Molly Graham: This begins an oral history interview with Captain Carl Fisher for the NOAA Heritage Oral History Project on April 9, 2024. The interviewer is Molly Graham. It's a remote interview, with Captain Fisher in Norfolk, Virginia, and I'm in Scarborough, Maine. I'm hoping we can start at the beginning. Can you say when and where you were born?

Carl Fisher: I was born in Canandaigua, New York. That is spelled C-A-N-A-N-D-A-I-G-U-A, New York, which is a Seneca Indian word meaning "the chosen spot," and is in an area called the Finger Lakes. All the lakes are laid out like the fingers on a hand; they were gouged by glaciers. Anyway, I grew up there. My first school was a three-room schoolhouse on the same street that I lived on. As a first grader/second grader, I walked to school with a classmate. Even at that young age, you could walk to school. We went to a brand-new elementary school at third grade. Then, in high school, I went to a unique high school called Canandaigua Academy. It had been an academy in the 1800s. It was established in the 1790s. Canandaigua was actually a town of very interesting history. But anyway, I went to Canandaigua Academy. Growing up on a lake, I worked both as a lifeguard and operated small boats quite a bit. I was very interested in a nautical field, so I went to the State University of New York Maritime College. Now, getting back to the academy, as I indicated earlier, in 2019, they nominated me and elected me as a "Graduate of Distinction" of that high school. It was based mainly on my NOAA [National Oceanic and Atmospheric Administration] and Coast and Geodetic Survey career and what followed it as far as graduate work. I went to the State University of New York Maritime College as a deck officer but majored in a new program called meteorology and oceanography. It was very interesting. I found that I liked the oceanography part more, and that's what my career involved. One of my instructors, the chairman of the Department of Science, was very proactive towards the Coast and Geodetic Survey. So, he encouraged some of us to join. Back in 1964, the Coast and Geodetic Survey still had what they called regional offices in major ports. So, in Boston and in New York City, they had a Coast and Geodetic Survey office; there was usually a captain assigned there. The captain at the New York City office came out to the college, interviewing applicants. I actually met him my junior year. By my junior year, I'd already decided that I was going to come into the Coast and Geodetic Survey. I graduated with a license as a third mate in the Merchant Marine and also with a Bachelor of Science degree in meteorology and oceanography. In June of 1965, I traveled to Norfolk, Virginia, for the training class that they had for Coast and Geodetic Survey officers. I think there were seventeen of us. It was held at this Marine Center, which back then was called the Atlantic Marine Center. It's now called MOC-A, A for Atlantic. The training class was actually in one of the two buildings here. I noted that when I came into the Corps, almost all the officers were Civil Engineers. Because of the history of the Coast Survey, it was geodetic work and hydrography, which is a civil engineering application. So, they generally weren't very good ship handlers. They didn't have much background. Now, they get a real good training in it. But back then, they did not. So you didn't even, in my opinion, qualify with Coast Guard regulations. But we went ahead. We used the training class for teaching surveying. We were given a survey to do right here in Norfolk Harbor. I want to comment about the ships that were here when I came in because almost all the ships had been in the Coast Survey during World War II. They were all steam vessels, steam-powered vessels. They were getting rid of them, replacing them with new vessels when I came in. Naming them, the larger ships were the *Pioneer* and *Surveyor*. The *Pioneer* was scheduled to do an oceanographic Indian Ocean expedition because the Coast and Geodetic Survey was doing more oceanography than they had done in the past. The sister ship to the *Pioneer* was the

Surveyor, which was unique in that the *Surveyor* was kept in the following agencies, ESSA [Environmental Science Services Administration] and NOAA, until the 1990s. Even though it was a steam vessel, they found use for it. The next group of ships were sisters, the *Explorer* and the *Pathfinder*. The Explorer was out of Norfolk, Virginia, and I was assigned to it. It was doing an oceanographic project [on] the Gulf Stream. Our project was to map the Gulf Stream tracking it for three weeks out of each month. We were operating year-round for a year and a half. Partly they were doing it to determine why the Gulf Stream was meandering like it does. We found out that when it meandered, it sometimes closed off and created pools of either warm water on the cold side of the Gulf Stream or pools of cold water that were in the Sargasso Sea. Quite a unique thing. Another thing they were doing is that while we were mapping it, we were being flown over – or overflights by NASA. They were developing an instrument that would later be put on satellites to track the Gulf Stream. So, we were ground-truthing that satellite application. The *Pathfinder*, I believe, was mainly doing hydrography up in Alaska. The third vessel, about that size, was the *Hydrographer*, which had been dedicated to work since World War II in the Gulf of Mexico. So, it suffered quite a bit of corrosion. Her hull was so badly corroded that they were afraid that she might sink. I remember when they brought her up here to Norfolk before they scrapped her. The captain was so concerned that she might sink that he stopped in every port coming from the Gulf of Mexico to Norfolk. Two unique vessels that they had then were called wire-drag vessels, and they were small vessels that towed a wire between them at certain depths so they would clear some kind of obstruction, whether it was a wreck or a rock pinnacle. A "cleared" value is what you'll see on the chart. Then, the final vessel was an old navy tug that had been picked up to use to put in current meters and tide gauges so that they could do sort of an estuarine study. These vessels were gotten rid of very early in my career because we had new vessels on the way, approximately fourteen. The largest ones were the *Researcher*, which was renamed after the Secretary of Commerce died and was called the *Malcolm Baldrige.* Then there were the *Oceanographer* and *Discoverer*, which were 303 feet long, I think. These vessels were all diesel. They were modernized, so they were no longer steam vessels. The next class of vessel I would call the mountain class because they were the *Mount Mitchell*, named after the tallest mountain east of the Mississippi; the *Rainier*, short for Mount Rainier, and the *Fairweather*, short for Mount Fairweather, which is now called Mount Denali, the Indian name. These vessels were basically survey vessels. In addition, there was another size vessel called coastal survey vessels. On the East Coast, there was the *Whiting* and the *Peirce*. *Peirce* is interesting because it's P-E-I-R-C-E; it is not Pierce. He [Charles Sanders Perice] was a phenomenologist of the 1800s. That's why they named it after him. Many of these vessels were named after academic people of the 1800s. On the West Coast, there was *McArthur*. William Pope McArthur had a current on the West Coast named after him and the *Davidson*. The wire drag vessels were replaced by the *Rude* and *Heck*. Captain [Gilbert T.] Rude was another famous person who developed the Rude Star Finder [Mariner's Practical Star Finder and Identifier] and some other things. And the *Heck*. They only towed the wire between them for a while because once they had side scan sonar, the "wire was cut." The vessels operated separately. They were unique in that on these two vessels, the captain sailed on one of them with another officer and crew, and the XO and his crew sailed on the other. So, each vessel had a senior officer aboard. The *Marmer* was replaced by the *Ferrel*, which was a shallow draft vessel that was very good for working in estuaries and shallow water.

[RECORDING PAUSED]

MG: I don't want to derail your train of thought, but at some point, I'm going to go back and ask about your family history. So, if you want to finish talking about the vessels, maybe we'll rewind a little bit.

CF: I'll talk a little bit more about this. The Coast and Geodetic Survey was very interesting when I joined in that the officers did operate a lot like the Navy. There was saluting. We wore many different uniforms; some of them no longer exist. We had the usual winter uniform: dress blues. We had the summer uniform, which were khakis with shoulder boards. That uniform no longer exists. We also had dress whites, just like the Navy did. A very uncomfortable uniform but it was very dressy. Onboard the ship, we didn't wear these uniforms all the time when we were working. We wore a khaki shirt and pants, but we wore collar devices denoting our rank. So, we were always in dress as officers and always wore the hats when we went ashore. As I say, it was quite Navy-like. The chief engineer actually was given an honorary rank of commander on the larger ships. On the smaller ship, I think some were lieutenant commander. But as we became ESSA in '65 and NOAA in 1970, they changed where these people dined. Originally, the wardroom consisted of the executive officer, the chief engineer, and the rest of the officers other than captain. He had his own galley and dined in his cabin. We didn't see him that often unless he chose to be seen. We basically worked under the XO's guidance.

MG: That's a good overview. I'll go back and ask you more about that time period because I'm curious to hear more. But let's go back to the very beginning. I'm curious how your family arrived in this part of New York and a little bit about your ancestry and family history.

CF: Well, my family history is – my mother died when I was eleven. My father had a business where he sold farm implements such as originally tractors and things like that, but later became more of the things that they use for milking cattle and baling hay, and that sort of stuff. I worked for him, but I wanted a job on the lake, so eventually, I became a lifeguard on Canandaigua Lake and was in the Explorers and then the Sea Scouts. So, I was already getting a nautical background. My father had been in the Navy in the 1940s and '50s. He had taught me line splicing and things like that. In high school, I had excellent instructors. It was a very good program. I'd already taken calculus in high school – things like that. So, I was already college preparatory by the time I graduated. I was a trombone player. I really enjoyed that. I played in the school band. But we had a dance band, too. We played Glenn Miller-type songs for basketball games and things like that. Then, I was in the same type of dance band when I went to college, and we played dances in Europe and at high schools in the New York area. I have one sister. She's deceased now. She, I would say, basically raised me. She was eight years older. She got me involved in many things that were good for me.

MG: On the survey, you mentioned a great-grandfather who had emigrated from the Netherlands.

CF: Oh, yes. I have two daughters. I'll mention that now. They're named Achsa – she is named after a German ancestor of my wife. We joke and say she got the name because that's the name on the silverware. Our oldest daughter is named Kathryn, the same as my wife. My wife is Kathryn Llewellyn Barrows Fisher and my daughter is Kathyrn Adriane, named Adriane after

my father. Anyway, they wanted me to do our genealogy. My wife's family genealogy was already done,, and her family's genealogy goes back to the Mayflower. My wife was a Mayflower descendant. We had that all documented. My background I knew was Dutch, but I didn't know that much about it. My uncle and my sister had tried to do some research, but they didn't have Ancestry.com yet, so they weren't as successful. But with the help of my daughter's father-in-law, who has Ancestry.com experience, we did it. We found that my great-great grandfather, who was Willem deVisser, little D-E, capital V-I-S-S-E-R, emigrated here from the Netherlands in 1854, arriving at New York Harbor, he changed the name to Fisher because de Visser, in Dutch, really means a fisherman. He bought land in Western New York. He was fairly well-to-do. He and his wife and two sons moved to land in Palmyra, New York, where he planted apple orchards. His occupation was growing fruit. My great-grandfather was the first son born here, first child born here in the 1860s, and his name was Adrian Fisher. I never met him. He was alive when my sister was a baby. He died in the 1930s. My grandfather was William E. Fisher. He no longer grew apples. He worked with the Erie Canal and was a lock tender on a branch of it that went by Seneca Falls, New York. The Erie Canal also went through Clyde, where my grandfather lived. Then, in his retirement years, he moved to Seneca Falls, where a branch of the canal then goes on to Seneca Lake.

MG: Did you get to know that Grandfather?

CF: I knew that grandfather. He was Dutch-mannered, a little bit of Dutch spoken. My grandmother was a first-generation German-American. She spoke more German around me than my grandfather spoke Dutch. I can remember her baking strudel and all kinds of German delicacies. At that time, they lived in Seneca Falls. She was unique in that she was a suffragette of the 1920s. She marched in women's suffrage parades in Seneca Falls, which is the birthplace of the suffragette movement. She was a very strong-willed woman, as I remember.

MG: Well, that's an interesting connection to your hometown because I was reading that where you grew up was where the trial of Susan B. Anthony took place.

CF: Yes. TheOntario County courthouse is still there. She was tried, I think, for trying to vote or something like that. In the 1800s, Canandaigua was one of the main cities of that region near Rochester, New York. When I was young, we still had the train and a station there. When I think I was six years old, my father took me to the train station early one morning to see [presidential] candidate Harry Truman come through. He gave a short speech at the back of the train, and the train then went on to Rochester.

MG: Was your father a supporter of Truman?

CF: I think my father was a Republican. I know that when I was applying for college, it was a Republican Senator [Kenneth] Keating that supported my application.

MG: Tell me a little bit more. Do you know more about your grandmother's activism around voting rights for women? What did that look like? How did she campaign for that?

CF: Well, as I say, I never saw her march in any of the parades or anything like that. But, I heard her expound or speak many times about the different events that she participated in. As I say, Seneca Falls is quite unique because, in addition to being the birthplace of the suffragette movement, the movie *It's a Wonderful Life* was based on scenes of Seneca Falls. The other thing that happened when my father was young, the lower part of Seneca Falls, which the Seneca River ran through, had lots of falls for running flour mills and things like that. They eventually put in a lock and flooded the lower part of Seneca Falls and created a lake there. So, when my father was about ten years old, they moved all the houses and other buildings up to higher ground.

MG: Oh, interesting. So, did your grandmother get to see the fruition of her work and voting rights given to women?

CF: I think she voted right away. I don't know much about what she did afterward.

MG: I'm so sorry to hear you lost your mother at such a young age. Do you know about her family history or anything about her early life?

CF: Yes, it's interesting. She had five brothers and sisters. At a very young age, they all went into a foster home, or a number of foster homes, because their parents, my grandparents, had financial difficulty. This was in the 1910 time period. While my mother was in a foster home, she was adopted by a fairly well-to-do farmer in the Auburn, New York area. So, she grew up on a farm. She was quite talented musically. She went to the Ithaca Conservatory, studying violin and piano. Her father, who was her adopted father, came to live with us when I was young. I was very fond of him. He lived until his late nineties. He was born in – I think it was – 1863 during the Civil War. He didn't remember much about the war, but he remembered the soldiers that had fought in it. He told me occasionally about watching the soldiers' parades in Auburn.

MG: Was involved in any later conflicts, like the Spanish-American War?

CF: No, not that I'm aware of. My father registered for the draft in the First World War. It turned out my grandfather – my birth grandfather – registered also. We found that when we did Ancestry.com. We found a lot of the other history, too. My father – we found that he had attended the Wanakena Ranger School, which is in the Adirondacks. He was thinking he was going to become a forest ranger. But then he later went to the University of Syracuse and became a civil engineer. He spent the early part of his career working for a company out of Rochester that did some of the building of the prison in Auburn, New York. He met my mother in Auburn, who was working as a secretary there. After they got married, they moved to Long Island, New York in the 1930s. He was involved in the building of the Merritt Parkway on Long Island.

MG: Oh, interesting. Did he later serve in the Navy during World War II?

CF: He was in the Navy Reserve, but he didn't serve in combat. He basically was an instructor. He continued after the war as an instructor in Rochester at the Navy facility. I remember him

taking his training cruises out of Oswego, New York, on the Great Lakes. We'd go up to the locks on the Welland Canal in Canada. We would go up there as viewers to see them go through. Later in my career, I actually did that with my own ship, the NOAA ship *Peirce*. We went through the same locks where my father had gone on Navy vessels.

MG: What did they tell you about living through the Depression or World War II, which you were too young to probably remember?

CF: I don't remember too much other than the fact that he was very happy to have the jobs he had during the Depression. He actually earned quite a bit, enough to buy the property and the business in Canandaigua. I do know my wife's parents lived in Norfolk and Virginia Beach during the Depression and World War II. My mother-in-law commented a few times that her grandfather had served in the Civil War as a Confederate Officer and was taken as a prisoner to a prisoner-of-war camp in the Delaware River. He had to sign a certificate that he wouldn't serve again when he was released. He became an undertaker and opened one of the first of the major undertaker homes in Norfolk that is still in operation. In World War II, they had a house on the oceanfront, and they commented on watching the Coast Guard patrol the beach on horseback. They had the Army at Fort Story, which is at Cape Henry, right near their home. They remembered when ships had been torpedoed offshore, seeing the smoke and all.

MG: Are these things you've learned through your research on Ancestry.com or through stories passed down to you?

CF: On my father's side, most were found on Ancestry.com. On my mother's side, I actually met a few of my mother's sisters and one of her brothers. They came to visit after my mother died; three of them came and visited with us. And then, after I graduated high school, one of them that lived in Rochester spent quite a bit of time visiting me. An interesting thing happened during the Ancestry.com research. My daughter's father-in-law found a funeral announcement for one of the daughters of my mother's sister that lived in Rochester, New York. She was a nurse, and in the listing of who attended the funeral, it mentioned her sister, who was married to a minister in Virginia Beach. I had never met her. I called and talked to her husband, the minister and explained that I was a cousin. We have become very good friends, stayed in close contact. They live about five miles from me.

MG: What a neat connection. I'm glad you've done this research.

CF: Oh, yeah. Well, it's good for her, too, because she does not know that much about her cousins and aunts and uncles. So, I've actually shared with them a lot of the information that I have learned.

MG: Well, tell me a little bit more about your experiences in school growing up. You mentioned some of the subjects you excelled in, but what else stands out to you about that time?

CF: Well, let's see. The three-room schoolhouse was a very good education. I loved those teachers dearly. The building is still there, but it's been converted. I think it's an antique store now. And then, at the Academy high school, I had quite a group of friends. A unique thing

about it was that a lot of my neighborhood classmates did not go to elementary school with me because they were Roman Catholic. We have a Roman Catholic grade school in Canandaigua. When I became a freshman, all my friends from my neighborhood now went to school with me. So, that was a lot of fun. I was an acolyte at the Episcopal Church in Canandaigua all through grade school and high school. I loved the lake and traveled it many times. I've actually water-skied the length of it; it's nine miles long. I also spent a lot of time on dairy farms. My father would send me to help out farmers that he knew needed help. When their sons had grown up and moved away, they were short-handed. So, I learned to drive tractors and bale hay and do all the kinds of things, including milk cows. I enjoyed that very much when I was a boy.

MG: I was curious to hear more about your time in the school band. You said you traveled to Europe to play, which must have been such an exciting opportunity.

CF: Yes, that happened when I went to college. I went to college in September of 1960. I did very well there. But unfortunately, my father, who was diabetic – the whole family has been diabetic – had a stroke. I had to leave college for a year. So, I missed the first training cruise. The college had a training ship; it was a World War II vessel. We actually lived aboard it because new dorms were being built. They were also building the new Throgs Neck bridge over the campus. It went straight over from New York City to Long Island. I actually saw quite a bit of how a bridge is constructed. Anyways, I went home, and my father got better and said I should get back to school. So, I returned for the spring semester of the following year. In college, the regiment was divided into companies. We had four different companies, which were regimental – and we also had a band. The band had a band leader [and] an assistant band leader. I played the trombone and really enjoyed being in the Band Company. There had been a dance band in past years that had kind of gone dormant. We decided to get it going again. We played for events as the training ship went to four or so different ports, usually in Europe. We also went to Albany, New York. We went to ports like Oslo, Norway, and Portsmouth, England. Our next year, an underclassman of ours was an excellent trumpet player, and he made the dance band so good that the college started having us play for all kinds of events. We played at the embassy in Oslo, Norway. Here's a story I'd like to share. While we were setting up to perform, we met one of the young ladies that worked at the embassy. We asked her where she was from, and she said Canandaigua, New York. She was about eight years older than us. We said, "Well, we got a band member that's from Canandaigua." So, I met her. I told her my name, and she said, "Do you know Jane Fisher?" And I said, "Yes, that's my sister." They were girlfriends, and I met her in Oslo, Norway.

MG: I wanted to also ask about the musical connection with your mother. She was a musician. You said she had gone to the Ithaca Conservatory. Did you want to say more about that?

CF: Well, she tried to get me to play the violin. I took two years of violin and was so poor that she brought me a trombone. That's the main story. I think it was two or three years later that she died. So, she heard me play as a beginner. I think I got fairly good at it. I gave my trombone to my nephew's son, who also wanted to learn to play one, and found out they were very expensive. I had two because I bought one from a classmate in high school. I also marched in four of the St. Patrick's Day parades in New York City. In addition to playing high school dances, we played a

major college dance up in Nyack, New York. I was fortunate enough to record it, and I've shared it now with everybody that was in the band.

MG: I love that. I was curious how you were thinking about your next steps after high school. Did you always know you wanted to go to the Maritime College? Were you considering other options?

CF: I considered other options. I took the exam for the Coast Guard Academy, and I ended up being a standby. So, if somebody dropped out, I'd get asked. But I found out that they were starting this oceanography program at the New York Maritime College and decided that's where I was going to go.

MG: Okay. When you took that year off, how did you spend that time? How were you helping your father recuperate?

CF: Well, I ran his store. It was a walk-in store. The farmers all came down and they would buy their milking machine stuff. My father went through physical therapy and improved. But he still had diabetes. He died three years later. He died during my senior year of college. My sister got a hold of me at college. I had my father's Volkswagen there so I went home for the funeral. Anyway, it was quite a stressful time. I had very good roommates. One was from Auburn and we often drove back and forth to school together. The other was from near Lake Ontario, which was kind of the same locality.

MG: Can you say again what interested you in oceanography and meteorology? Where was the field at this time? What were the classes like that you were taking?

CF: Well, it was very interesting at the time. Meteorology was the well-developed curriculum at college because they'd had it there for a few years. I think the most interesting thing we did during one meteorology course was arrange for the whole class to go down to Central Park in Manhattan, where there's a building that has meteorological observation instruments for the city of New York. One of the important things carried on a ship is a barometer, or a barograph, and these have to be checked by the Weather Service [to] make sure they're operating properly and all. I accompanied a Weather Service person to visit cruise ships in New York Harbor. I've been on board cruise ships like the *Amsterdam* and other famous ones. In addition to that, our band was called down to the change of command on the cruise ship, the *United States.* All three captains of the SS *United States*, since she was commissioned, were graduates of the New York State Maritime College. So, with the change from the second captain to the last one, we played for his change of command and had a reception aboard the ship.

MG: How were you thinking about your next steps? Before this recruiter came to campus or the professor you mentioned, who was encouraging folks to check out the Coast and Geodetic Survey, what were you thinking you would do with your degree and after college?

CF: Well, I was thinking of shipping in the Merchant Marine or possibly on a civilian Navy vessel. I had my license. That's what some of my best friends have done. It was just sort of a change of plan my junior year. I had very good grades, so I thought already about going on to

grad school. When I went into the Coast Survey, it wasn't long before they picked me to go to graduate school, and I ended up at Oregon State University.

MG: Do you remember this conversation with the recruiter? What did he tell you about the Coast and Geodetic Survey?

CF: Well, he told me about doing surveys, holding the sextant horizontally, and things like that, but I didn't go into too much with him. I visited the port office that they had in downtown Manhattan, where they just had a rented space. It just seemed like a wonderful career. I also was trained as a naval officer at college, so I could have gone in the Navy but I decided that I didn't really want a career in the Navy.

MG: 1965 was a few years before the United States got involved in the Vietnam War. Were you hearing about what was going on in Vietnam? Were you thinking that we could get involved in the conflict in '65?

CF: I had classmates from high school that went to Vietnam. To my knowledge, they all made it back. One of them was seriously impacted by Agent Orange and died at Walter Reed. I wasn't in favor of the war. I was kind of ambivalent, really. But as I say, I learned more about it once I got in the Coast Survey and into ESSA, where so many of my shipmates actually were avoiding it. I had one classmate in high school who went to Canada. He eventually got pardoned by – I guess it was President [Jimmy] Carter and was able to come back to the US.

MG: Yeah, it's such an interesting time, and I'll ask you more about that. But I was curious how you prepared for your training course and what that was like for you.

CF: Well, as I say, I did very well in college. When I went in the training class. I learned to do hydrography and actually taught my classmates how to handle a ship. Our training class instructor became my second commanding officer. He and I became very good friends over the years. I loved doing hydrography. My first assignment was on the Explorer. We were tracking the Gulf Stream. I did a lot of celestial navigation where I'd get up early morning at sunrise and then at sunset, take star sights, and take a sun sight at noon. In between, the ship did something called dead reckoning, which I always thought was kind of ridiculous because the Gulf Stream was moving us along at three knots or so. So, the navigator really didn't know where the ship was. Then, when I would get a star sight position, they would then adjust everything to fit. At the end of the project, all this was archived. I was asked to lecture a few times about the work we were doing. When I left the ship, the Commissioned Corps office had already contacted me, saying they were interested in sending me to graduate school; it was up to me to find one that would accept me. This was in January 1967, to enroll the following September. I went to Washington in the meantime. The first thing they had me do was report to the new head of ESSA – Administrator Dr. Robert White. He had me work temporarily as his aid. I only did that for a short time, but I guess not having something else for me to do, he sent me with another scientist to listen to some of the hearings on Capitol Hill. One of the hearings actually involved Vietnam. There was a claim that the government had made it rain on top of protesters during demonstrations. We can make it rain using iodine crystals, but the testimony was no, we didn't. When I got back, he asked me questions about what the hearing was like and how the people that

were answering questions did. It was very interesting. But the next thing that happened is that while I was waiting to go to college, they started up a presidential commission, the President's Commission on Oceans and Atmosphere, also called the "Stratten Commission" because the chairman was Juluis Stratteon, a very successful and influential businessman, and they needed staff to begin with. The Vice President Hubert Humprhy was the head of the commission. His office was in the Eisenhower Building, which is now called the old Executive Office Building, I think. Anyway, I basically was used as a gofer. A few times, they had me take things over to the White House through the tunnels that go from that building over into the White House. So, I walked through the basement of the White House, went by the swimming pool that FDR had used to help with his polio and later Nixon had it covered over to make it a bowling alley. It was all very interesting. I would deliver what I had, and then I'd go back. I was also sent to some other agencies. I can remember even going to the State Department with something to deliver. Anyway, during my time on the *Explorer*, my first ship, I met a young lady that I later married. What happened is that, at this time, single officers on ship assignments did not get any housing allowance to live ashore. They were expected to live on board the ship in port. My assignment was one where we were at sea three weeks every month and in port for a week or so. But we wanted a place to go to when we were in port. So, we rented a house in Virginia Beach. There were four of us from our ship. And then, during the winter in port, a couple more officers joined us. This young lady lived across the street. I met her on the beach when she was surfing, and we became good friends. We dated, then I went to Washington, DC, but came back to see her now and then and eventually asked her to marry me. We had the wedding right here in Virginia Beach. It was a military wedding with dress whites. Then, because I had military privilege, we had our reception at the Army base officer's club at Cape Henry.

MG: Well, tell me a little bit about your wife. What's her background? What did you like so much about her?

CF: As I say, my wife is a Mayflower descendant. Her grandmother was quite active as Daughters of the American Revolution, DAR, and Mayflower descendants. She actually is a descendant of Priscilla Mullins – I'm trying to think – and somehow Captain [Myles] Standish, through a later generation. Priscilla Mullins, of course, married John Alden. The middle name of my wife's brother and his uncle is Alden. His uncle was John Alden Barrows, and he's John Alden Barrows, too. So, it is an interesting family. There is a relative who has done extensive genealogy. He's actually written books on it. In addition to this, one of my wife's great uncles built a railroad [that is] still in existence; it's the MKT [Missouri-Kansas-Texas] Railroad. He built it right after the Civil War. My wife was a schoolteacher at a private school when I met her and is very talented. She is an artist –watercolors, especially – and a guitarist, playing children's songs. She taught elementary school and played guitar at school for her students. We have two daughters, born in 1970 and 1973. Our oldest is a schoolteacher now in Virginia Beach and had been the executive director of the Coast Guard Lifesaving Station Museum in Virginia Beach for many years. These were the lifesaving personnel that would fire a line out over a vessel in distress, attach a life-saving apparatus, and bring the people ashore. Our youngest daughter, Achsa, very unique name, became quite a talented ballerina. She went to the Governor's School, which was half the day in high school and then half the day at a ballet academy. She continued ballet in college and danced with the Virginia ballet troupe. After a rewarding career in ballet, she became a ballet instructor in Williamsburg, Virginia.

MG: Oh, interesting.

CF: Yes. We were quite proud of both of them. Both seem to have careers involved with children. Our younger daughter is married and her daughter is now in East Carolina University.

MG: Oh, good. Captain Fisher, I'm wondering if you need a break before we continue. We've been talking for about an hour.

CF: Sounds good.

[RECORDING PAUSED]

MG: So, your first assignment after training was this work in Rockville, Maryland, under Dr. White. Is that correct?

CF: Yes. But his office was primarily in the Main Commerce building in downtown Washington, DC. He was a famous meteorologist and I think had been the head of the Weather Service. After he completed his time with NOAA, he became chairman of the National Academy of Sciences. He was a very friendly chap. I think the most unique thing, other than sending me to Capitol Hill, is one day he forgot to bring something from his home in Rockville that he needed. He asked me to go out to Rockville and get it from his wife and sent me in his limousine with his driver. We drove all the way from downtown Washington to get something from his home and then returned to Washington. I thought that was the most interesting ride I ever took. He was very brilliant and apparently well-connected politically because, with the formation of ESSA, they got a dozen or more brand-new vessels. This agency didn't become NOAA at first, but in 1970, it became NOAA. The Presidential Commission I'd been on had recommended that NOAA be put in the Department of Interior. But it turned out that President Nixon had some kind of flak with the Secretary of Interior, who was famous for getting a foot-in-mouth award, and he was very good friends with the Secretary of Commerce, Maurice Stans, so Nixon at the last minute decided to leave NOAA in the Department of Commerce.

MG: And it's been there ever since.

CF: Ever since. There was some talk and a lot of deliberation by the Presidential Commission about putting NOAA into the Coast Guard because they thought we were very similar. But there were some very definite reasons they thought it shouldn't. They also thought we were very similar to the US Geological Survey, and that was why, finally, the Presidential Commission recommended that it go into the Department of Interior. But it was strictly a personality thing with President Nixon that caused where we ended up.

MG: What accounted for these initial changes? What was in the milieu that formed ESSA in the first place? What accounted for the restructuring to turn ESSA into NOAA?

CF: ESSA was strictly just the merging of the Coast and Geodetic Survey and the Weather Bureau. Fisheries, etcetera, were not involved yet. I think ESSA was just created temporarily.

They knew it was going to be something else, but it took them a while longer to actually get– you might say – the ammunition to pull in parts of the different agencies. Fisheries came out of the Bureau of Commercial Fisheries, I think it was. During that time with ESSA, they sort of got things organized; they got the new ships online and things like that. Then, once we had this big to-do about becoming NOAA, they brought in the Fisheries, and from the Corps of Engineers, they eventually brought in the Great Lakes Survey Center of the Corps of Engineers. The National Data Buoy Program came out of the Coast Guard. So, they pulled a lot of things out of different agencies, which I'm sure fought it to create NOAA. As I say, NOAA never truly became what that Presidential Commission had envisioned it to be. They actually thought it would become kind of a "wet NASA." I don't know if you ever heard that. But it never really did. NOAA never became that strong.

MG: Yeah, that's interesting. Can you say a little bit more about the Commission? Is that the Stratton Commission that you're referring to?

CF: Yes, that is the Stratton Commission. You're very well advised on that. They put out the publication "Our Nation and the Sea." When I was there, they had borrowed a Navy officer and a civilian from the Navy Oceanographic Office to get started. The naval officer was Lieutenant Don Walsh, who was famous because he had dove to the bottom of the Marianas Trench, seven miles deep, with Dr. [Jacques] Piccard, a Swiss oceanographer. The *Trieste* was amazing. It was a bathyscaphe, a very strong spherical craft underneath, a big reservoir of gasoline, which gave it the necessary buoyancy. So, with expendable weights, they actually sank down seven miles deep, and then they released that slag iron, and the gasoline buoyancy brought them back to the surface again. It may have been kerosene, but I heard it was gasoline. That was interesting. The civilian actually became the chief of staff to the Oceanographer of the Navy, a fellow named Stu Nelson. Later, they brought in the dozens of people that they needed to do the study, but by then, I'd gone on to grad school. My wife and I got married and three days later, drove to Oregon. Our honeymoon was going out to grad school. My thesis and my main research was on upwelling along the Oregon-Washington-California coast. The most unique thing about grad school is that I took marine geology from a professor who later became the Administrator of NOAA.

MG: Who was that?

CF: That was Dr. [John] Byrne. He also became president of Oregon State University. He was a very accomplished person. It was a very good program that they had out there. Their research ship operated out of Newport, Oregon, which is where we now have moved the West Coast NOAA ships to. We no longer have the base in Seattle.

MG: There was something else I wanted to ask you about your time with ESSA before we get to your grad school experience. You said you worked alongside Athelstan Spilhaus.

CF: Athelstan, yes. He's a famous inventor. He was an advisor to Dr. White when I met him. Have you Googled [him]?

MG: Yes.

CF: What happened is, during World War II, German submarines could not be located by sonar because they would hide beneath something called a pycnocline, a combination of the effects of temperature and pressure changes. Anyway, he developed a mechanical bathythermograph, which looked like a small torpedo. It was made of brass, had a very heavy nose on it, and it would freefall in the water hooked to a wire with a special winch. Inside was a glass slide that was coated with gold. A stylus would move with the pressure and temperature as it went down. So, it kind of gave an integrated trace in the gold coating that could be brought up and read in a viewer. You could get a trace of the temperature down to about three hundred meters. So, it was good enough for us to use to check what we were getting from this other instrument that we were deploying. The biggest problem with these bathythermographs is, when it got really rough out, it became very difficult to go out and do a deployment. Now, with Expendables Bathythermographs (XBTs), rough seas aren't as great a problem. But, I can remember being out on the fantail in rough seas with a winch operator. We had a special line hooked to us to keep us from being washed overboard and we had waves go right over the top of us because it was so rough at that time. Tracking the Gulf Stream was quite interesting because, in addition to going through a few hurricanes and winter storms, the Gulf Stream's current would cause a roughness to happen at the edge towards the US side of the Gulf Stream. Sometimes you encounter very rough weather and seas there. I know during one storm, a nearby Italian cruise ship claimed that they had run into a rogue wave and took a lot of damage to the ship. Actually, we were in a hurricane and we were experiencing forty-foot seas. So, you can see the project was a pretty rough thing to do. We would normally go as far as the Mid-Atlantic Ridge. We also towed a magnetometer, which I talked about before. This instrument could determine what the bottom magnetics were. If you remove the present-day magnetics in the Mid-Atlantic Ridge area, you can see that the resultant magnetism actually reversed at times. There were four times in history when the magnetic poles – the North Pole and the South Pole – reversed. By seeing that in this data, a brilliant scientist determined that the seafloor was spreading at the Mid-Atlantic Ridge. My professor at Oregon State University was the first I ever heard explain it. I later went to meetings in Washington called the American Geophysical Union, where previously, scientists had practically come to fights over whether the seafloor could spread or not. When this scientist came out with this finding, the fight stopped; he had the proof to prove that it actually happened.

MG: Yeah, that sounds like an exciting conversation to be a part of and a witness to.

CF: Yes, I met many famous scientists at the time. Some believed it happened, and others believed it couldn't happen.

MG: But now it's in the vanguard. Most people believe it's happened.

CF: It's pretty much understood sea floors are spreading. Previously renowned scientists had theorized that the continents fit together, that you could actually fit South America and Africa, etc. Not the way that we're now shaped because there's been erosion. But Dr. Wegener came out with that theory, and everybody – I shouldn't say everybody, but most scientists said, "Couldn't happen." They didn't believe him.

MG: Well, tell me a little bit more about your graduate school experience and maybe how was it different from your undergraduate experience.

CF: Well, one difference was, being basically math and physics, it was much more demanding. An aside I'll give – I hope it's not racist, but my co-students at Oregon State University, many came from the Orient. They were such brilliant mathematicians that they were "curve-busters." I had to work hard to pass the courses because they were getting such great grades. As I say, the cruises on the research vessel out of Newport were fascinating. I'd never taken chemical oceanography, and we were doing that, too. The biological oceanography addressed basically Pacific fish and other sea creatures. So, that was very interesting. I had to learn new names of fish and creatures. I remember my wife helping me. We made flashcards when I was trying to learn the species names of different sea urchins. She fell in love with one of them that she still remembers today; it's *strongylocentrotus purpuratus*. Don't try to spell it. [laughter]

MG: Well, I'm going to have to when I transcribe this. [laughter]

CF: The other thing is that the textbook that we used, the preface was written by the character Doc that was written about in *Cannery Row*. [John Steinbeck] wrote about this marine biologist who collected sea creatures and sent them to different institutions. He was a real person.

MG: You had already been on the *Explorer* at this point, so were you able to apply some of what you'd seen on the vessel to what you were learning in school?

CF: Not too much because the oceanography of the Gulf Stream was not a West Coast thing. I learned more about what was being done out there. It was all very good. I'd like to talk about my next vessel because, even though it was only my second vessel, I went to the *Ferrel* as an executive officer. The captain of the *Ferrel* had been an upperclassman of mine at the Maritime College. The two of us were both trained Merchant Marine ship handlers. The ship was working up in Penobscot Bay, Maine. After my wife and I got back to the East Coast, I flew up to join the ship in Belfast, Maine. The ship put in current meters, and we had to pull them out and change them every month. Also, we put in tide gauges all the way up to Bangor. So, I navigated the Penobscot River quite a bit. We worked different places. Our main port was Rockland. We would also work at Searsport and Bucksport – all these wonderful places. I was a guest lecturer at the Maine Maritime College in Castine. Because the ship was tied up in Bucksport, I just drove over to Castine and lectured to the students there. They were quite interested that we were coming up there to study their bay. It was a fascinating thing to do at that time. I met a number of famous people. I met Ted Kennedy. Senator Kennedy was there with his sailboat and a couple other senators. So, it was a very good project. The thing is I let it be known that I wanted to get to do hydrography. So, rather than go to a shore assignment from that ship, the assignment officer said, "We'll send you to the *Mount Mitchell* directly from the *Ferrel*." I served on two ships in a row. So, I went to the *Mount Mitchell*, where the captain had been my training class instructor. We were getting ready to go to Puerto Rico. My wife was due to have our first daughter, and the captain said, "Are you sure you want to go?" I told him, "Yes, we'll go." I flew home for the birthing. Anyway, it was a very interesting cruise down there. We stopped in San Juan because we had a generator breakdown. Because of bad drinking, one of our crew members died. We had left San Juan to go to Ponce. We had a med-tech aboard,

and he knew I also had medical training. That night, he asked me to come and verify that the crew member was really dead, which I did. Then, we took his body down to – not the refrigerators, but the cold storage locker. We took all the eggs and everything out of it and put him in there to take back to San Juan. When we arrived in San Juan, I arranged to get the incident investigated. It turned out the Navy did it. Then they sent him on over to a funeral parlor where they did not speak English. So, I did all the arranging to bring him back to the US in Spanish, which, fortunately, I spoke.

MG: What does that do to morale on the ship? What happens when you lose a crew member on a tour?

CF: I think that most of the crew knew that this guy was an alcoholic. He had wiped out his liver. That was what the diagnosis was. We had to arrange to have his casket flown back to the US. I had to go to the airport and arrange all that. We sent the chief yeoman back home with him for the funeral.

MG: How did you have the opportunity to learn Spanish at this point?

CF: I had studied Spanish in high school. And then, in college, I spoke it quite a bit, so much so that when we went to Málaga, Spain, on our trainign ship, I was one of the interpreters for people visiting aboard. I had a classmate whose name I'll share with you. He first arrived at college, calling himself "Jerry Riviera." He changed his name later to Geraldo Rivera. Geraldo and I were classmates.

MG: The Geraldo Rivera?

CF: Yes. He was expelled from the college the next year. He was kind of a ruffian. We had created a lacrosse team at college, and he was our goalie. He didn't care about balls being flipped at him like that. I mean, it was terrible bruising. But he was tough.

MG: And what was the occasion to go to Spain? Was that on another ship?

CF: That was our training ship, and we were required to make three cruises. Our training ship would go to different ports on each summer cruise. We would do things there. We would have open houses. We had a reception in Málaga, Spain, and I was picked to be the escort for the mayor's daughter. She was a teenager, and we had an aunt accompany us, who was our overseer. So, we were never left alone. You know the history of Spain? It is very definite that there's always a – they call her a *dueña* to protect an unmarried young lady.

MG: This work in Puerto Rico, was that the work you were doing in Arroyo?

CF: Arroyo was near there. We started out preparing to survey. After we sent the deceased crew member to Norfolk, we then went around the south shore to tie up in – I think we first tied up in Guánica, which is a very famous port because apparently, they landed people there in the Spanish American. Then we progressed to Arroyo. We moved to ship to Ponce; we did not have a place to dock in Arroyo. Anyway, I was given the assignment to survey the Arroyo area, and it

was all done by the most antique methods – archaic. We had no electronic control. Our coxswain would actually pick out visual ranges – a certain bush, a certain tree, and things like that. Just amazing what he did. When I re-plotted the results at the end of the day, we had most of what we wanted, but then the captain would mark with a red pencil where there had to be additional lines done. We would go out there and try to get located properly with our sextants and fill in that line. When that survey was done, it didn't look as neat as present-day surveys, but it was acceptable.

MG: Which ship was this on? You had gone from the *Ferrel* to –?

CF: It was the *Mount Mitchell*, which was a modern vessel, but we didn't have all modern survey techniques yet.

MG: In your interview with Taylor, you alluded to the fact that while there were advancements in technology, it really helped to do certain things the old-fashioned way.

CF: Yes. Well, one thing is that in certain trials where the issue would be argued about using these old-fashioned methods, the court would find that they were acceptable. One of the key cases was when the cruise ship *United States* went aground – or, no, *Queen Elizabeth II* went aground up off New England and hit a ledge. NOAA sent the *Rude* to investigate. They sent down divers and saw the paint still on the ledge that she hit. That area had only been surveyed using the old techniques. The people representing the ship tried to claim that it was not a good enough survey where the ship had hit. But the court said no, that was accurate. All the techniques were done correctly. But what they found the ship responsible for is they were going too fast, going across where that ledge was. The ship was affected by settlement and squat. That actually caused them to hit. If they'd been going slowly, they probably would have passed over the ledge okay. So, it's interesting how the courts have decided in our favor because a large portion of our charts are still based on these old-method surveys. We haven't had enough ship time to go out and re-survey everything by modern techniques yet.

MG: That sounds like a big effort.

CF: Theya re making great progress, especially with these multibeam sonars that the *Thomas Jefferson* has and the *Rainier* have. The new techniques are exact. I mean, they're probably the best I've ever heard of. But they're a whole different generation than what we used to do.

MG: You said it was important to do a second ship assignment, and you wanted to do hydrography. I was curious why that was.

CF: Mainly because, to get promoted to Lieutenant Commander back then, it required you taking an exam where you planned a whole hydrographic survey. You were required to do everything that they would do in headquarters. You had to plan what the geodetic layout would be, what towers would be put up and all that. You then had to plan to put up targets so you could take the horizontal angles and put it in a tide gauge. And then, in addition to that, because I was an oceanographer, they gave me an oceanography exam about coastal waters in the New York Bight. Captain Larry Swanson created the exam. He's now deceased. I wrote his obituary for

the Corps. Anyway, I could not pass the exam if I had not done hydrography. So, it would be the end of my career if I didn't get onto a hydrographic ship. I also wanted to do it. I knew the *Mount Mitchell* was working in Puerto Rico. I'd already been a year and a half on the *Ferrel*. That was time enough. I wasn't going to move up and be captain. So, that was the background of it. It worked out pretty well. We also surveyed along the coasts of North Carolina and South Carolina. Surveying along North Carolina, the ship hydrography went out across the Gulf Stream. They never had an officer come up with a different temperature corrector for waters affected by the Gulf Stream. The speed of sound in seawater is dependent mainly on temperature. With the Gulf Stream passing through, you had a very different corrector for depth soundings on the cold side versus the warm side. So, I did different correctors for each side. Off South Carolina, the captain wanted to be able to calibrate for offshore ship hydrography. It was using an electronic location system, but he wanted big towers visible miles offshore. Nobody had built a thirty-foot wooden tower in recent years. So, I had a fellow teach me how. We were working offshore of Edisto Island in South Carolina, and I put up two of these wooden towers so that the ship, five, six miles offshore, could use them to calibrate. It was very interesting. I loved it. I passed the exam and got promoted.

MG: Good. What year was it that you took this exam and that you were in Puerto Rico?

CF: That would have been about – I went to Puerto Rico, I think about 1972. I left for grad school in '67. So, I left grad school in '69, was on the *Ferrel* for a year and a half, and then I went to the *Mount Mitchell*. So, it would have been about 1972. After the *Mount Mitchell*, I went back up to Washington, DC, and they put me on another presidential commission called the National Advisory Commission – NACOA.

MG: – on Oceans and Atmosphere.

CF: National Advisory Commission on Oceans and Atmosphere. They had a rented location on Connecticut Avenue. We put out annual reports, and a special report after the really bad hurricane that caused all the flooding – Hurricane Agnes. It was really bad; it caused flooding up in Harrisburg, Pennsylvania, and all along the East Coast. Anyway, this one was so bad that they sent members of the commission to investigate members, including the head of Scripps, the head of Woods Hole [Oceanographic Institution], and others. I went along as a staff member. I went to different locations, like Harrisburg where they talked about how bad the flooding was up there. It was probably one of the worst floodings because it was a hurricane that went up the coast and then merged with a low off New England. A couple fishing boats were lost. They just went out of communication and sank. But anyhow, it was pretty bad.

I forgot to mention – on the first President's Commission that I was on, they had members like Shirley Temple Black, Arthur Godfrey, Julias Stratton and other famous people. It was amazing to meet these people. Then one of the first times I've ever met Dr. Stratton, Julius Stratton, I was sent to the Washington National Airport to pick him up. I went there in uniform with a sign [that] said "Stratton" and stood there until he came out and identified himself. Then I took him to the offices. So, that was the way my job was.

MG: I'd like to hear more about the second commission, but I meant to ask you if you ever spoke with Dr. Harris Stewart.

CF: Dr. Stewart was a very, very good friend. He was brought into the Coast and Geodetic Survey originally to start a new oceanography program. He was responsible for selecting a site to put the first East Coast Oceanographic Laboratory, which is the one down in Miami, the Atlantic Oceanographic and Meteorological [Laboratory], AOML. Hewas a very strong supporter of my going to grad school. After he retired from NOAA, he came to Norfolk to create an oceaongraphic laboratory at Old Dominion University at the same time I went there for my doctorate. Wee had a big party on my last work day at the Marine Center that he attended. He and his wife Elise "Leelee" were very close friends of my wife, too. They, lived right here in Norfolk, and we would go to their house quite often. When I was captain of the *Peirce*, they lived on Key Largo. We went down there looking for sunken vessels to get them removed from charts. He had put in a request to have an inlet that was located just north of Key Largo, named Angelfish Creek, surveyed because the channel by the Coast Guard daymark had shifted, and if you went the correct side of the day mark, you went aground. I found out I was able to anchor the ship in John Pennekamp [State] Park because the ship had a special system so [there was] no overboard discharge; everything operated was temporarily contained in the ship. So anyway, we went there and anchored. I had one of the new female officers aboard. We started surveying, and the very first thing we did was run aground. So, we ran the survey launch aground. So, I said, "Okay, I'm going to give you a lesson on how you get off when you're aground." What I did is I grabbed the anchor and anchor line, jumped in, and walked with it way out, and set it in deeper water as a "kedge" anchor. And then, we started pulling the boat towards the deeper water. When a boat went by, creating a wake, it was enough to break us loose, and we pulled ourselves out. But while we were out there, Dr. Stewart visited the ship in his boat from his home just to invite our officers to a special dinner at the Key Largo Yacht Club. The Executive Officer told him, "The captain's not here. He's out getting one of our launches free of being aground." Anyway, that was the story. We were very good friends all those years. Did you know him?

MG: I've only heard about him. He died before my time.

CF: He went blind and then died maybe twenty years ago.

MG: He just seemed to have been a lightning rod for the agency. He came in quick and fast and made changes that were long-lasting.

CF: Yeah. He was originally with the Naval Hydrographic Oceanographic Office, predecessor of the Naval Oceanograhic Office, and served over in the Middle East. NOAA picked him up right away. He was very dynamic. He hired some excellent people who also became good friends. Like you said, down in Miami, he became a lightning rod, did all kinds of things with the city. He served on boards such as the Miami Zoo. He was the Director of AOML many, many years.

MG: Was he on either of these commissions that you supported? The one under Nixon and the Stratton Commission from a few years before? Was Harris Stewart involved in any of those commissions you were talking about?

CF: I see what you mean. No, he wasn't a member, but I think he recommended me as staff. He sent me there. He, along with Dr. White, sent me there. He and Dr. White were very good friends. In fact, I'm sure Dr. White hired him. Originally, oceanography was under NOS [National Ocean Service], where I became the oceanographer of NOS. But then they made the whole thing a new branch of NOAA.

MG: Can you say more about this commission under Nixon? What was its purview? What were the recommendations it made?

CF: Okay. NACOA, headed up by the director of Scripps Oceanographic Institute out in California, was mainly responsible for making recommendations on policies concerning oceanography and meteorology. It had members who were all kinds of dignataries and renowned scientists. In the early 1970s, Hurricane Agnes caused a lot of damage in the Mid-Atlantic region. NACOA investigated it and compiled a report to the Nation. Anyway, NACOA would put out an annual report, but then it would put out special reports. I know that I was staff on two or three of the special reports. I was there long enough to do at least one annual report.

Commander Larry Swanson was Chief of the Oceanographic Division in the National Ocean Survey, NOS, for probably three or four years. Then he got picked to do a major research project in the Bight of New York. So, they brought me up. I'd just been made lieutenant commander a year before. I figured I was too young for it, but they made me chief of the division. The Oceanographic Division had a tides branch, a currents branch, and a tides and current predictions branch. We produced the prediction tables. We put in all the tide gauges and operated them. Then, we would study the currents with the *Ferrell* and later with the *McArthur*. For about five years, I was the chief of the Oceanographic Division.

MG: Can you say more about that time and what was accomplished in those years?

CF: Okay. Well, the most interesting time is when I was still working downtown with NACOA during the Nixon Administration. I was learning about the White House. I knew who [H.R.] Haldeman and [John] Ehrlichman were. [Editor's Notes: H.R. Haldeman was Richard Nixon's Chief of Staff, and John Ehrlichman was his top domestic adviser, both were deeply involved in the Watergate scandal and later convicted for their roles in the cover-up.] I was warned about them by other staffers. I actually probably met two or three of the White House staff. I can't remember their names now, maybe [John Wesley] Dean; he was the lawyer. Anyway, when I went to the NOS Oceanographic Division, I remember going out to Boulder, Colorado, for an oceanography meeting. While we were at it, it was announced that Nixon resigned. So, I know exactly where I was when it happened. It was really something. I was in Washington when [Spiro] Agnew resigned. We all knew that he was a crook. We knew what had happened. We knew that they had to make him resign before they went after Nixon because Agnew could have become president. So, that's why Eliot [Richardson] convinced Agnew to resign. Then they had the – what do you call it? – the [Saturday Night] massacre, where they all resigned when ordered

by Nixon to fire the special investigator. ALl of that was happening while I was there. It was jut amazing. When I first worked on a Presidential Commission, Johnson was President, and Hubert Huprhey was Vice President – who I knew quite well. He was wonderful. I had to ride a bus to work. I lived in Silver Spring. I had to ride a bus downtown; it was before the subway. We were directed to not wear uniforms downtown becuase of the Vietnam War. So, I kept a uniform at my office in the Main Commerce building. I rode down in civics and then changed into my uniform and vice versa.

MG: Yeah. I wondered about that and what the anti-war movement looked like at graduate school. What was it like on campus and then being in DC during that time?

CF: We didn't have any trouble at all at Oregon State University in 1968. It was just starting. I was actually attending grad school when Bobby Kennedy was killed in California, and there was quite a reaction to that. He was supposed to come up to OSU next. So, the faculty and all of us were bothered by it. I am trying to think of what else. When I worked downtown in Washington DC, I was spit on because I was wearing my uniform, taking something somewhere. Just walking on the sidewalk, I got spit on. I used to dine in the cafeteria at the Main Commerce building quite often. I also dined at the other interesting places. There was an ESSA captain who worked there in the legislative branch. He went to Capitol Hill all the time. He took me under his wing. I was a lieutenant at the time. He said, "Let's go dine over at the Treasury Building in their cafeteria." So, we went there. It was really nice. But then he said one day, "Let's go over to the Smithsonian." It's not the new cafeteria that tourists go to now. We dined where the staff dine in the "castle," the red brick building that they call the "castle." There's a room in there where there are stars painted on the ceiling. It's not really a cafeteria. It's a dining room. He and I dined, sitting in there with all the other staff. It was just wonderful. We also dined in the cafeteria on Capitol Hill

MG: Getting back to Nixon's resignation, what happens in the federal government after that? What were the repercussions for you and NOAA at the time?

CF: When Ford took over, everything just settled down. It was almost overnight. We were so upset about what was happening with Nixon and all that. You didn't know. Then, Ford became president. Man, it was just like night and day. The next thing that happened when Carter became President – he was so unexpected. Unfortunately, he picked people who had little experience in Washington, and everything was in upheaval. It took two or three years to settle down. It was terrible. Even though I loved President Carter.

MG: Say that again.

CF: I said I loved Carter. I'm a Democrat. Now I can say I am. The problem was just his politically inexperienced people.

MG: Yeah, it's interesting how the larger administration can impact the success of these programs.

CF: NOAA has to work with the Secretary of Commerce. And Commerce is not primarily interested in oceanography and meteorology. It's business and all that. So, we're kind of the stepchild. I can remember working and seeing some of the Commerce secretaries. Some were very good. I remember one – Secretary Peter Peterson. He often had breakfast prepared in his office while he was at work. We were on the same floor with him, and you could smell bacon and eggs cooking. That's what I remember. I also worked temporarily for a couple of the ESSA/NOAA Cheif Scientists. That came later in my career. The first was Dr. Ned Ostenso, who was also Director of the Oceanigraphic and Atmospheric Research (OAR) Program. Then, Sylvia Earle, the lady that dove the deepest in the ocean in a special diving suit. I remember attending staff meetings with her, and she was talking about diving the three miles deep and living in special underwater habitats. Later, I think it was a few years later, I was sent down to attend a staff meeting with the chief scientist who used to be an astronaut.

MG: Kathy Sullivan.

CF: Yes. She later became NOAA dministrator, but I'd already retired by the time she did so. I remember her as chief scientist. Chief scientist is a difficult position because NOAA is composed of – what do you want to call them? – sub-agencies. They're all like fiefdoms. I don't know if I should use the term, but I'll use it. The chief scientist is sort of different, representing the whole agency. Both Sylvia and Kathy handled it quite well.

MG: Did you ever work with Bill Hooke? I think he was Kathy Sullivan's [deputy] chief scientist for a bit.

CF: Bill was deputy for Dr. Ostenso and Dr. Earle, I think. Bill was an interesting guy. We were good friends. Have you done a history with him?

MG: Yes.

CF: Did he tell you about the Warthog?

MG: The Warthog?

CF: Warthog.

MG: No.

CF: He had a stuffed head of a warthog on the wall of his office in Main Commerce. His mother-in-law was a renowned big game hunter, and she had shot it in Africa. Bill and I occassionally traveled together. We found out that we both love vanilla ice cream. We have sampled vanilla ice cream in Seattle, Boulder, and Washington, DC.

MG: He's lovely. I'm glad that you two had those experiences together.

CF: Okay, well, now you got the part about the Warthog. And everybody saw it. It's an ugly thing.

MG: So, after this time working for the oceanography division of NOS, what was your next assignment? Was that on the *Peirce*?

CF: Yes. What happened is I had a really good boss at NOS. It was Captain Robert Munson. He was head of marine charts, oceanography, and photogrammetry – three divisions. Well, he went to Norfolk to become the admiral in charge of the Atlantic Marine Center. Shortly thereafter, I was selected to go down there to be captain of the *Peirce*. Very honestly, I kind of followed him around. I went down there on the *Peirce*, and I relieved an upperclassman of mine, Captain Joe Drop, and we left right away for Florida. My first ops officer was a male officer, but then the first female officer in the NOAA Corps, Pam Chelgren, came on board as my ops officer. We worked from West Palm Beach, Florida, down to Key West. We also surveyed the entrances to Chesapeake Bay and Delaware Bay. Pam was a very nautical person. Her father was a Navy officer, I think. She had her own Hobie Cat sailboat that she trailered along with her, and she took me out sailing. It was really enjoyable. Have you interviewed her?

MG: I interviewed her last year. I'm curious, from your perspective, what was it like having the first women join the Corps? What impact did it have? How did people feel about it?

CF: It was a little bit difficult, especially with the crew. I think the officers were more open minded. When I came in, ESSA was starting a new program called Satellite Triangulation, where they took pictures of a satellite going across the sky. They picked young officers to go off to foreign islands to stay there for months at a time taking photographs at night of a satellite traversing the starfield. A number of my friends did this, and they ended up marrying girls that they met there. My XO on the *Peirce* – that's who I'm getting to – his wife was from the Seychelles islands; she was French Polynesian. I worked with another officer whose wife he met in the Falkland Islands. Another officer – his wife was from the Marquesas Islands. There were a dozen officers that worked on these islands and at least a half of them got married. Anyways, this XO I had was having a little problem with having a female officer aboard. Then, we brought two female ensigns on board. So, we had three female officers on the *Peirce* out of six. Pam was an excellent worker. When she did a survey, she had everything worked out. We had a civilian come from the Marine Center to stay on the ship to help with processing, and they worked well together. Like i say, I think it worked out well. Later on the *Rainier*, I had a female ops officer, LCDR Christy Shoemaker. On occasion, I had two or three female junior officers assigned aboard. I've had plenty of female officers to supervise. I think I was fair.

MG: Good. When I interviewed Captain John Callahan, he talked about how –

CF: Yeah, Callahan. He was a classmate of mine at Maritime College.

MG: Yes, that's right. He talked about how there was a scramble for accommodations in terms of board and bathrooms.

CF: I never served with him on the ships, but we've been good friends over the years and still are. He's quite active with the Retired Officers Association. The *Peirce* did not have a separate bathroom or showers for female officers. So, the first year, we shared the same bathroom, toilet

stalls, and showers with curtains. I have been in the bathroom, knowing that one of the female officers was in the next stall over. I've also been in a shower when I knew a female was in the next shower. That's the way we were for a year. Then, a directive came down from headquarters about a year later [and said] that we had to put a lock on the door, so it could be locked when males or females were using it. We challenged this because it was the only place we could go to go to the bathroom if we were working or on watch. You'd go to the bathroom and find it locked. So, we didn't comply. It didn't get changed until after I left the ship. When I left the ship, they put in a separate bathroom and shower for female officers.

MG: Did you want to say anything else about your time on the *Peirce*? It sounded like you were tracking and mapping wrecks.

CF: Yeah, well, our main project, starting out, was to locate reported wrecks that had wreck symbols on a chart that were beginning to clutter the chart. Sometimes the wrecks weren't there. An example that Pam found out about was in Key West. We had a wreck – it was on the chart – of a fishing boat. Then she found out that it had been removed. They'd actually hauled it away. So, we got all that documented and sent it in. It takes an "act of Congress" to get something taken off a chart. Quite often, the wrecks that we got the information about, they just added ED for "existence doubtful." They wouldn't, for legal reasons, say it was gone. But then we were assigned hydrographic surveys to do. We got assigned to survey the entrance to the Chesapeake Bay. And Pam, with the help of a civil engineer at the Marine Center, thought out how to put a calibration pole off Fisherman Island, where there were no other controls. They located it while standing on the bridge-tunnel at the Chesapeake Bay entrance, like five miles away. I was amazed. The boats were able to calibrate easily by going up to that pole. She was good at what she did.

MG: Correct me if I'm wrong, but the Chesapeake Bay became a significant place that you examined and wrote about in your PhD dissertation.

CF: Yes. My dissertation was on the tidal circulation of Chesapeake Bay. It was based on tide and current data that the *Ferrel* was collecting when I was chief of the Oceanographic Division and tide data that had been collected prior to that for the Corps of Engineers for building a physical model of Chesapeake Bay that was located on the Eastern Shore. So I had, we call it, a treasure trove of data. All this data hadn't been worked up in the way I wanted it, so I had to process it myself. I went to Rockville and worked with the division, ran the analyses, and got all the data analyzed, so I could produce my results. Then, I wrote my dissertation while I was captain of the *Rainier*. I had an outstanding XO who should have been captain of the ship. I told him, "You're running the ship." I talked to the first ops officer and then LCDR Shoemaker and told her, "You do all the operations, and I'm going to be busy in my cabin." I completed my dissertation and earned my PhD in 1989.

Then when I got sent back to Washington, I became assistant to the director of the national data centers. I worked for Mr. [Greg] Withee. Anyway, I decided I wanted to get my PhD results out as a publication. I did a NOAA technical report with a co-worker, David Browne, who added the part on the tidal currents. It is titled, "Tide and Tidal Currents in the Chesapeake Bay" NOAA Technical Report, NOS OMA-3.

MG: I have it written down somewhere, I think. I can always plop it into the transcript.

CF: Anyway, there were only a couple of officers that did publications. Most are busy surveying and managing. Captain Larry Swanson did a couple of publications. His father wrote the book on photogrammetry. His father was a captain in the Coast Survey years before him when I joined.

MG: So, just so I have a sense of where we are in time, what year were you on the *Peirce*?

CF: I was on the *Peirce* from '76, I think, to '78. During that time, in addition to the work at the entrance [to] Chesapeake Bay and Florida, we surveyed the entrance to the Delaware Bay. That's where we found the hand grenades and other munitions that were dumped offshore. And then we went to the Great Lakes. We were the second vessel to go up to Lake Huron to survey around the straights of Mackinac and Mackinac Island, which is where people go on vacation. It was quite a challenge going through the St. Lawrence Seaway all the way through the St. Lawrence River. Then I went up one additional year because the new captain went to the hospital. Pam Chelgren was still on board. We used our positioning equipment on Lake Huron, along with equipment the Coast Guard had aboard, to determine if LORAN-C could be used over freshwater. Because, at first, they thought it might not work, but we proved that it could. The last time I saw Pam, she was working for the Director of NOS in the Main Commerce Building. I went by her office and talked with her. I understand she's quite active in Seattle with the Retired Officers Association.

MG: I'll send you her interview. I can even print it out and mail it to you.

CF: I'll look at the site. You said you were going to give me the address. She definitely was active in Seattle a couple of years ago. So was Captain Callahan. He lives in Seattle, too.

MG: Yeah, that's right.

CF: Pam often lived on her sailboat. When she worked in Washington, DC, I think she lived on her sailboat.

MG: Yes, her interview was very interesting. I liked hearing about her time in Alaska as well. So, I have next that after the *Peirce,* Admiral Munson helped you get a job at the Marine Center where you are now being interviewed.

CF: He had me come in as chief of operations. I had three different areas working under me – hydrographic ships, fisheries ships, and research ships, even though none were docked here. I had the *Researcher* in Miami and the *Albatross IV* and *Delaware II* in Woods Hole, Massachusetts. Also, I operated the Marine Center's radio for communication with the ships. But quite often, when I wasn't available to operate it, my secretary, Sandra Edwards, a civilian, was the voice of AMC. So, a lot of people who've retired remember her voice. When I was at the Marine Center, some interesting things happened. The first year, perhaps in '79, the city made arrangements with the Norwegian training ship, a square-rigger called the *Christian*

Radich, to come here, but they did not have the waterfront redone yet. It was all mud flats and rotted piers. So, they asked the admiral, Admiral Munson, if they could tie up the *Christian Radich* here. He had said yes, and then they said, "We'd like to have it open for tours." About three thousand people a day came on board the ship. It gave me a chance to meet the Norwegian cadets and officers. I knew the ship from my time in Oslo, Norway. I'd been to Norway and told them that. A couple of years later, the city was looking for a place to put the *Calypso* with Jacques Cousteau. So, we tied the *Calypso* up here for six months. The *Calypso* was an old US minesweeper, but it had been converted to European electricity, which is a hundred cycles, or hertz as they call it, and they couldn't hook their equipment up here because it would burn out motors, etc. But we were "operations." That's the type of job we do, solving problems. We found that the Navy would loan us a converter that converted the US 120 CPS to 100 CPS for them. They had a helicopter aboard, which I got a lot of complaints [about] because they would fly the helicopter from the ship up over the housing that's around here. Residents would complain – "What's that helicopter doing buzzing our houses?" I got to know Cousteau, his wife, and his son. His older son had died in a helicopter crash. His younger son Jean Michel lived here in Norfolk, and they tried to start a Cousteau Society office in Norfolk, but it didn't work out. As I say, we had them here for half a year.

MG: Did you get to interact with Cousteau? What was he like?

CF: I interacted quite a bit. He was quite a chap. I first met his unique crew at a bar we had on the corner nearby our Norfolk facility called the Recovery Room because there used to be a hospital here. I was in there, and this great big bald-headed Frenchman was there, too. I looked at him and said, "You must be [Albert] Falco." He said, "*Oui*." I said, "I have read all about you. I read everything that was written about Cousteau." Falco was the person that dove with him and saved his life. Anyway, they occasionally would have me over to dine with them aboard the *Calypso*. They served wine from a tank that they had installed onboard the vessel. So, you could have wine, or you could have a Pepsi with meals. The only difficulty I had at all was Mrs. Cousteau. She quite often stayed on the ship, and she complained about everything. She complained about the Marine Center making too much noise and that sort of stuff. Cousteau always wore the red beret. I remember seeing him on TV. He always wore the red beret.

MG: It's so interesting, just the parts of history that you've intersected with.

CF: Recently, two young officers, LTJG Tim Morena and LTJG Matthew Chonka have mentioned – "We don't seem to have the characters in the Corps now that you had." I said, "Well, it's interesting you think that because we also thought this about the officers that preceded us." I shared an apartment in Washington, DC with an officer whose father had been a Coast Survey officer. His wife's father was also in the Survey and was captured by the Japanese at Corregidor in the Philipines. She and her mother and sister were held in a Japanese prison camp until the end of the war. Her father was held in a different camp. Can you imagine that happening? We had another captain – this was way back in the 1960s – who showed up at his ship on a motorcycle wearing pearl-handled revolvers. He looked like Billy the Kid. They did stuff like that back then. I'm sure there are officers today that are "cutting their own swaths."

MG: Well, you bring up something that I've heard a lot in these interviews, which is this divide between the old-timers and the newer generation of folks in the Coast and Geodetic Survey, that they were folks from the Weather Bureau and the old Coast Survey. You were right at that cusp. What was that dynamic like?

CF: I remember that there were complaints from up above that some older officers were – what did they call it – mossbacks. They called the old Coast Survey officers who resisted change "mossbacks." I can remember them complaining about it. I served with a few of them that very definitely were old school. They were resistant to the change that we were expereincing. The director of the old Coast Survey, Admiral [Henry Arnold] Karo, reported directly to the Secretary of Commerce. Well, that didn't happen under NOAA and ESSA; it changed. Many things changed. My biggest problem was going from the old survey techniques to the new. We suffered a lot from breakdowns. First, we had terrible breakdowns in the new computer system that they started out with, the PD8s. Commander Chelgren and others could definitely talk about that because they had to, quite often, bring the launches all the way back from where they were working to try to correct problems. Also, the data was recorded on punch paper tape. A terrible thing to try to work with and manage. But now, I think they have gotten over that hurdle. Most of my career, the launches were also a problem. The first launches were the old wooden launchers that came out of World War II, and they were terribly slow. The only thing that was automated on them was the fathometer; everything else was mechanical or hand-operated. Then, they went to a fiberglass launch that, quite often, the engine broke down, and they had other problems. Then, we went to the aluminum launches, like what we have now, but they had generators in them that didn't seem to do the job. Due to spikes in the electricity generated, the computers broke down. It was a terrible problem. I went aboard the *Thomas Jefferson* recently, and they have this unmanned craft that would go along parallel to them while surveying and doing everything that they're doing on the ship. It's a remote surveying craft. Pretty soon, they won't have the need for people; they'll do it all automatically. Oh, and putting up the Global Positioning System. That's the other thing. I was involved in developing the use for NOAA. I was on a committee that met with the geodesists on how we were going to use it for determining location and eventually for observing tide becuase it would do the vertical, also. We went through a terrible time with tide gauges. The original tide gauges when I came in were brass instruments that are now collectors' items. They drew a pencil trace, and they broke down quite often due to their age. Then we went to a punch paper tape type of tide gauge that really was terrible. Then, just about the time I was leaving, we finally developed a tide gauge that uses an acoustical signal; it bounces off the water surface. If you've talked with Steve Gill, Steve knows how difficult it was trying to process data from those earlier gauges.

MG: You mentioned GPS. I also interviewed John Bossler, who went around the country –

CF: Another one of my friends – Dr. Bossler. John was head of geodesy when we began using GPS, and we had a committee that came up with the National Geodetic Vertical Datum. John had succeeded Captain Sam Baker as Director of the National Geodetic Survey (NGS). John was his deputy and then became director. After retiring, John went out to Ohio State, I think it was, to be a professor there.

MG: I think he got into the private sector as well.

CF: Oh, good.

MG: Well, what else about your time at the Marine Center are we missing?

CF: Well, it was a unique time because we had the first Black officer who became director, Admiral Freddie Jeffries. He and I were training classmates, had come in C&GS together, but he was six years ahead of me because he had been a civilian employee with C&GS. They gave him credit for that six years and made him a lieutenant. So, he started out as a lieutenant, and he was very much interested in equal rights and improving employee morale. I remember working with two of the Marine Center employees on a program called CHROME, Cooperating Hampton Roads [Organizations for Minorities in] Engineering. It was for the local high schools to try to get minority students into college and then get hired by the federal government and local businesses. When I was director of the Oceanographic Division, NOS, I hired a number of minority students that made their career in NOAA. Over the years, the Division had been slowly cut in size, and I was able to build it back up again.

Admiral Jeffries didn't move his family to Norfolk when he became Director of the Atlantic Marine Center. He lived over in office country at the Navy base in Portsmouth. As his deputy, he gave me much freedom at work. I really enjoyed those years. I arranged his retirement, and I had to contact all kinds of people. I knew that one group that would support him was the [Tuskegee] pilots.

MG: Yes, Tuskegee Airmen.

CF: They came in their red coats for his retirement. I knew that he had grown up and rode the school bus with the singer that did rock and roll. I'll think of her name in a minute. Why don't we break? Let me think.

[RECORDING PAUSED]

MG: We figured out the name.

CF: Admiral Jeffries had grown up with Tina Turner. They rode the same school bus, and they'd stayed in contact over the years. I contacted her secretary, and Tina could not attend due to a conflict in scheduling. But she sent her regards. He still is very close friends with her. He had been high up in NOAA with the Office of Atmospheric and Oceanographic Research, OAR, prior to the Marine Center assignment.

MG: At any of these places where you landed and worked, did you hope to stay? Did you ever think about getting out of the Corps?

CF: Well, the biggest thing – I never moved my family to Washington, DC or Rockville, Maryland. My children were in schools in Virginia Beach. My wife's parents were here. In their later years, she was their caretaker. Anyway, that last assignment in Washington, DC, when I worked for the Director of the National Data Centers, was difficult. During that time, my

brother-in-law, my wife's brother, and I bought land on the Chickahominy River, which is near Richmond, and I built a log cabin. My family would move there for the summer, and I would drive down from Washington, DC, after work. But the rest of the time, I only went home on weekends. So, it was kind of rough. Well, the last assignment I had in Washington, DC, was interesting in that the Director of the Corps, when I came back from the *Rainer*, said, "Carl, I don't have an assignment for you. Go out and make your own assignment." I had worked for Greg Withee before. I asked him, "Are you interested in me?" He said, "Carl, I'd love to have you work with me." He had been the Director of the National Oceanographic Data Center and then became the deputy head of NESDIS [National Environmental Satellite, Data, and Information Service]. He was one of the two deputies that headed NESDIS. So, I worked for him. But then I just felt I want to get home if I can. This is about my twenty-fifth, twenty-sixth year. Admiral Jeffries, the Director of the Atlantic Marine Center, was looking for a deputy. So, I called and asked him, "I'd really like to get home. Would you consider me?" And so he did. I was his deputy for three or four years. And then, when he left, I was the acting director. But they did away with the admiral position. That was kind of sad. That was all done under "Reinventing Government" with President Clinton and Vice President [Al] Gore. Previously, NOAA had admirals at both marine centers [and] had two or three in Washington. So they had at least five or six admirals. And they just abolished them. After that, NOAA only had two that I was aware of.

MG: Yeah, that's a time period I want to talk more about, too, the '90s with the threat of the elimination of the Corps.

CF: Yeah, they didn't have the Corps elimination issue yet when I retired, at least that I'm aware of, but they did have the cut in the number of admirals. Admiral Moran had built the Corps up to about four hundred officers, but then, along with Gore, they cut it. It was a shame because it was a benevolent administration. It just was they wanted to do some reduction in the size of government. So, they reduced it. Admiral Moran had been head of the flight Center in Miami that moved over to the Tampa area. And then he came up to Washington to be Direct of the NOAA Corps. Admiral Moran actually worked indirectly for me years ago because he was chief of the tide party for the Pacific Ocean out of Seattle. We sent him to all those Pacific islands, where we had a tide gauge. He went all over the Pacific once or twice a year. Anyway, that's history. I didn't get too affected with making the cuts in employees. I participated in a meeting with Admiral Stubblefield and others to plan the cuts and talking about who the Marine Center needed to get rid of. They ended up cutting the number of people at the Marine Center roughly in half. Now, the other thing with Admiral Jeffries, he was big on – what do you call it? I call it character-building, but it was a program that the government had that you could get people really enthused and all that. I can't think of the name of it.

MG: Like, morale-building?

CF: Yes, it's building morale, but there was a name for it in the federal government. We did everything, like cookouts with events on the pier. We had a dunking tank brought in. The Admiral wouldn't do it, but I was up in it, and they would throw baseballs at a target to dunk me in the water. I had a lieutenant who worked for me; he and his wife raised Paso Fino horses. He

brought one there in a trailer for pony rides for the children. We just had this really active thing, and the employees loved it. That's kind of the way my career ended with that type of morale.

MG: Well, it's a little after noon now. But I feel like there's still more to discuss, such as your PhD program, your time on the *Rainier*, and then additional assignments towards the end of your career. Do you want to find another time to get together again? Is that not too inconvenient?

CF: Did you plan anything other than this?

MG: No, I can keep going if you'd like to keep going. Would you like to take a break?

CF: Yeah, I need a short break.

MG: Take your time.

CF: Okay.

[RECORDING PAUSED]

MG: I think you said in your interview with Lt. Taylor Krabiel that a classmate from Oregon State suggested you get your doctorate degree at Old Dominion University.

CF: Yes. What happened is after earning his PhD at Oregon State University, my friend came to Old Dominion University as faculty. A number of times that we got together, he said, "You better take some classes." And so I did. I started first while I was operations officer at the Marine Center. Then, I think Dr. Harris Stewart and the director of the Atlantic Marine Center, Admiral Richard Holder, encouraged me to go full time. Anyway, all three of them put in a good word with the Corps. I'd already used up – I thought – my training time earning my master's degree. But they came back and said, "We'll give you another year," and that was enough time to complete my studies. So, it was really good, especially since I had the topic for my dissertation. Dr. Stewart knew that I already had my dissertation topic picked out. I think it's three years for one commitment when you're going to school. I talk to many of the present-day officers about their careers and their plans – like, Taylor was hoping to get into grad school and the young lady that's up at the administrator's office wants to go also.

MG: Can you say a little bit more about your dissertation work? Remind me of the connection to research done by someone named Steacy Hicks. Is that right?

CF: He was a real character. He worked as a civilian in the Oceanographic Division. He had published an article about the tide in Chesapeake Bay. It wasn't actually that big a publication, but he tried to take the observed tid, plit, and see the circulation pattern. It didn't show very clearly because of the complexity of the tide. We had talked about it. I said, "Steacy, I think if you do a single tidal frequency, the pattern should be fairly clear." Now, what the tidal pattern is, like in the Gulf of Mexico is something called an amphidromic circulation. The wave goes in to an embayment, goes around like a counter clockwise wheel, higher on the right side, and theoretically, a zero height at the middle. In the Gulf of Mexico, you can see it clearly. The

embayment has to be wide enough. There's a formula for how wide it has to be. The lower part of Chesapeake Bay satisfies this requirement. So, I said, "Well, it may work." But I had to do something with the data called harmonic analysis to get the amplitude and phase of the constituent. The constituent I selectedis called M2 constituent, the principal lunar. It occurs twice a day. Anyways, the tidal records varied in length. Some were continuous stations, so I could determine the nineteen-year value. I didn't have to analyze these data because they were already done. Some stations were a year long. And some stations were installed only for a month. Well, in working it out, I ended up with M2 values at a hundred-and-some locations. With M2, instead of mean high water/mean low water, I determined the amplitude and the phase. I plotted the amplitude and phase, and I got this beautiful pattern, just like the theory. But it wasn't right. It was moved over to the West looking up the bay, so that only the right-hand half of the pattern was showing in the bay. All the rest of it was theoretically over land. With a little help from friends, we developed a model of an amphidromic circulation in a bay. We modeled it with no friction and then with increasing amounts of friction. Each time we increased the friction, the pattern moved over to the west. I determined for my PhD that the tide is amphidromic, but it's moved westward due to friction. My committee was satisfied with it. But I thought it'd be good to publish it, too. It's no longer in publication, but if you do want to see one, I'll send you copy.

MG: That would be great. I looked for it, and I couldn't find the paper, but I did find papers that cited it.

CF: It was very popular at first because I also published the results of my data analyses. I won't send that to you because it makes the package too big. People wanted to get it because, with those values, they could predict the tide at any of those locations. So they'd do their own predictions rather than buy our product. Like I say, I'm proud of it. I used to go around at colleges and onboard ships and lecture about it. I did it on the *Thomas Jefferson* two years ago.

MG: Earning your Ph.D. and publishing this important report must have been very satisfying for you to have earned your PhD and to have published this important report.

CF: Yeah. Also, the results I had were used by a young lady from Switzerland who was at ODU. She used it to "tune" her computer model. She's a professor at Oregon State University now. Like I say, I'm glad to see it was used.

MG: After your PhD program, was that when you went to the West Coast and got on the *Rainier*?

CF: Right. Because on the ship, I actually wrote the dissertation, which was a little bit wordy. I prefer the NOAA publication because it's cut down in wordiness. But anyway, the *Rainier* I really enjoyed. We went up to Juneau in the spring and then later in the fall to survey at a placed called Admiralty Island. We anchored in a cove called Windfall Harbor. One of the officers told me, "There's an old guy living here who looks after the bears." I said, "Oh, what's his name?" "Stan Price." I got to know him. I invited him out on the ship for his eighty-sixth birthday. The next year, I saw him in Juneau. He's dead now. The state has created Stan Price Park, where we surveyed. So, he is now quite famous, and I'm very proud to have known him. Later in the

summer, we would leave there and would go either directory to the Aleutian Islands and work north of them, or go to Sitka, Alaska, where we did some special work in the harbor. Sitka has a Russian tradition. We saw Russian dancers and things like that. An interesting thing about Sitka Harbor is we surveyed items that were just separate features, almost like our Florida work. One of the ensigns that I had on the *Rainer* later became captain of the *Rainer* and went there with a multi-beam sonar and mapped it completely. The result was scary. There were many dangerous features that we never saw. The whole bottom was like that. It's just like the surface of the moon. I laughed about that. Then we went out to Dutch Harbor. We had a Fourth of July celebration with the officers and crew on the Soviet vessel. We also had the wedding on Round Island of two employees of Alaska State Fisheries. So, I tried to make the most of the assignments when I did them.

MG: Yeah, I loved hearing those stories in your interview with Taylor.

CF: Yeah. Well, like I say, it all started out with Taylor explaining to him how we surveyed in the "old days."

MG: When you finished up on the *Rainier,* you came back east. What was your next step?

CF: When I came back, and I saw Admiral Morah, he said [to] go out and arrange my next assignment. I went to see the deputy director of NESDIS, Greg Withee. He said, "I'd like some help with the National Data Center Program." We'd had an interesting experience before I went to the Rainier that I want to share. He was the head of the National Oceanographic Data Center [NODC] on Connecticut Avenue. he asked me to assist him. While I was there, the NOAA chief scientist, who was Dr. [Joseph] Fletcher, at the time, a predecessor of Sylvia Earle and others, had been over to Russia after the breakup of the Soviet Union. He had observed Russian oceanographers who were out of work because there was no money. Valuable oceanographic data were being thrown away, paper data, observations of the Arctic Ocean, and all kinds of stuff like that. So, he came back and had a meeting with my boss and said, "Is there any way to rescue that data?" They have three of the national data centers over there, too, originally set up by the Soviet Union. One is an oceanographic data center. My boss assigned his deputy at NODC and me to investigate. We had just hired an oceanographer who was from Russia. He had been at the NOAA Geophysical Fluid Dynamics Laboratory at Princeton University. We discussed, "Is there a way that we can somehow set up a rescue program in Russia?" With his ideas and ours, we finally decided that we would hire out-of-work Russian oceanographers there, and we would provide personal computers to them. They would digitize the data, error-check it, and then send it to us. We would enter it in our files and then send copies back to the Russian Oceanographic Data Center, which was all very good. What was very interesting is we asked the Department of Commercie to tell us what to pay the Russian oceanographers. And they said, "Seven thousand American dollars a year." We said, "That's a very small amount." And they said, "Well, it's thousands of rubles." So, we went ahead with that, but I think eventually boosted it up to ten thousand dollars a year. But we also asked the Commerce technical office about what computer we could send them, and recommended – do you remember an IBM 186 model personal computer? Ever hear of it? It was almost archaic. We said, "That's outrageous." But it would digitize the data. So, we sent it to the Russians. Eventually, we hired about ten Russian oceanographers and got all this wonderful data. We brought a couple of them

to meet with us and found out that they couldn't afford any place to stay. So, I went over to this place on Connecticut Avenue and rented a place for a month. That was where they stayed, the two of them. The day they arrived, they wanted to go out and buy food. So, we went to a grocery store right off Connecticut Avenue. They were totally amazed. They saw all this wonderful, fresh food. Of course, they were starving back in Russia. I had the interaction with them for a whole month, just doing that. I'm sure I ended up with a record on me, a dossier. But we had a lot of good discussions.

MG: Was that just a temporary assignment for these folks?

CF: Well, for me, I transferred from that to the *Rainier*, so I wasn't around throughout the whole time. But I think it went on for a couple of years, at least, because there was so much data. A lot of it was about Artic sea ice. But, like I said, it would have all been thrown out. It was very popular. We had a meeting with the State Department that was interested in what we were doing. It wasn't done government-to-government; it wasn't US to Russia. It was done through something called the International Council of Scientific Unions, ICSU, that is headquartered in Paris. Between the Russian universities and the American universities, like the University of Maryland, that we set this program up. The State Department was just fascinated by it. They wanted to set it up for other types of scientific data. I don't know if they did.

MG: Yeah. Can you tell me a little bit more about your role with NESDIS and setting up these data centers? I'm not clear on what that entailed.

CF: Basically, I talked with the Data Centers on a daily basis. We, visited them a couple times a year a least. One was in Asheville, North Carolina – the National Meteorological Data Center, the National Geophysical Data Center was out in Boulder, Colorado, one of my favorite trips – and the Oceanographic Data Center is in Washington, DC. So, I basically took care of all the things that my boss didn't have time for. We had to hire a department head, and he needed to be on the evaluation committee, but assigned me instead. I sat with the personnel and a couple others to evaluate applicants. The data rescue was mostly done by this former Russian scientist that we had hired. He and I had become very good friends. He always called me Dr. Fisher. I had just gotten my PhD degree, so it was a real honor. He was wonderful. He went over to Russia and hired the people and everything. It was, I think, a real success story.

MG: Yeah, it sounds like it. Was it after your assignment on the *Rainer* that you were working with the data centers and getting them organized?

CF: Yes. The other thing that happened was the creation of three national environmental data centers in China. My boss was real busy with it. I would have loved to have gone there. We already had the three data centers in Russia [and] the three in the U.S. He went to Beijing. I often ended up in Washington representing him. I would go over to Suitland, Maryland, which is where NESDIS is headquartered. He later moved on up to be the head of NESDIS, responsible for the weather satellites and everything. It was a real experience.

MG: Who was that? What was their name?

CF: His name is Greg Withee.

MG: That's right.

CF: Like I say, I worked for him twice in my career.

MG: Both with the data centers?

CF: The first time was a program called the – I'm trying to think what they called it – The NOAA Ocean Service Centers Program. It's where the public could go and purchase information from NOAA. We tried it out in Seattle. It was one-stop shopping. If you wanted to buy satellite pictures, you could get them there. Or if you wanted to buy fisheries information, you could get it. The problem we ran into was competition with private industry. Private industry said, "We provide this information just like we do with charts." The National Ocean Survey used to sell its charts. But once they had brokers that would sell its charts. NOS stopped selling them. They just sent them out to the salespeople. The Ocean Services Centers was a program that we tried to set up, and didn't work out. It was from there that Mr. Withee went to be head of NODC. I was a branch chief under him with the Ocean Service Center Program.

MG: Okay. Yeah, I think you mentioned in your interview with Taylor that the program kind of got canceled.

CF: That one did because of the competition with private industry. Plus, it was hard to get the different parts of NOAA to just give us their data. For example, NOS doesn't like to give their tide data to NODC. That's why NODC doesn't have it. It's one of the problems managing data.

MG: Well, tell me a little bit about your final assignments and deciding to retire from NOAA.

CF: The last assignment was at the Atlantic Marine Center (AMC) as deputy director. I really liked the morale-building and all that went on. I liked working with Admiral Jeffries. When it came time to retire, Admiral Jeffries and I were both supposed to retire the same time at the end of our thirty years. But they decided in headquarters that they couldn't have us both go out at once; it'd be too much of a vacuum at the Marine Center. So, Admiral Jeffries retired at thirty years, and I retired and about thirty and a third. I stayed on for another three or four months as the acting director. It was a mandatory retirement. You usually can't stay beyond thirty. I think twenty-eight is your last pay increase. So, there isn't any reason to stay. When I originally began in teh Corps, we had one captain who stayed forty years. He just didn't want to get out and find something else to do. While at AMC, I had gotten involved with the improvement of the quality of the Elizabeth River, which runs right out in front of the Marine Center here. Volunteers had created an Elizabeth River Project, but they were a little short on actual scientists. So, I kind of went along as an acting chief scientist. They ahd three different stages: planning, what type of cleanup they would do, water quality, and the third looked at the habitat for creatures, fish and all. I was in charge of looking at bottom sediments, what type of pollution we had in the bottom. We have shipyards on the Elizabeth River where a lot of paint removal from hulls take place. Some contamination had gone to the bottom – coper and stuff like that – as pollutants. They also had some spills of creosote from plants back in the '40s and '50s that

creosoted pilings – the black stuff that they used to treat the wood. That really degraded the quality of the river. We developed a program to remove these contaminants, and a lot of it has come to fruition. I was involved with the Project for about eight years or so. We applied for many grants. We got one grant from the EPA. The director used to be the governor of New Jersey – [Christine] Todd Whitman. She came to award the grant. We had a wonderful afternoon with her. We got a big grant and we started cleaning up the river. We got one of the creosote sites judged to be a – what's the program where they're totally contaminated?

MG: Superfund site.

CF: Yeah, Superfund site. So, it became a Superfund site and has been cleaned up. A lot of the Elizabeth River is now quite improved. The project's still is going on, but I just wore out. Then, one of our city council members from Virginia Beach asked me to be a member of the Chesapeake Bay Preservation Area Board, which addresses the first hundred feet along shore of any Chesapeake Bay waters, including tributaries, even creeks and streams. The first hundred feet is protected from development. And the first fifty feet, you're not really supposed to do anything. If you're improving your shoreline, you're supposed to use special processes. In the second fifty feet, you can do such things as increase the size of your house or put in another structure or something like that, but it has to be approved by a board. Every month, we had board meetings like a community board, and we judged whether the proposed development would be allowed or not. I did that for nine years. It used a lot of my background because I knew about shore erosion. My PhD studies included beach processes, which involved a lot about erosion. We also have reintroduced oysters to Lynnhaven Inlet, which used to be a big oyster harvesting area. The pollution got so bad that they lost them for a while. Now, they're coming back.

MG: Yeah, I just keep thinking how helpful you must have been on these projects. I'm glad we have this opportunity to download some of the knowledge you have.

CF: I saw the survey of Sitka Harbor, the captain invited me to look at. Also, an officer on the *Thomas Jefferson* surveyed around Navassa Island and told me about hte wreck that he found. He showed the files to me here at the Marine Center I have seen a lot of information from NOAA since I retired. I did use NOAA data with the cleanup of the Elizabeth River. I also went before Virginia Beach city about Back Bay Refuge and obtained data from Asheville, North Carolina for my presentation. I sent to Asheville, to the National Meterological Data Center, and got the data. I konw how the system works.

MG: Well, you are the system, it seems like.

CF: It was a different system then. I've been back to Maine once since we worked up there. I really enjoyed that. I spent a lot of time around Vinalhaven and North Haven islands. We went through Fox Island thoroughfare and finally ended up in Eggemoggin Reach. Ever hear of the term?

MG: It sounds familiar.

CF: That's where I saw Senator Kennedy. It's a favorite sailing area. And then Boothbay is just beyond Eggemoggin. I really got to know the coast of Maine quite well. The trip out to Monhegan Island is really rough.

MG: It's a beautiful area. I'm just curious, looking back on your career, what stands out to you? You've seen the agency change so much in the years you were involved.

CF: I guess the first thing I'd say is I'm glad we now have the modernization of hydrographic surveying. I'm sorry we had to go through a rough period of disruption. That was very difficult. They even came up with a digital sextant. The angle went directly into teh computer, but it was a dinosaur. We tried a lot of bad things. It wasn't productive. I would hve liked to have gone into an area and really accomplished a lot of work. On my first ship, we'd go into an area to survey; the first two weeks, we'd go out with lots fo two-by-fours, hammers, and nails and build targets that we would use to survey. The *Thomas Jefferson* now goes into an area and starts out the very next day using GPS. About the only thing they have to do beforehand is to install a tide gauge. They're very productive. They'll gather a terabyte of data to process. It's unbelievable the quantity of data that they have learned to handle. When I worked with my boss in NESDIS, the Weather Service was coming out with the doppler radars at the weather stations. Each of those radars collects a terabyte of data a year. The question was, how are we going to archive it? How was the Asheville data center going to handle it? There were people that talked with us about that. Have you ever see the movie about Superman with the crystals that contained the history of Krypton when it exploded? These crystals had all the information stored on them. That was what the people were dreaming about to store the radar data on. But then they came up with the idea of a "jukebox" that had platters or discs, and the satellite data was stored on platters. You could call up a platter to quickly retrieve the data. They could handle all this weather radar data, too. As the systems improve, just like satellites, they save the original data from the satellite and radar. When they come up with better algorithms, they can go back and reprocess the data. And even though it's history, it's a better product.

MG: What I think I might do, Captain Fisher, is listen back to this conversation and see if there are areas I neglected to ask more about. We can touch base after that.

MG: Well, I think I'll stop here because I've gotten to the end of my questions. I want to make sure there's nothing else that you wanted to talk about today.

CF: After retiring from NOAA, I also worked with the New York Maritime College as a recruiter. They commenced a new program, where they offered New York State in-state tuition rates to all the Mid-Atlantic states, Pennsylvania on down through, I guess, South Carolina. I used to drive up and down the coast recruiting. I would drive up and down the coast, going to different high schools. They would have what they called college fairs or college admission nights. That was my main occupation before I retired entirely.

MG: How were you identifying students to recruit? What were you looking for? What was the pitch you were making?

CF: Well, the way these college fairs and college nights work, you have a booth in a high school gym or at the Hampton Roads Coliseum. Families come by and look at where they might want to send their child to college. In the Norfolk area, we would have sons of people that were captains of ships and tugboats. I recruited a couple of brothers; both of them went to the Maritime College because they wanted to work on tugboats like their father. The Maritime College of New York is unique in that something like seventy-five percent of students are the first to go to college in their family. Their parents had never gone to college. I got to go to many high school campuses all over the East Coast. I liked interacting with the students. I probably recruited maybe a couple dozen students in all.

MG: Well, you've had such a successful career because of the foundation you had at Fort Schuyler. I think you're a great person to be doing that kind of work.

CF: Yeah, it's interesting. You have interviewed John Callahan and me and probably others, who are all graduates of the same Maritime College. I think the first New York Maritime graduate they recruited was George Maul. He became a PhD oceanographer and went with the AOML laboratory in Miami. So, our graduates have always been high in academics. John Callahan is a lawyer. He got a law degree after he graduated, yet he became captain of a NOAA ship.

MG: You both have had very diverse careers. Well, I'm really grateful for the time you've spent with me. I'm going to transcribe our interview, and I'll reach out if there's more I want to ask you about.

CF: Okay. And if you look at the other [interview], you might see some things duplicated. I did want to talk with you about how the wardrooms on the ships have changed. I covered it a little bit in the other interview. Do you want to continue for a minute? I'll just mention it.

MG: Sure.

CF: Okay, the first ship I went on, the C&GS Ship *Explorer*, operated much like a Navy ship. Our officers and crew ate in separate messes. Our officers all ate in the wardroom except the captain; he had his own mess and even his own galley to cook his food. That's the way they do on Navy ships. Anyway, the messes started changing under ESSA and NOAA. The first thing that happened was the chief engineer was no longer an honorary commander who dined in the wardroom. He went into a mess that they called the ship's officer mess, which had the chief engineer, the chief boatswain, the chief yeoman, and other department heads. They had a technician's mess where they dined separately. They're higher rated than regular crew members who have their own mess. So, they have five different messes on the ship. But the ships had become unionized, so they would have union requirements. For lunch and for dinner, you have to have two entrees to choose from. So, in case a person can't eat one thing, they have another choice. These five messes all used the same galley. When I was on the *Rainer,* something unique happened. My XO did the hiring, and he hired a lady in Seattle who was a specialist in preparing vegetarian meals. She got the officer's mess interested in eating different vegetarian choices instead of the usual meat and potatoes. I came back to the ship from being home on leave and everyone was eating walnut burgers for lunch, and they had some kind of vegetarian

dish for summer. It was really interesting to see how the messes have changed. Also, the officers' uniforms have changed. When I began, they hadn't gone to the present-day jumpsuits yet. In fact, I was on a board of investigation, where we had one of our Fisheries ships out at Seattle that had gone to jumpsuits without prior approval. They were reported as not standing watch properly in uniform. The board I was on questioned the crew members and officers. NOAA finally approved wearing jumpsuits when the Navy and Coast Guard did so.

MG: You talked a little bit about this in your interview with Taylor, but I'm curious to hear more about the interaction between the crew and the scientists and how that changed over time.

CF: Well, with the crew, they're different with different vessels. With the hydrographic survey vessels and with the *Ferrell*, the tide, and current survey vessel, we were very close with the crews because we were often working out in small boats with them. We could be on a first-name basis with them, and they would call us by our rank and last name. Anyway, on the big vessels that worked with the research laboratories, the scientists came aboard to conduct their research. About half of the staterooms were for scientists, and half of the staterooms were for officers up in officer country. The crew were down below. Now, we really have smaller crews and a smaller number of officers. So, on some of the ships, we take quite a few visiting scientists, we call them, onboard. One uniform we didn't get to wear until we were lieutenant commander was a mess dress uniform. This was a uniform with a gold cummerbund, gold buttons, and a bowtie. I attended many dining-ins and dining-outs in the Washington DC area where we would ahve many dignitaries with us. But one time, I carried my mess dress uniform on board the *Peirce*, going up to a meeting in Canada. A crew member was injured going up the St. Lawrence River, so we had to take him to a hospital in Quebec City. I had radioed ahead, and when we got there, we had a vehicle waiting for us. It was a soldier from the *vingt-deux* [Royal 22nd Regiment], the 22nd at the Citadelle, and he took us over to the hospital where my crew member was treated. He had an injured arm. I got to know the deputy, the XO, of the Citadelle, learned about the *vingt-deux*, and went through their museum. He invited me to dine with him, and I accepted. But then he told me, "We dine formal. You will need a formal uniform." And I responded, "I do have one aboard." So, I put on my mess dress uniform and walked from the marina, which is down at river level, up to the cliffside where the Citadelle is located, up past the Chateau Frontenac, the famous hotel, and dined with them. We were served by an enlisted man who would come around with the wine bottle, never set it down, and we went by all the rules. We toasted the queen and everybody else. At the end of the dinner, I told the XO what a wonderful time it was. He told me I was their guest of honor. Then, I found out that having a guest of honor, they were able to serve wine and other drinks. So, I was the excuse to have all the drinks at dinner.

MG: Well, you've seen so much of the world. I'm so grateful to have heard a lot about it. Thank you again for spending this time with me. I'm sorry you can't see me right now. I am glad we finally got to meet, Captain Fisher.

CF: Well, I'm sure a lot of officers have done exciting things, too. It's just taking opportunities but not breaking the regulations.

MG: Yes, that's good advice.

CF: Oh, I do have one other one you've never heard. I was on the board that investigated a crew member, a lady, who lost her leg down in the Galapagos Islands to a shark. Have you heard this story?

MG: Admiral Stubblefield told me a little bit about this, but I'm curious to hear about it from your perspective and about the investigation into it.

CF: I think the captain of the ship had come over from the Navy. He wasn't in our organization a whole career. The ship was doing an oceanographic station off the Galapagos Islands. They did the station first, putting over their instruments in the water, during that time – probably a couple of hours. I'm sure sea life would get curious. Afterward, they had a swim call. They also put over a boat. Normally, a coxswain and a med-tech went in the boat, and people were allowed to swim off the side of the ship. Well, this shark, probably a Great White, came up amongst the swimmers. We think it may have swum under the ship, and it took this lady's leg off almost to the hip. The med-tech – I talked with him directly during the investigation, and he actually got her into the boat and shoved his fingers into her leg arteries so she wouldn't bleed to death. I think we determined that the captain was at fault for not having a swim call first when you stopped anywhere. I think the end result is that they finally abolished all swim calls, and NOAA doesn't allow them at all, which is a shame because I enjoyed them. I've actually done swim calls where the water was three miles deep near the Azores Islands. Anyhow, that's the story as I remember it.

MG: What was your sense of the captain's responsibility for this? Was it just an honest mistake? Could this have happened to anybody?

CF: Well, it was very bad luck because a shark can show up even if you swim right away. But he definitely should not have sat in a single location for hours and then let people go out swimming because bad things can happen. I had an experience with a shark myself when I was serving on the *Mount Mitchell* down in Puerto Rico. The ship was going to go to the shipyard soon, and the captain wanted pictures of the underwater intakes. He asked me – I was one of the divers aboard, working as a divemaster – if we could take any pictures. I had a dive camera, my own. So, I suggested taking the ship out where it's about thirty feet deep with bright white sand bottom. There'll be plenty of reflected sunlight. Plus, I could use flash bulbs if necessary. So, I was changing film after the first dive, and my dive partner and I were hanging onto a Boston whaler that we had lowered to the water. We didn't have any shark guns or anything like that. We just had a shark prod to push a shark away. The boatswain yelled down, "Get in the boat." So, I rolled into the boat real quick with my scuba gear still on, and the other diver did, too. A seven- or eight-foot gray shark went right alongside the boat while we were laying in the boat. So, I told them, "We're done. We've taken all the pictures we're going to take. Pick the boat up."

MG: What a close call.

CF: Yeah, but there was no investigation or anything like that. Why I'm telling you the story is, when I got up on the deck of the ship, I saw the stewards pouring leftover food through the slop

chute, dumping it into the water. You're allowed to throw over biodegradable stuff. So, it was like chum. He was actually calling the sharks to the ship. I was livid. I was so mad. I went to the XO and chewed him out for allowing the stewards to do that.

MG: Yeah, it could have had major consequences.

CF: My captain was doing something right. The photographs were all used to plan for the shipyard. But for a swim call, what some of the ship, like the Fisheries ships, did, they had a big tank up on deck that they would put seawater in. Then, people could jump in the water, never getting into the sea.

MG: Well, I'm glad you survived that and everything else and live to tell me all the tales.

CF: I'm glad that it went well. By the way, we did right by the lady who was injured. I think she was given a position at the laboratory at Sandpoint, the NOAA Pacific Marine Environmental Lab.

MG: Oh, good. Yeah, I remember Admiral Stubblefield saying that had an okay outlook on the experience.

CF: Well, there was one other thing too. They had to get her from the Galapagos Islands over to Chile. I think the Galapagos are a part of Chile. It's either that or Ecuador. But anyways, then I think they actually chartered a jet that flew her from South America to the US to save her.

MG: And that's where she recovered?

CF: Oh, yeah. Like I say, she lost her leg entirely. She's probably got a prosthetic now.

----------END OF INTERVIEW----------

Reviewed by Molly Graham 4/23/2024
Reviewed by Carl Fisher 6/12/2024
Reviewed by Molly Graham 9/12/2024