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AN INTERVIEW WITH JEANETTE DAVIS
FOR THE
NOAA 50th ORAL HISTORY PROJECT

INTERVIEW CONDUCTED BY
MOLLY GRAHAM

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TRANSCRIPT BY
MOLLY GRAHAM

Molly Graham: This begins an oral history interview with Dr. Jeanette Davis for the NOAA 50th Oral History Project. The interview is taking place on December 5, 2019, in Silver Spring, Maryland. The interview is Molly Graham. Could you start by saying where and when you were born?

Jeanette Davis: I was born in Wilmington, Delaware, the first state of the United States of America, [laughter] in 1985. I am thirty-four years old. I actually just turned thirty-four a few weeks ago.

MG: Happy belated birthday.

JD: Thank you.

MG: I'm curious how your family came to settle in Delaware.

JD: My family is originally from South Carolina. It's always interesting because growing up – my mother is one of twelve. My grandmother was one of eight, I believe. They lived in the South. One of my grandmother's sisters got married really young and, according to the family, ran off to the North. She met her husband, my Uncle (Ash?), who was in the military in Delaware. So they were the first to come up from South Carolina to Delaware because of the military and because of the opportunities that were there compared to the South. My aunt then went back down to the South and got her sisters and family, and then we migrated to Delaware.

MG: What do you know about your mother's life growing up?

JD: She was one of twelve, [laughter] so it was a big family. She actually was the first girl born in Delaware from my grandmother's children. So she's somewhere in the middle. The ones before her were born in South Carolina, but she was physically born in Delaware. Her life growing up was a bit different. There was a lot of support in the family because everyone was new to the area, so everyone pretty much lived on the same block. She's really close to a lot of her aunts and uncles because she was the baby girl that was here. She had a pretty good upbringing, a loving family, and lots of people who were navigating the north of the East Coast.

MG: Do you know how life changed for your grandparents in terms of their community and what they were doing for work?

JD: No. Well, I would say one of the big things was farming because my family in the South lived on a farm and grew a lot of their own foods. Growing up, we actually did have a small garden in the backyard, but it was nothing compared to the scale and land and things that they had in the South. So I knew that was an adjustment for sure – just fresh produce and cooking things differently. But I think between the military and various industries in Delaware, there were more job opportunities here.

MG: Can you tell me a little bit about your father's side of the family and how they came to that area?

JD: My father's side is actually from Jamaica, and I don't know exactly how they went from Jamaica to – actually, the first location was Baltimore. So a lot of my father's side of the family is still in Baltimore, Maryland. I know that my grandmother's sister moved to Delaware. I think there was a job opportunity. Essentially, some of them moved from Baltimore to Wilmington, Delaware. My father was a part of that group. My father was also born in Wilmington, Delaware, but a lot of his older siblings were born in Baltimore. Interestingly, my grandparents came to the area around the same time and lived in the same area. My father and my uncle, [who] is my mother's brother, are best friends. My families are really close to each other. They grew up in the same neighborhoods. Yes, thinking about this, even during the holidays, we all get together. Sometimes it's hard for people to distinguish, "Is this your aunt from your mother or your father?" I have big families on both sides.

MG: Is that how your parents met? Through your uncle?

JD: Yes, they grew up as children together. They went to schools together – elementary, high school together. So, yes, they all knew each other.

MG: How big is your immediate family? I know you have a few brothers.

JD: I have two older brothers, two older sisters. I have nine nephews and three nieces. Again, more of a big family. [laughter] Yes.

MG: Tell me about some early childhood memories and what life was like for you growing up.

JD: Well, growing up, in comparison to my siblings, especially, they were extremely athletic. Growing up, that was something that was really encouraged in my household – education and athletics. I was definitely the one that did not get the athletic gene, but there was like, "Oh, she's the smart one. She's not going to do all these sports." [laughter] That was how we were somewhat distinguished, based on personalities, who did what, who was interested in what, and I was the one that was more interested in academics than anything else. That was quite interesting, growing up. I always loved going outdoors and trying new things and experimenting. Even as a child, I would gather things and put them together or try to make something or create something. I could just do that all day long. I was always inquisitive and asked questions. I think my parents understood that I was a bit different from the rest. They just allowed that and encouraged that. [laughter]

MG: Were you always interested in science?

JD: I was always interested in science, yes. Even when I didn't know it was science, I was always interested in science. By the time I could understand that I was interested in science in elementary school, I always had great science teachers. I think they could at least see my interest in science and how engaged I was. By the time I got to high school, it was obvious that science was my thing, and history – science and history.

MG: Those are good things to be interested in.

JD: Yes, those were my things.

MG: I was curious about the neighborhood you grew up in. What was it like?

JD: Most people on my block were, I would want to say, average middle-class folks, homeowners. It was a small city. Also, the interesting thing is – even though Delaware is a really small state, it has different dynamics in the state. So Wilmington is known as the suburb of Philadelphia. It's just twenty minutes from the Philadelphia airport, whereas lower Delaware, like Dover and Smyrna, are essentially farmland, and it's really slow, and it functions more like the South. So, growing up, I was so close to Baltimore, which was a big city, Philadelphia, that there wasn't as much going on in Wilmington, but you would always travel to another city for festivals or museums or shows. I just remember a lot of that growing up. If you were in Wilmington, there wasn't too much to do, but you were close enough to other cities to do things.

MG: Do any particular trips stand out to you?

JD: No, not really.

MG: What did your parents do for work?

JD: My father was in the military. Again, that whole Delaware military thing. He actually just retired maybe five years ago, and he was in the military for probably a good thirty years or so before retiring. My mother pretty much was a stay-at-home mom for most of the time. She did do some clerical work in local offices, but for the most part, she was at home taking care of children and then grandchildren. My father, because of his skills with the military, did a lot of welding, carpentry. Anything from working on trains to building a home he could pretty much do. He and his brothers, who were also in the military, did a lot of construction and contracting. Then, once he was in the Army, he then switched to the National Guard. So that kept a lot of his time because he would travel for the National Guard. Actually, his last leg was in Afghanistan. That was maybe – President Obama came into – he guarded President Obama for his first inauguration. That was a really big accomplishment for him. Shortly thereafter, he did a leg in Afghanistan. From there, he was done. [laughter] He retired.

MG: Do you know his rank when he retired?

JD: I should know, but I don't.

MG: Did he share any impressions of President Obama?

JD: Oh, yes. He still tells this story any time he can. He was really proud, of course, to serve his country in that capacity, but also the guard the first African American President. He remembers talking about how kind Obama was, and how that whole staff that helped guard them, he treated them with so much kindness and like he knew them their whole lives. He was talking about how he was so honored to do that and be around a person who really made him feel special about what he was doing at the time.

MG: Towards the end of high school, did you know what you wanted to do after you graduated?

JD: I had several ideas of what I thought I wanted to do. One, I loved science, so I thought to be a medical doctor. That was like, "Well, if you like science, you're a medical doctor." I had so many questions about the body, the female body. I said, "Maybe I'll be a gynecologist." This was my thinking. But I also really liked history a lot. I remember looking up if you like history, what do you do, and a lawyer came up. I said, "Okay. Well, being a lawyer seems cool, too." So when I applied for undergrad schools, I applied for pre-med and pre-law. The college that I ended up going to – Hampton University – had a week-long orientation for the freshman class. I technically was a criminology major when I applied because they actually didn't have pre-med or pre-law, but I was applying to so many pre-med programs and pharmacy programs and science programs that I was like, "Well, I'll just make this one a lawyer-one." So I was a criminology major on paper based on when I applied, but when I physically got to the campus, I thought, "No, I'm not going to be a lawyer," because by that time I had done enough research to understand that I never wanted to actually practice law. What I was making an attempt to do was something called "policy." I just didn't have the words to say "policy," or I didn't have the words to say how I wanted to influence law or change law or advocate for things. That said lawyer initially, but then when I looked at what a lawyer does, I was like, I actually don't want to do any of those things, but I was still interested in the policy/advocacy role within law. So I said, "No, I definitely don't want to be a lawyer. I'm going to be a scientist." Chemistry was always my favorite because they didn't have pre-med. So I said, "I'm going to be a chemistry major." But again, because we had a week-long orientation, I decided I'll visit all the science departments. [laughter] What else am I going to do? Lo and behold, there was a marine science department. I went there and literally fell in love. I was like, "Oh my god, this was the science I've been waiting for my whole life," because studying the ocean is studying all sciences possible, literally. There is no science that you do not study with ocean science – physics, chemistry, everything. It was marine and environmental science, so there was a lot of geology, environmental science. We took meteorology, botany, microbiology. It was every science. I was like, "This is what I want to do." I was still taking the core curriculum required for medical school. So I was like, "Oh, yeah. I'm going to do marine science, and then I can still go to medical school." But then that changed, because then I did an internship every summer, and I loved it. I learned about medicines from the sea. I combined my love for science and medicine and eventually went back to school to work on a project with discovering different medicines from the ocean.

MG: I want to ask you more about that, but first, can you tell me more about the summer internship that you just mentioned.

JD: So my first one was on this fifty-three-foot sailboat that I lived on for a month. It was myself and a crew of somewhere around thirteen people. There were students from all over. It was called Multicultural Students at Sea Together, MAST. We had a few students from Puerto Rico, from Honduras, from Hawaii. It was really about getting students of color to understand marine science and do research in the Chesapeake Bay area. We also learned about the contributions of Native Americans and African Americans to ocean science, particularly in the Chesapeake Bay area. So we did research. We went to museums, and we would stop at various research intuitions along the Chesapeake Bay. One of them happened to be where I ultimately

ended up getting my PhD. The person who spoke to the students on that day ended up being my PhD advisor. He talked about what his lab did. They essentially study bacteria and marine invertebrates to find new drugs that could be used for medicines. I was like, "What? That is so amazing." This is great. So I met him during that internship, introduced myself, and we kept in touch. Then, a few summers later, as I was a rising senior, I interned in his lab. From that internship, I was like, "Yes, I want to be your student." The following year, I came on as his grad student.

MG: What was his name?

JD: Russell Hill. Russell Hill at the University of Maryland.

MG: Can you tell me about his background and his research and expertise?

JD: Russell is South African. He actually grew up during apartheid. He has a really interesting story. He, at the time, was required to do some service in the military. He was a microbiologist, too, at the time when he was drafted to serve in the military. Because of some of the things he was able to do there with his knowledge as a scientist, someone pulled him [aside] and said, "Actually, you don't belong here. You should be doing these other things." From there, I believe he was recognized for his science contribution and was able to leave South Africa to eventually go to Australia. He did some research for a while. From there, came to the U.S., where he became a tenured faculty at the University of Maryland. So he is a trained microbiologist. He did a lot of work on sponges in the ocean, and sponges are one of the oldest living organisms on the planet. Sponges, like a sponge that you wash dishes with, retain water. They soak up a lot of things in their environment. In the ocean, they play a huge role with filtering water through their pores. Because of that, they have a constant flow of water in and out. In that water are a lot of microorganisms that you can't see. So they have this interesting relationship or symbiotic relationship with bacteria in the ocean. They actually can retain a lot of those bacteria for several reasons. Some studies have shown if you just look at the dry weight of a sponge, a lot of the cells are bacterial cells as opposed to sponge cells. From that, he started looking at the bacteria in different microorganisms and found that some of these are able to produce interesting compounds. It actually makes sense in the marine environment because all living things have a way of protecting themselves. So if you're not a shark or you're not a top predator, or you don't have a shell, or you can't swim fast, if you're just slow-moving, soft, or can't move, then typically, your way of defending yourself is producing a compound that defends. So when you look at things that can't move like sponges or slow-moving or soft like mollusks or sea slugs is what I study, they tend to produce a lot of interesting compounds for defense. Then those defense compounds typically can be used for some type of medicine. Those compounds are typically generated by the bacteria that live on the organism, rather than the organism itself because it gets it from the water column or other places. It sounds not complicated, but this happens all the time in humans. It's biology. Even the bacteria in your gut is a marker for how healthy you are as a person. So bacteria are everywhere, and they're doing awesome things associated with life.

MG: Can you tell me a little bit more about the sailboat you were on and what that experience was like? How long were on the boat?

JD: So we were on the boat for about a month. I was the youngest person because most people who do that internship are about to graduate from college or have a master's degree or are in grad school. I think there were only three undergrads. The rest of them were grad students. Most of the undergrads were finishing up, and I had just started. I would say from that perspective, the other students, this wasn't their first internship. They had other internships and were more familiar with ocean science generally. Whereas, for me, it was my freshman year of college, so I wasn't as – it was like I was not thrown in the mix, but I was forced to catch on quickly, which was good. It was my first time conducting research. We had a CTD, Conductivity-Temperature-[Depth] – I can't remember. It's a device used on research vessels to collect parameters in the water. So dealing with that type of technology for the first time was interesting. Also, I think one of the biggest things – I think we had three or four students from Puerto Rico. They brought instruments, and we would salsa dance. It was nice to learn about their culture. We also had a few people who were vegan. So you have people who were used to eating pork every day, and then people who only ate seaweed. [laughter] That was interesting. We had two crews, and we were evenly divided. Each crew was responsible for running the day-to-day tasks, and we would rotate. Within the crew, you were assigned navigation, cooking, research. Every day you had a task no matter what. You had a chance to experience all of the tasks. So whether you were on timing – it took a lot of discipline and maturity, and it was also fun. And I was in this crammed boat. It was intense. [laughter] It was intense, yet awesome. I think doing something like that, which was really extreme, especially for a nineteen-year-old, really – once I did that, I was like, "I can do any internship. I'm good." [laughter] But some of those people actually are my friends and people that I still talk to, to this day, so it was a good experience. It was an intense good experience.

MG: Were you going up and down the Mid-Atlantic coast?

JD: Yes. We did the entire Chesapeake Bay. We essentially hit all the tributaries. We covered the entire bay, which is the largest bay – it's definitely the largest one in North America, but I think it's the largest in the world. It could be. If it's not, it's the second-largest in the world, but in North America, it's massive. The Chesapeake Bay is pretty massive, a massive body of water.

MG: What was your relationship with the ocean environment before this trip? Would you go to the beach on family vacations or during the summer?

JD: No. You know what was so interesting? I remember in marine science, our first introduction to marine science as a freshman class, and everyone introduced themselves, and they talked about why they chose marine science and their connection to the ocean. Everyone had these amazing stories about growing up next to the ocean or going fishing with their family or going to beaches, and they always knew they wanted to study whales and dolphins. I was like, "No, none of that ever happened for me. I literally got here, saw your department on the water, and decided to walk in, and liked the curriculum." [laughter] Everyone was like, "Okay." I definitely had a connection to being outdoors. I loved being outdoors. I grew up in the Nintendo era, where the video games were just becoming the thing. My siblings loved it, and I never did. I never got into things like that. I would rather go outside. I loved playing with plants. [laughter] That was one of my favorite things to do was play with plants. I loved flowers

and doing things with flowers and climbing trees. We have the Delaware River, and we have beaches, but I never felt like, "Oh, when I'm on the beach, I want to go study something." But I did just enjoy being outdoors.

MG: You ultimately majored in marine and environmental science there.

JD: Yes.

MG: Can you tell me about some of the other classes you were taking during college?

JD: So, meteorology by far was one of my favorite classes. I loved meteorology and botany, microbiology also. Zoology was awesome. It was awesome. Geology. I was a TA [teaching assistant] for geology. I loved geology and loved rocks and minerals. Actually, to this day, when I travel, especially to a different country, I collect rocks. [laughter] It's so weird. Because you can tell so much about the formation of where you are based on a rock. I just thought that was so interesting. If you look at layers of the rock, it tells you so much about how where you are literally was formed. So I loved geology. We used to have these rock beds and mineral beds. I then was a TA for two years, so I was very familiar with minerals and rocks and limestones and all this stuff. So now, when I travel, I can pick up a rock and be like, "Oh, this was generated from this." Then I keep them. I actually decorate around my house with [rocks]. Certain areas may have rocks. Then people are like, "What's this?" Then I'll tell them about where it came from and how it was formed. It's always a good conversation piece. [laughter]

MG: [laughter] The rocks have stories.

JD: Yes, the rocks have stories. Another thing that I do is if I am somewhere on a beach, I'll collect the salt from the beach. Salt is like the crust of the ocean. Then I'm like, "Oh, this salt came from this ocean." [laughter] I'm such a nerd. So geology was definitely one of my favorites. I still collect rocks to this day. It's one of my favorite things to do when I travel. Sometimes I'll see something, and I'm like, "Oh, can you pull over so I can go collect a rock." [laughter]

MG: [laughter] Also, in college, were you part of a sorority?

JD: I was not part of a sorority.

MG: What was Phi Beta Kappa? I read that somewhere.

JD: Okay, that was the National Honors Society.

MG: Okay, sorry.

JD: No, no. It's fine. I was part of the National Honors Society. I actually was first inducted in high school. Then, in college, you could continue. At that stage, they have Greek letters, but it was for nerds. [laughter] That's it.

MG: It had something to do with your good grades?

JD: Yeah, you had to have a certain GPA [Grade Point Average] and be asked to join. Pretty much, you gave them money, and they gave you some tassels at the end that you wore on graduation. It was good, I guess, on your resume. I think we did some volunteering stuff, but I don't remember a whole lot about doing stuff with them. You were just part of this organization of people who were nerds. That's it.

MG: Also, when you were in college, you were featured in *Ebony* magazine. I saw your picture.

JD: Yes.

MG: How did that opportunity come about?

JD: Yes, that was really interesting. I don't remember. So I was in my second internship at the time. I don't remember if I received a call or email. Someone reached out to me; I think one of my professors. I don't know how the person got my contact, but someone reached out to me from the Honda Diversity Scholars Program and told me about this program, and there was also a scholarship involved. So I was like, "Yes, absolutely, I want to do it." I applied for it. I thought that the big thing was getting the scholarship, but a part of it was actually promoting diversity in science. Each year, they have a vision for what type of science they wanted to highlight. They had never, apparently, thought about marine science. They were like, "Oh, you study marine biology?" I was like, "Yes. Well, marine and environmental science." Then when I told them the research that I had already done up until that point, they were like, "So you actually have lived on boats and done marine stuff?" I was like, "Yes, I'm doing an internship where I da-da-da-da." So I applied. I got the scholarship. But a part of that was also having an ad in various magazines, so was like a celebrity for two days. I left my internship, which was in Horn Point, Maryland. I flew out to L.A. I did this photoshoot at the Long Beach Aquarium. I went to the Long Beach Aquarium. I did this photoshoot there because I wanted to have visuals of the marine background. Then I was in a hotel, and I got room service. I had this wardrobe. I didn't like what they put me in. I also a hair and makeup stylist who was the person who was on *America's Next Top Model*. [laughter] They wanted me to wear this bright orange – they had a vision, right? And I didn't like the vision. However, the tradeoff was some of the nicer clothes they let me keep. That was nice. I had never ordered so much room service in my life. I ordered everything just because I could. I was like, "Oh my god, this is what it's like to be a celebrity." It was two days, and I flew back, and that was it. Then it was in all of these magazines.

MG: I thought I remember seeing you in a lab coat in the picture.

JD: I don't know if it was a lab [coat]. I remember it was this bright orange shirt. I think I had to wear a lab coat, but a bright orange shirt under. Because they really wanted the orange – I remember it was the background of the fish with the orange, and they were like, "We really want the bright orange shirt." I wanted to wear this green shirt, and I couldn't wear the green shirt. [laughter]

MG: It must have been so exciting. It sounds like a great opportunity.

JD: Yes, it was great. It was awesome. It was amazing. It was amazing. Actually, I think I'm going to – I have the first few copies of some of the magazines because they ran the ad for the entire year. So I don't even know – I don't have all copies. Because at one point, I was trying to keep up and get every copy. I was like, "I can't keep track." Then people were like, "Oh, I saw you in *Black Enterprise*," and I was like, "Oh, I haven't seen that copy," but that was fine because they all were the same exact ad. So I have the first few copies, and at my house, I have bookshelves, and I have them at the bottom of the bookshelves. One of my friends came over one day, and she was like, "Why do you keep these? You keep old magazines?" I was like, "No." She's like, "Why do you have these here?" Then I opened it. She was like, "What?" Then I was like, "Oh, I'm going to do a flashback Friday on my social media." So now that I'm thinking about it, I'm going to post that tomorrow.

MG: Good. I'll have to start following you.

JD: [laughter]

MG: Tell me more about your experience at Horn Point.

JD: Horn Point was great. I would say all of my internships have challenges, but they were rewarding, because as I said, I liked being outdoors, but I realized being outdoors in the city, versus being outdoors on the Eastern Shore of Maryland – very different. So I don't think about deer when I wake up in Wilmington. If you see a deer down a street, it's like, "What is going on?" I would wake up and encounter deer outside, which was fine, but I was like, "How do I get around the deer? Will the deer do something?" It was just figuring that out. Also, there were bees' nests everywhere, and there were snakes that would eat and metabolize in the middle of the row where you would have to take this walkway. Everyone would be like, "Oh, Jeanette, it's okay. None of the snakes on the Eastern Shore are poisonous." But I'm not used to waking up and seeing snakes everywhere. And I got my first tick when I was there. [laughter] Got my first tick. That level of nature was like – yes, I thought I was okay being outdoors, but this is a different level. That was different, but it was okay. It was an adjustment to make. I got stung quite a bit, but I'm not allergic, so I just got over it. I learned how to check myself for ticks and pick them off. One of the girls actually ended up getting Lyme disease, which was nasty.

MG: What were you studying during this internship? Was this when you were looking at seagrass?

JD: Yes, I was studying nitrogen fixation rates in seagrass. Essentially, most people – this is how I used to explain this. Our atmosphere has oxygen, clearly. That's what we breathe. But most of the gas in the environment is actually nitrogen. We need nitrogen. All living things need nitrogen. In fact, that's one of your building blocks of DNA. Everyone needs nitrogen. But the nitrogen that is in the atmosphere is not biologically-available nitrogen. So our body has a way of taking what's in our environment in nitrogen and making it into a form that we can actually use for life. So there are bacteria that do that, and what I was essentially studying was the rate of organisms to take the atmospheric nitrogen and make it biologically available for

seagrasses. That's called nitrogen fixation, to fix nitrogen from the environment and make it biologically available. So that's what I was working on, nitrogen fixation. [laughter] My advisor at the time, her name was Judy O'Neil, and she's awesome. She's at the University of Maryland. She has been an amazing mentor throughout my career. So has Russell Hill. So yes, I actually, a few months ago, got together with both of them. She got stuck with me for life after that internship.

MG: Well, tell me a little bit more about her and what she's like.

JD: She was very down to earth, and she's a mother of two girls. So I think she just got it. I don't know. I just experienced her as very – clearly, she's a smart woman and was my mentor and a scientist, but being around her felt like, "Oh, yeah." Science was already fun, but it didn't seem intense. She also was very sensitive to my getting ticks. [laughter] And I really loved *America's Next Top Model*, and her daughters loved it, and so she could relate. When I told her about the Honda Diversity Scholarship, and I was going out to L.A., I told her about the magazines, and she wasn't familiar with all of them. I was like, "Mary J. Blige is on one of the covers." She was like, "Mary J. Blige? Who's that?" I was like, "What?" Then we went on this whole thing about Mary J. Blige and listened to Mary J. Blige's music. So I learned how to do nitrogen fixation rates, and she learned about Mary J. Blige and *America's Next Top Model*. So it was a good exchange.

MG: I like how much *America's Next Top Model* is coming up in the interview.

JD: It was my thing. It was a big deal. All in undergrad, you lived to watch *America's Next Top Model.*

MG: I was going to ask if you smized in your photoshoot.

JD: [laughter]

MG: What year did you graduate from college?

JD: 2008.

MG: Can you tell me more about the work you were doing with the Living Marine Research Cooperative Science Center? This would have been the summer before your senior year.

JD: Yes. That research was actually in Russell Hill's lab. I was working on bacteria associated with marine sponges. So it gave me a lot of the foundation that I needed for grad school. I was doing a lot of technical microbiology there. So by the time I came for grad school, I could jump right into a project. I was familiar with the lab, the way it worked, the lab manager, expectations, all of that. It was great because, again, I could jump right into doing lab work and coursework. That was the internship right before I came to his lab.

MG: Did you go straight on to graduate school after you finished college?

JD: Yes.

MG: Did you stay at Hampton University?

JD: I graduated from Hampton in 2008, and then I started in Russell's lab in August just a few months [later]. I had the summer, and then I went straight to Russell's lab as his grad student. I had already applied and got accepted into the grad program at the University of Maryland my senior year. I knew right away when I graduated that I was going to go to Russell's lab.

MG: How long were you in the graduate program?

JD: From '08 until technically – well, I defended in 2014, at the end of 2014 [in] December. I defended December 2014, and in February 2015, February 1st, I started here at NOAA [National Oceanographic and Atmospheric Administration].

MG: Can you walk me through your graduate school experience? There are a number of years there, and I don't want to miss anything.

JD: The first few years of grad school is really a lot of coursework. Yes, so I took quite a few courses. I'm a microbiologist. However, if you're a microbiologist, because you can't see what you study and because you don't physically carry a microscope everywhere, you understand things at the molecular level, which is like DNA, RNA, protein stuff. Much of my background up until that point had been – how do I say – it wasn't that level of detail of science. It wasn't necessarily molecular biology. It was marine science. So I had all of these different sciences, but not a lot of core molecular stuff. So grad school was a lot of – actually, the summer before I went, I took biochemistry. I think that was the only class. I think I had to take some more math classes. Then, by the time I got there, I did genetics, molecular biology. It's a different type of technical science. So I was taking a lot of those types of courses. I can't remember all the classes, but it was more molecular and chemistry-oriented courses because of the work that I was going to be doing. So that was the first few years. My project, unlike others in the lab who worked on sponges, I worked on a sea slug. For most of the work in the lab, it was basically understanding bacteria associated with different marine invertebrates. Most of the time, it was sponge. Once you get those bacteria, you might see if they produce any interesting compounds or a hit, you screen them for interesting compounds. From there, you develop this story, figure out who's doing what. My project was different in that we already knew the compound. It was already a promising anti-cancer compound extracted from the slug and the slug diet, which is some algae. That had already been discovered. Our role, instead of trying to find something new or find something that produces something new, we knew that something produced what we wanted. So it was almost like working backward. Instead of saying, "I found this thing and could it produce something," it's like, "Something can produce this thing, and so how do we find that thing?" My lab hadn't been to the sampling site, which was Hawaii for my project, in years before I got there. So we didn't have any fresh samples. So my first few years, again, I'm taking classes. I'm working with frozen materials. Things are not working because samples are degraded. I had a chance to work with other people in the lab on their projects and go to one of our main sampling sites in Key Largo and do a whole bunch of stuff there. Then, finally, I think two years [later], in 2010, I got a chance to go to my sampling site in Hawaii, which was a

gamechanger because things started picking up from there. I actually had fresh material to work with. It was tasking. [laughter] Essentially, through this technology of part of what I work on here is this thing called eDNA. So all living things have DNA, and eDNA is environmental DNA. It's just a way of looking at DNA in the environment. The same way at a crime scene if someone leaves their DNA behind, you can say, "This is who they are," you can do the same in the environment. You can never see it, and just collect DNA and say, "This is who they are," because their DNA is left behind. What I was doing was if this slug – I know this slug is here, and the algae is here, and I know this anti-cancer compound plays a role somewhere. I then looked at all of their DNA possible and said, "There is a code to produce this compound," because DNA is the code for life and things. So there's a code that produces this. So I looked at all the DNA and then said, "This DNA sequence matches this product, and it's produced from this bacterium." That's the simplest way of putting it. It was a lot of molecular biology, a lot of understanding DNA, RNA, proteins, metabolites. Metabolites are essentially the small molecule that we were looking for, which is a defense compound for the organism, but it's the anti-cancer compound for humans. They're the same.

MG: Can you say how it's anti-cancer?

JD: Yes, this particular compound – so, to take a step back, there's a natural process that the body goes through apoptosis, which is programmed cell death. It's a way of killing all the bad cells. It happens naturally. But sometimes, if you can't kill those bad cells and they just stay, they can lump together and form tumors, which can be cancerous. So the way this anti-cancer compound worked is it allowed for the natural process of apoptosis to be – essentially, when a tumor is formed or cancer is present, which is formed from the inability to have apoptosis, it reverses that. Then it allows the cells to naturally die, instead of clumping and forming a mass. That's the simplest way of putting it. [laughter]

MG: Maybe this is a silly question, but how come this isn't being bottled and used and on the front page of every newspaper?

JD: No, that's not a silly question. That's a great question. One of the big things with what we call natural products discovery, which means that it's a product that we can use but found in nature – so in this case, this is a natural products project – is something called the supply problem, in that a compound may be promising, but you need enough of it just to go through clinical trials. So the supply problem is twofold, in that you don't have enough of the actual supply, but also if you get enough of the supply, it could interfere with actual conservation and biodiversity. These are living marine organisms that play an ecological role. So you don't want to – even if you knew an organism or an invertebrate in the environment could produce something, you don't want to exploit it necessarily because doing so may have other negative impacts on the environment. So it's a supply problem. That's one thing. That's why understanding who makes it is important because then if you know what that is, you can mass-produce based on the actual bacterium. You can clone it. You can isolate it, pull it from its environment, clone it, and have it mass-produced. That's very difficult. That's one issue, the supply problem. Also, another thing is the structure of the actual compound can be difficult to make synthetically. Another option is instead of taking it from the environment, you try to produce it in a chemical setting. What often happens is the environment, especially the marine

environment, the oldest and largest habitat on the planet, the chemistry is unique in a way that we can't even produce it in a laboratory setting. How things are formed, we don't even have always the technology to make bonds like that that you see in nature. These are limitations. It's the structure of the actual compound to produce it, and then getting enough of the supply to even put it – because a part of it is – it's one thing to say that a compound can work against something *in vitro*, in a test tube, but to do it in a human body, then beyond that, you still have not just getting enough supply to go through trials, but what are the results? So those are phase one, two, three clinical trials. That's why it's not on the front page because it's not in a phase where enough of the material is generated to keep going and counter the countereffects of the drug. To get a drug [to] market typically is, at minimum, usually a decade, even if it is a promising drug because there's all these things that you go through.

MG: What's your prediction or feeling about overcoming these obstacles and that, in ten years, something will be on the market?

JD: Well, some examples would be there are two anti-cancer compounds on the market, one from a marine sponge, one from a cone snail. There's other products, but those took – for example, I'm going to give you one. It's from a sponge in the family *Halichondriidae*. It had gone through trials. It was really promising, but the supply thing was the thing because they did a study that said even if we collected all of the sponge in the world that produces this, we only would get milligrams of the product. That's how little we can get. But what they essentially discovered – even in the compound, it was really complicated to make. But what they discovered was the most active part of the compound that was actually the part that was the anti-cancer part could be synthesized. Even if the compound was huge, it was only this one portion that is actually the active part for the cancer. So they only synthesize that. Now it's actually a drug on the market. In one way, there's not a whole lot of cases necessarily in the marine environment where it's on the market, but there are a lot of cases where it's on the pipeline, and we're still learning how to best do it. It's hopeful. I'm hopeful about it. But I don't know. All science requires lots of money. It's funding, too.

MG: Is this part of the work you're doing today?

JD: Not in the laboratory setting, but I write about it. I was part of a writing team where we looked at – we authored this plan, this strategy, or I guess plan, where we looked at science and technology for the ocean over the next decade. One of the chapters was "Oceans and Human Health." A part of oceans and human health, we often think about harmful algal blooms or something that could be negative, but I did a whole chapter on the positive aspects of ocean and human health, including drug discovery, and had a chance to assess where we are, and the amount of patents and chemicals that are coming out of the ocean is just amazing when it comes to drug discovery. So I'm not necessarily doing the work anymore, but I'm still writing about the work and interacting and engaged with people in the community on the work.

MG: How long were in Hawaii doing the sampling?

JD: Typically, I would go for, on average, a week and a half at a time. I've gone total about seven times. Not every time was for – the very first time I went to Hawaii was when I was at

Hampton, and it wasn't for research. It was a science conference. That was my first time. The last time I went to Hawaii was also from a job I was doing with NOAA, but because I was there, I was able to stay a few days, and have the new people who were working on the project after me come and show them the sampling site and show them how to get everything set up in the lab there. So I've been to Hawaii a few times, but I would say, in terms of research, probably five, six times I've gone for research. Usually, a week and a half or so at a time, on average.

MG: What was the title of your dissertation?

JD: I have a picture. I was thinking about doing that as a flashback Friday, too. I thought I had a picture. It's on my resume, I think. The first page, I think.

MG: We can always add it to the record.

JD: Look, I have it. It's right here. It's "Characterization of the bacterial communities associated with two tropical sacogloassan mollusks *Elysia rufescens* and *Elysia crispate*."

MG: I found it in my notes too, but I'm glad you read it and not me.

JD: Yes. [laughter] So it basically means I was looking at bacteria associated with two different sea slugs. So the one I just talked about was the Hawaiian slug, which was the main part of my project, figuring who discovered this anti-cancer compound. The other part was just understanding bacterial communities associated with slugs. That slug, *Elysia crispate,* was in Puerto Rico and in the Bahamas. So I did a comparative analysis of the bacteria associated with different slugs around and found that their bacteria were more similar to each other than other things around it, even though they were in completely separate locations. It suggested their bacteria played a role, and they harbor them no matter where they are physically located.

MG: Looking at my notes, I see you earned your PhD from the University of Maryland. I think I misunderstood. I thought you stayed at Hampton for graduate school.

JD: I got my undergrad degree from Hampton University. While I was there, though, I did several internships at the University of Maryland, and ultimately ended up going to the University of Maryland for my PhD.

MG: Okay. Tell me about defending your dissertation. What was that experience like?

JD: It was very challenging. [laughter] Yes. It was exciting and challenging. Literally, I think I lost twenty pounds in that same day. I felt so relieved that it was over. I definitely enjoy science, but having a degree hanging over your head is intense while you're doing science. It was an intense process. [laughter] The first few years you take your classes. You don't take classes typically beyond two years or so. For me, because I didn't have a master's, I probably took even a little longer. Because of my background – I was transitioning more into molecular biology. But then after that, it's all the fieldwork and the research and processing. My lab required typically three publications to graduate, which is really – that's a high bar. By the time you graduated, the goal was to really be in flow as a scientist and to make contribution to your

field. It did make defending a bit easier when you can present what was already published for sure. But a part of getting to that point, you took your classes, you did some research, and you had an annual check-in with your committee. I had a committee of five members. One of them, of course, is my PhD advisor. The other was a professor who actually discovered the anti-cancer compound in his PhD. So he was the chemist and knew everything about it. I had another person who was an amazing German scientist who had just come to the U.S., and who was brilliant in a technique that I was just learning. I had someone who was super tough, who was a molecular biologist. Then I had someone who was more like a big picture biologist-type person. They made sure that you learned every part of your project from their perspective. So microbiology, the chemistry, the molecular biology, the bioinformatics, which is how you take DNA and make it into a product that you can tell a story. So you annually met with these people to talk about your progress, what you were going to do. You had your qualifying exams, which consisted of one full week of testing. Based on that, you were scored. The second part was your oral exam, which is they're just grilling you constantly about stuff. The last part is your proposal defense, a pre-defense of what you hope to accomplish. This is all before you actually defend. [laughter] That's right in the middle. Then you continue to meet annually, and then you defend. The defense was difficult, but when I think about it, the defense was not as bad as my proposal defense. Because by that time, actually, it would look terrible for them to get you this far and you don't pass. It's quite embarrassing for all of us. [laughter]

MG: It sounds like an intimidating panel.

JD: Yes. Not in a bad way, but it's designed to – the process, looking back on it, is designed to get you to a point where you know what you don't know, which is valuable because as soon as you know your limitations, you can start asking questions about the field and how to move it forward. There's really no way for you to know as much as they know. But as soon as you know what you don't know, then you start asking better questions, you start thinking better as a scientist. It's intimidating, but it's not like, "Oh my god, they're going to kill me." It's just a process that you go through to understand science, to be thoughtful, to be strategic. Some of those questions I got were like, "If you could design a proposal to solve this problem, what would it be?" That's what scientists have to do. They have to write grants and think about those things. It literally helps you to prepare [for] your career, to think like a scientist, and be a scientist. Everyone has to go through it. It wasn't just poor old Jeanette. It's the process of getting a PhD.

MG: I know you were also involved in some other student activities on campus while you were a graduate student. You were a student senator. Is that right?

JD: Yes. Was it the student government? I don't remember which one it was. We had a Student Government Association, and I was a part of that, whether I was the president or I was helping with things. We had these annual colloquia because, within the University of Maryland system, my center was in Baltimore, but we had laboratories throughout the University of Maryland. Our parent campus was the University of Maryland-College Park. So ultimately, my degree says, "College Park." There's all these various environmental research centers within that system with our program. So each year, we would host one of our meetings at the centers. I would help organize those types of things. My center, initially in coming on as a student, was

called the Center of Marine Biotechnology. Then there was a transition within the University of Maryland system. The name changed to the Institute of Marine and Environmental Technology. The point is, throughout that transition, they wanted someone to help represent the student body as they were transitioning. So I was selected as a student senator and helping with the transition from the institution to something different. Yeah, I was involved in that, as well.

MG: Was that IMET? You were the student president of IMET.

JD: That's what I described, the Institute of Marine and Environmental Technology. For a while, I was the president. During that time, I essentially was responsible for hosting one of our annual meetings. It's so interesting because a few months ago, at IMET, they had their annual meeting. I was asked to come and speak on the panel to talk about my perspective as a graduate who now works in government. So the panel was about really what scientists do with their degrees. One person was giving the industry perspective. One of the scientists worked for a senate committee. One scientist was an entrepreneur. And I was a scientist in government. We all talked about how our backgrounds help us in our current positions. So it was really nice to go back and be a part of that.

MG: The other thing I wanted to ask you about was a ten-day intensive program that you were part of in 2009. Was that part of your graduate experience as well?

JD: Yes. [laughter] I forgot about that. When I came on as a grad student, my advisor, along with his colleague, had an NSF [National Science Foundation] funded grant, where they took a lot of the local students in the area and did a ten-day intensive microbiology course. When I was a grad student, I had a chance to give a lecture and help with some of the training – so teaching students how to culture bacteria and do things on a plate with laboratory techniques and things like that. That was my first teaching experience on a graduate level. I had been a TA in undergrad for geology, but that was my first experience teaching students who, at the time, were undergrad students about microbiology and being in the lab. That was pretty cool. So, yes, it's a ten-day intensive NSF-funded program that we did actually two years, I believe, while I was there. I was able to help with that.

MG: Very cool.

JD: Yes, I forgot about that.

MG: Can I ask how you spent the time after you earned your PhD? When I was in graduate school, I had a bucket list of the things I was going to do when I finally had time to do things. How did you spend that time after graduating?

JD: I jumped right in. The one thing I did do was I think I took a week off of the lab after I defended. No, actually, the one thing I did that I had never really done when I was in grad school was take time off during the holiday. Because my defense, I think, was December 11th.

MG: You'll have to do another "Flashback Friday" post.

JD: I know. December 11th. Thursday, December 11th, I defended. It's a Wednesday this year. That's fine. So it was around the holiday time, so it was the first time in a while that I could breathe. I didn't have to rush back to the lab and finish something or do something. So I remember really enjoying that time with my family during the holiday. I had so much fun. Yes, actually, I remember I went out a lot. It wasn't anything major. It was the weight lifted and enjoying time with my friends and family. January came. I went back to the lab, just wrapped some stuff up. At the end of January, I moved to D.C., and within a few days, started my position at NOAA as a Sea Grant/Knauss Fellow.

MG: Tell me how that opportunity, and that position came up.

JD: That's a great question because, in the beginning, I talked about how I had this interest in policy, but I didn't know that it was policy. Throughout my career or getting my degree in grad school, I absolutely love science and loved what I was doing. I recognized, though, that my advisor at the time didn't do any science, and no what we call PI, principal investigator, of a lab did science anymore. Their role was really to write grants and keep their lab afloat. That was my first time seeing that if I were to be a professor, I actually wouldn't be as engaged doing the work at the bench, and a lot of my time would be dedicated to keeping my lab float, getting money to keep my lab afloat. There's still some flexibility. It's still nice to be able to think about the science you want to do. The PIs definitely still play a role in that and coming up with ideas and brainstorming. Every now and then, they can do things at the bench, but they get to stay engaged in the scientific community, which is cool. But that was an a-ha moment. I'm not even going to be able to continue to do what I do if I'm a professor. Also, that lecturing component – how often would I have to lecture versus do the science? These are all the things that I thought about. And I remember reading this paper where they talked about there are more PhDs than professor positions available, and how there are so many other sectors for PhDs. So I started doing more research about that. So I already had this idea – if I'm not a professor, what would I do? What would be my interest? As I'm thinking about this, there was this really interesting – I don't know if it was a law or rule, or something came out in the policy realm about patenting natural products. Essentially, the argument was how – if something is actually found in nature, is it reasonable to try to patent it? If you find a drug or a potential drug for a medicine but it literally came from algae in the ocean, does that necessarily belong to you if it's just in the water? Do you have the right to own this piece of this thing, this plant that generated this? I just thought those were interesting questions, and it made me think about one sector is like this interface between science and how science is used to make decisions or policy. I think by that time, I had the language around what policy meant. So it was that. It was a lot of different things. I remember, actually in grad school, I had this course, [which] was taught by, at the time, the president of the university, who personally was called by the White House to help with the oil spill.

MG: Who was that?

JD: His name is Don Bosch. He's now retired from the University of Maryland, but that was another thing that had me thinking about this interface between using science to actually help decision making. We had this management course that he taught. It was this video that he showed where all scientists and – I don't want to call them politicians – all scientists and non-

scientists were asked the same question. Scientists gave the correct answer. All the non-scientists typically did not, but they were more believable because of how they spoke, their communication skills, what they wore, how they presented themselves, they seemed really confident and sure. Whereas the scientists were the experts, but they used jargon. They just didn't have great communication skills. So he was bridging this gap between science and management. I was like, "Yes." Anyway, I'm saying all this stuff because it was a long list of things that got me thinking about this idea of integrating science and policy. Then he told me about his experience where, when the big BP Oil Spill happened, because of his long list of history and research, and he was somewhat engaged in the policy realm, he was called on to help with the BP Oil Spill because he had some of that experience and had done similar work in, I believe, Australia. I said, "Yeah, that would be cool." So then I learned about the Knauss Fellowship. The whole concept is science policy or environmental policy stuff. So I learned about the opportunity, and the person who helped me with the process happened to be someone who was my mentor years before and now had become the director of the Sea Grant program that I needed to apply to. It was nice that, at that point, I was making connections and building a network. So I applied for the fellowship, got the fellowship, came here, and then worked in science and technology for my first year. Then contracted for a year, and learned about something called National Ocean Policy, which supports the White House, and how many scientists in the federal community work to support the White House on ocean science. One of those individuals happened to be the chief for my department here, in Fisheries, who I had built a relationship with when I was a fellow.

MG: Who was this?

JD: Richard Merrick.

MG: Who was the person that ran Sea Grant that was your mentor?

JD: Her name is Fredrika Moser. She's still the director of Maryland Sea Grant, actually. She's awesome. So, Richard Merrick I had met. I found out that one of his roles was supporting the White House. I said, "I really would be [interested]. That's something I want to do. How does that work?" He said, "Well, why don't you just shadow me one day when I go to one of the meetings?" I was like, "What? Of course." Long story short, I did that, and I applied for the position. He was retiring at the time, but I still had the position. Our current chief scientist was coming in, Cisco Werner. So he and I started at the same time. That's how I really became – and the policy office engaged with the science part of policy. That's pretty much my role here is to be engaged with the science that happens to support policy. Fifty percent of my time is still supporting our chief scientists in that role. We now work on what we call Omics for NOAA. Omics, literally, is DNA, RNA, proteins, all the things I got my degree in, and eDNA. It actually just made perfect sense that now the thing that I had done, now we're using that for policy-making. I happened to be here at the right place, right time, right topic. Even to this day, I'm like, "Man, what I do is something that has morphed into the position that I'm in." It all came together. [laughter] It all just came together.

MG: Are you still part of that outreach to the White House and advocating for policy?

JD: Not directly the way that I used to be. That group has shifted. It still exists, but it shifted. I don't support it directly. For example, a few weeks ago, there was an ocean White House summit. NOAA shared four documents that are now out for public comment as a result of that meeting. One of them I helped author. I still work on some of the higher-level products that eventually go to that level sometimes. But I am not officially a part of the subcommittee that is under the White House to support National Ocean Policy.

MG: Can you say a little bit more about the National Ocean Policy?

JD: Yes, so National Ocean Policy is an executive order that came into place under President Obama. It really is a way of – it has a science and a management part of it. It was a way of putting all of our efforts in terms of ocean together, and working with all of the various partners to create a larger umbrella of how we manage function in the ocean. That's the broad thing. The subcommittee that I worked on already existed before this executive order. It had come into place under President Bush. Their role was to support the White House and advise the White House on ocean science and technology. So when this National Ocean Policy through executive order happened, it also made sense for them to also help with the science part of helping with this ocean policy because they were already doing it. So now that these things were coming together, it made sense for them to oversee what was going on with National Ocean Policy. So yes, our role was dual in that we helped advise the White House on ocean science and technology, but also helped manage the science portion of National Ocean Policy. There were databases that we would support to track who was doing what based on the actual goals within the National Ocean Policy, if they were being implemented, how they were being implemented, how they were being accomplished. We also helped – I don't want to say manage – maybe oversee or track the progress of several interagency working groups that came through legislation regarding the ocean. So we were the umbrella to help with those things too.

MG: Was the fellowship a one-year fellowship?

JD: Yes. The Knauss Fellowship was a one-year fellowship.

MG: Can you say a little bit more about what you were doing as part of this fellowship? I read something about a matching process.

JD: The process of becoming a Knauss fellow is like what you describe. You apply for the fellowship, and there are always more positions available than students who are selected. To be a Knauss fellow, you have to technically be a student. Eighty-five percent of the time, once you become a fellow, you are no longer a student because you usually apply when you're finishing up. You apply a year in advance. So most people who start the program already have a master's, PhD, or law degree. There's a long list – in my fellowship year, I think there were fifty-four of us, and there were seventy-five positions. These positions are in the executive branch of government, like a NOAA, NSF, whatever. Then on the legislative side, the branch of government, you actually get to work with a committee or a senator, someone in Congress around environmental issues. So I chose the executive branch. I knew that I did not want to be a staffer type person. I wanted to be in the executive branch. So you then get a chance to get a brief overview of each of the position descriptions as well as hear from the people in the offices

and then interview with them. Once you do all of that, you rank them, and they rank you, and you match. That's how that works. So I matched in the Office of Science and Technology. I was interested because I didn't know if I wanted to do a post-doc after. I was interested in understanding the grant process, how grants were written, what that whole process would look like. It wasn't too policy. I still wanted to stay closer to science in a way that whatever skillset I got, I could still go back to science, or I could use it for government. I think money is the way. That's the key. That's what bridges the gap. I wanted to do that, and I matched with that office.

MG: You were doing work on sea turtles.

JD: Yes. I was doing work around sea turtles. I had no background in sea turtles. All of my expertise is in the things that you can't see in the ocean, not the charismatic macrofauna. So I did sea turtles because that would allow me to understand the grant process. But in the midst of that, it was really interesting because many of the researchers in NOAA were doing genetic research around sea turtles. That was my background, so I got a chance to go to some of our science centers and help with some of the genetic research and do tagging of sea turtles. That was really cool. I got a chance to go into the field. From that experience, I learned I want to keep doing that. Even if I'm in government, I want to keep going into the field. That was also a good a-ha moment.

MG: What was the "National Bycatch Report"? You were a coauthor on that.

JD: Yes. So the "National Bycatch Report" – essentially, within NOAA Fisheries, we have something called the National Observer Program, where we observe what happens on fishery vessels. A way of observing is also tracking what is taken out of the sea. Sometimes, when you take things out of the sea, you're looking for specific things to come out of the sea when you're fishing for something. Sometimes things get caught in nets that do not need to be there. That's called bycatch. So you're picking up something that you're not necessarily looking for, but it's a product of you throwing in a net. That is a report generated to look at what is the bycatch from fisheries or from observing on fisheries vessels.

MG: How is that issue evolving? I know bycatch is controversial with fishermen.

JD: I don't think I would be the right person to answer that question. I simply took the data that was generated and made it into a report – primarily tables and figures. In terms of what's going on for the policy and other things, yeah, I probably would not be the best person to answer that question.

MG: Another thing you did as part of your fellowship was to help develop the National Protected Species Toolbox. I didn't know what that was.

JD: NOAA Fisheries has something called a strategic initiative. It's exactly what it sounds like. It's an initiative within Fisheries where they try to be strategic on solving one of our fisheries mandates. The year that I came on, that strategic initiative was around protected species. So protected species are ESA [Endangered Species Act] listed species or species that we're concerned about that are at-risk that we need to protect. So this initiative was designed to help

with protected species efforts. A part of protected are sea turtles, but also I was on the protected species unit within science and technology. So that initiative was allowing all of our science centers to work together to problem-solve. That was the main thing. That's why it's also being strategic. What resources does the Northeast Fisheries Science Center have that maybe the Southwest doesn't have, but we can share expertise and share data? Everything was around protected species. It was all housed in this one toolbox, who was doing what research, who was answering what questions, the publications, the tools that were available to monitor and track protected species. So I basically helped manage that process. That was everything from looking at the proposals that were submitted and helping with making sure that the monies were awarded on time and looking at the updates and tracking the progress. So all of that was what I was doing regarding protected species. It's really interesting now because our strategic initiative is now centered around Omics, which [is] eDNA and all those things that I do. So part of my role in policy is also helping track and look at what we're doing in terms of our current strategic initiative, which is around Omics science – not as intense as what I did there. I don't need to know that level of detail.

MG: When you worked as a contractor for a year, what was your role? What was your job then?

JD: What we just described, I was a contractor then. The only thing that I did not do as a contractor versus a fellow was to manage the sea turtle RFP [request for proposal]. All other responsibilities were the same; they just were more of those responsibilities. So instead of me doing all of these things and working twenty percent of all this stuff, it just became fifty percent National Observer Program, fifty percent protected species.

MG: When did you get the federal position?

JD: After my one year of contracting in S and T [Science and Technology], I came to this office, contracted for maybe a little over a year, and then got an FTE position. I've been an FTE since May – what year is this, 2019? – since May of 2018. It's been a year and a half now.

MG: Can you say, for the record, what your title is today and a little bit about the work you're currently doing?

JD: For the record, I am a policy analyst. That's my official title. The work that I do now is – well, it's not really percentages anymore. I am the NOAA invasive species coordinator. I was always the invasive species coordinator from when I came on to this office. The other part of what I did was support our chief scientist on National Ocean Policy. I am still the invasive species coordinator. NOAA has legislation around preventing the spread of invasive species. So I liaison with our various inter-agency working groups, as well as track our progress on invasive species. I get lots of congressional inquiries around invasive species, one I'm working on now. We have a lot of reports that we have to do to Congress regarding invasive species. We have management plans that we help author via our other interagency bodies that, via legislation, we have to do. I work [on] everything from doing our management plans, work plans, going out into the field, engaging with invasive species staff, giving presentations on the policies that we have around invasive species. We have a policy NOAA-level principle that I work with on

invasive species. All things invasive species, and it's at the NOAA level. So I sit in Fisheries, but I work with National Ocean Service, OAR [Oceanic and Atmospheric Research], all line offices that have anything to do with invasive species. We care because it impacts the resources that we manage. That's a part of what I do. The other part, again, is supporting our current chief scientist, Cisco Werner. He does basically all things fisheries science here, or helps manage that, and helps lead all of our science centers in terms of fisheries, in terms of science. I'm supporting him right now on our Omics efforts. Through that, I get a chance to work on the higher level Omics and how NOAA is going to implement that throughout our agency. So the things that I work on – I sit in Fisheries, but they extend beyond fisheries. So, yes, those are the things that I work on now. The portfolios are starting to come together because a lot of how we are starting to monitor invasive species are through Omics/eDNA efforts. I find myself engaged with the same exact people in both communities, which is nice. It feels like less to juggle.

MG: Before we started recording, you were talking about a children's book that you are about to publish.

JD: Yes.

MG: Tell me more about that.

JD: So I have a children's science book that will soon be published. It will be available for pre-order in about another month or so. One, I talked about how I have all these nieces and nephews. I remember they always would ask me what do I do, where do I go. The ones that are older could see, okay, I don't live there, and I'm doing something, but some of the younger ones, I used to get these – one of my nephews asked me one day where do I go. I was like, "What do you mean?" He said, "Well, sometimes you're here, but sometimes you're not. So, where do you go?" I said, "Oh, I don't live here. I'm a student. I'm in school." He's like, "Oh, they have school for big people?" [laughter] I was like, "Yeah, they have school for big people." He's like, "What do you do in school?" So I start explaining this concept to him. He was like, "Oh, okay." He was interested, [and] I enjoyed explaining that concept, but I would continuously get questions from them about science stuff, and what do I do, or why am I on this boat, or what is this? I said, "You know, it would be great if there was a book that explained to kids this level of science." So that was one thing. But also, when I would travel and go to different places, I found that there wasn't – when I wanted to buy books for them and show them different things, there weren't lots of different types of representation in books, period. I was like, "Yeah, we should do something about that, too, because I'm talking about science, but they don't really see themselves in science, right?" So that is the motivation for the book, and wanting to connect young people to science in a way that they understand it and can appreciate it, and also in a way that they see that science is a part of who they are and what they do, and it's not this foreign concept. When you bake a cake, that's mixing mixtures, and that's chemistry. When you go to the zoo, you see animals – seeing an airplane fly, taking your medicine. I was listing all these things to them. They were like, "What? That's science, too?" I was like, "Yeah, it is." Literally, the book talks about that – taking everyday examples that young people understand and that they're familiar with and calling out the actual science that that is, and making sure that everyone is represented in the book. It displays and diversifies science for children.

MG: What is the title of the book?

JD: It's called *Science is Everywhere. Science is for Everyone*.

MG: I love that.

JD: It's so weird because I was doing a post on my Instagram. I talked about the first time that I traveled outside the country, which was a science conference, and how science opened so many doors for me. I was like, "Yeah, sometimes I'm in places where everyone doesn't look like me, or not everyone has the same experiences as me." The,n in bold, "But science is everywhere, and science is for everyone." I was like, "That's the name of the book." I had already written the book. It was already illustrated. I just didn't have a title. Then I wrote that. That literally is the title because that's what I'm displaying. That's the whole point that people see themselves in science and feel connected to science.

MG: I'm going to get a copy.

JD: Great.

MG: And is this book connected to the scholarship you helped form?

JD: It's not connected to that. However, I'm passionate about mentoring and community overall. So Wilmington, Delaware, is a city that experiences a lot of homicide and poverty overall. I wanted to figure out a way to contribute to my community. Some of that is contributions through mentorship and empowering young people through science, but a lot of that is also just making opportunities available. So I developed a scholarship for young men in my community, and it's named after my cousin, who was murdered a few years ago. It's a way of honoring him, but also honoring community overall. A few young men have been awarded that scholarship. I essentially raised the funds via social media and GoFundMe. It's been able to fund a few men with their college.

MG: That's really impressive. I'm so sorry to hear about your cousin.

JD: Thank you. I appreciate that. Yes.

MG: I want to ask you why you think you were selected as part of this project to document NOAA's history.

JD: [laughter] When I got the email from you, I was like, "Hmm. NOAA's history? I don't think I've been here long enough to know too much about the history." I sent the email to my boss, and I was like, "Hey, do you know anything about this?" She was like, "Yeah, I think this would be really great for you." I was like, "Okay." [laughter] Then I agreed to it. Later on, I talked to someone in the communications department because we went to a meeting together. She was like, "I sat down with you and learned all the cool things you were doing, and we need to hear more about the stuff you're doing." I was like, "Okay." Then I put it together, and I was like, "Oh, okay. That makes sense." [laughter]

MG: Do you have thoughts on NOAA more broadly, its evolution, history, and impacts?

JD: One thing I will say that I really enjoy about working for NOAA is it has an incredible mission, a massive mission. When you think about oceanic and atmosphere – ocean and atmosphere is the entire planet. I would say when you look at the history of how it went from fisheries or weather products to now satellite imaging, I do think that the evolution of NOAA in terms of science and our capacity is definitely exciting. I also think it's exciting how we're finding ways to work with other agencies and leverage opportunities and mandates and all of those things to problem solve. I really appreciate that about NOAA, and I know that those are things that have happened over time. I think overall, science is – when you look at funding for science and how it's decreased, not in particular to NOAA, but in this country overall, I think NOAA has really – I think the way that NOAA has found ways to leverage opportunities and still move forward with their science and mandates is really a testament to the quality of people who work here, and how people are passionate about problem-solving and managing resources. That excites me. I don't know if it always existed, but I would assume that a lot of that has come out of trying to figure things out with less resources. That's probably what I can say about my overall impression of NOAA. Also, I would even say, in my office, it's evolving because most of the people who work in my office are really engaged with the policy, and I think it's great that I get to be engaged with the science in policy. I think it's a unique place, not just in my office, but NOAA is one of those things where if you want to get in there and solve a problem and help, you have the opportunity to do it. I think that's a pretty cool thing about NOAA.

MG: Is there anything I forgot to ask you about in terms of your career or things we've discussed so far?

JD: I think we covered everything. This is pretty comprehensive. [laughter]

MG: Finally, I wanted to ask about your life outside of NOAA.

JD: Outside of NOAA? I live in D.C., which I absolutely love. Before I even knew that I was going to work for NOAA, when I was in Baltimore, I said I wanted to live in D.C. I really loved the city. Outside of here, I love traveling. I'm fortunate that I get to travel quite a bit for my job, which is great. In the last few years, I have been doing trips to the continent of Africa. It has really opened up so much in terms of travel generally and experiencing different cultures and foods and learning so much about my history as an African American woman here. So I really have enjoyed that. I've been doing that for the last few years. A part of that is a service component, which I've been enjoying. This past year, I got a chance to travel with high school girls to South Africa. One of them was my niece. So it was nice to have that experience with her outside of the country. Now I'm starting to talk more about science as I travel. That's been really awesome. I feel like the best way to experience new cultures is to travel. One of the best ways to know the culture is to eat the food. [laughter]

MG: And collect their rocks.

JD: And take their rocks, exactly. And take their rocks. So I've really been enjoying that, outside of working is traveling and learning about different cultures and different people and fashion and food. Traveling is a way that you can immerse yourself in a different culture and learn. So that's something that I do. I always take a vacation somewhere that I haven't been each year, and try to learn something new and bring back books for my nieces and nephews in those places.

MG: Good. This has been such a treat to talk to you. I really had a lot of fun. Thank you for sharing all your time and stories with me today.

JD: Sure. Thank you. This was great.

MG: Thank you.

----------END OF INTERVIEW----------
Reviewed by Molly Graham 1/13/2020
Reviewed by Jeanette Davis 2/24/2020
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