made some feeble attempts to go back to Vitro, and the only openings they had were possibly fifteen or twenty miles away in Virginia, and I didn't want to go there. So, I didn't go back to work. Pat worked until the spring of '97. He retired when he was sixty-six and two-thirds. That ended our formal working career. We stayed in Maryland then. By that time, the oldest one, the daughter, was working in Salt Lake City. She had been working for the Weather Bureau and transferred to Salt Lake City, which, if you're not Mormon – it's better now than it used to be, but it's still a little bit – “You're twenty-seven? You're not married?” She got that a lot. The first son had majored in Hotel and Restaurant Administration at Penn State and then went to work for Marriott. By the time we left the United States to go to London, he had become disenchanted with that and began to work at Nordstrom in the first East Coast store, and they transferred him to LA, so he was in California. And the third one had also gone to Penn State. (My daughter went to William and Mary, by the way.) He'd also gone to Penn State, majored in Business Administration, was working for peanuts, decided he wanted to go to law school, and decided to go to Lewis and Clark, which is here in Portland. So he ended up in Portland. He was in Portland. He'd already gotten in here by the time we got home. He sort of (stalled?) for three years, ran a bed and breakfast in the foothills in Virginia for a while, and then decided [to go to] law school. So, everybody was out West. The daughter went back to school – had gone back to school and went back again. We were in this house in Maryland that we realized nobody was ever going to come back to. Nobody was going to come back to Maryland, where we were going to have a family two miles away in the next town over. The house was really too big for two people. The decision was important. We made [the decision] we're leaving the house. Where are we going to go? The call to go to Penn State was pretty strong. They have a lot of retirement communities. I don't know. You never said, I never asked, and you may not want to tell me

where you went to college or under what circumstances. But if it was a big university, they've got retirement villages all scattered around for people who loved it and want to come back. So, there was that call. But the downside of that was people on the West Coast to fly to Central Pennsylvania in an emergency, or us getting out in an emergency was not a good idea. It was difficult. You'd have to go to Pittsburgh or Philadelphia and then get on some other plane and go to wherever the kids were, or vice versa. Okay. So, that was out. And by then, Pat's sisters – his parents were dead – were in New Jersey. Well, we don't really have anything in New Jersey. We've got nieces and nephews, but we don't have any children there. By then, our daughter was here in Portland, working for Bonneville Power. Our same son was still in California. The lawyer-son was still here in Portland. We said, "Okay, it's Portland." So that's how we came here in 2005. We still owned our house in Maryland. We bought this house, went back, and spent that winter of 2005/2006 cleaning out and getting rid of stuff, asking kids what they wanted, and selling the house. We actually got here in 2006. So we've been retired. What we've done? Until we got older and COVID hit and bad knees hit, we were active in the church, somewhat. There's an elementary school across the street, and I volunteered in the library until COVID hit. There's a park nearby that has a group called Friends of Mt. Tabor Park. We were active in that, and I was the membership chairman of that for about six years. About the time that Pat's knee got really bad and COVID hit, I said, "I can't do this anymore." So a lot of things we – three of our big things, we're not doing much anymore. Possibly, we'll get back to some of them. I don't know. We're pretty quiet these days. Now, our big social events are going to doctors.

MG: [1:19:00] Yeah, I was curious how you were impacted by the COVID pandemic.

SM: [1:19:04] Well, we took all the shots. I learned to Zoom. I learned to order my groceries online from the major Kroger subsidiary in town. I learned how to order on Amazon, and I watched as store after store that I would have planned to go back to closed. There's a local shoe group – I mean, it's a local chain, and I bought a pair of sneakers there. So, I wanted a new pair of sneakers, and I looked at the style number, and I called them up, and I said, "Look, I'll give you my credit card. Will you send me a pair of these sneakers? This is what size." "Oh, yeah, we've got them." So they sent them to me. It turned out they were black, not white. I thought, "Oh." My eyes aren't really that great in the morning, trying to tie black shoelaces on black shoes. So I was scrounging around and found a pair of white shoelaces. That's the way I still wear them. We didn't get COVID. But we really did kind of retreat. Our daughter is the worrywart of the family. She worries for us a lot. She worries more than I would like her to. She's right about the things that she says, but it's hard to be as careful as she wants us to be. I can wear a mask. But Pat wears hearing aids and glasses. I need glasses to read, but he needs glasses all the time. A mask is just some other confounding thing on his face. He doesn't like it. It fogs up his glasses [and] gets his hearing aids messed up. So it's how careful do you want to be. In the middle of a pandemic, he got his knee replaced, which was miraculous. I mean,

really, that we went into a hospital. He stayed overnight, got his knee worked on, stayed overnight for observation, came on the next day, and we didn't get COVID. We didn't get sick. Our son from San Diego drove in one stretch from San Diego to Portland. That's why I have this white hair. No, it was white before, but I was worried. [laughter] My idea was you stop in the middle. But there was COVID. What are you going to do? So, he got here. He was here for about two and a half weeks to take care of his dad. So, we went on. How about you? What happened to you with COVID?

MG: [1:22:25] We just hunkered down. My daughter was two years old at the time. That was tricky to be working full time and having her out of daycare. My parents are nearby. We all just have been as careful as possible. I have not caught it yet. Knock on wood. I'm continuing to be cautious.

SM: [1:22:44] There is a resurgence going on now.

MG: [1:22:50] Yeah. Suzanne, my last question for you is how you got reconnected back to NOAA. I saw an email that you recently did a talk in an office somewhere. What reconnected you to the agency?

SM: [1:23:02] Okay, I was here. I was here in the house. It was all Zoom. And it's through my daughter. She works for what's called the Snow Survey, which is a part of an agency – [NRCS].

MG: [1:23:28] Natural Resources Conservation Service.

SM: [1:23:31] Yes. Thank you. I remember it's Nellie Rows, Cara Sews, and I can't keep track of it. Natural Resources Conservation. Yeah. She was an adjunct to some meeting that was talking about water issues. I don't even remember what it was. She was actually not – she was replacing somebody else, or she was a run-in at the last minute. It wasn't something that she'd been planning on for some time. And it was all Zoom. Somebody – her first name is Laura. She mentioned that she was part of the Coast Survey. And Cara said, "Oh, my mother worked for the Coast Survey in the '50s and '60s." And Laura, in thirty seconds, while she was still talking, had cranked up – "What was your mother's name?" "Suzanne Tully." She had cranked up this picture of me holding a drift bottle from about 1960. My daughter just about fell over. They just started chatting about it. Rear. Her last name is Rear. Laura Rear.

MG: [1:25:00] Laura Rear McLaughlin.

SM: [1:25:03] Yes. She asked Cara if I would be interested in talking with them. They have this Friday afternoon get-together where they meet informally– it's impossible without Zoom because now they do have people around the country. Cara said, "Well, I don't know. I'll find out." So

she asked me, and I said, “Sure.” It was scheduled for a Friday afternoon. I pulled out all the paper things that I could remember – the drift bottle that I still have unused and a copy of the pamphlet that I wrote. I still have a piece of bathythermograph, which we didn't talk a lot about – bathythermograph slide – and things like that. We talked about pretty much what I've talked about with you. The kids said, “Well, mom, can they tape it?” And so that's when I asked, “Well, can we get a record?” And they said they would contact you, although they didn't tell me who you were. That's how it happened. This was in April, I think, that we had this conversation. Then they sent me pictures and pictures and pictures, slides, and tide stations. It was just wonderful. I went back all those years ago to my first job, really. The recruiter came to William and Mary. “It sounds like I can do this.” So, that's it.

MG: [1:26:48] Well, you've been such an important piece of the puzzle. This has been such a treat to meet you, get to know you, and learn your story. I'm so glad we had this opportunity.

SM: [1:26:58] Thank you very much. This is it, huh? If I think of something, I'll email you.

MG: [1:27:06] I hope you do because I'd love to stay in touch.

SM: [1:27:09] It's lovely talking with you, Molly.

MG: [1:27:13] Lovely talking to you, too. Are there any final thoughts or reflections before we end for now?

SM: [1:27:20] I think it's a great program that you're doing. When you interview the last person that's been found, what's going to happen then? I mean, what happens to it? How does it get archived? Suppose fifteen years from now, somebody wants to look into it. What are they going to find, and how are they going to find it?

MG: [1:27:46] I'll show you. I'll pause the recording and share my screen so I can show you around the Voices Oral History Archives website a little bit.

SM: [1:27:51] Okay.

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Transcribed by Molly Graham 9/21/2023

Reviewed by Molly Graham 9/22/2023

Reviewed by Suzanne McCarthy 10/13/2023

Reviewed by Molly Graham 10/18/2023