Molly Graham: This begins an oral history interview with Cliff Newell for the NOAA Heritage Oral History Project. The interviewer is Molly Graham. Today's date is September 4, 2024, and we're in Phippsburg, Maine. Well, I'm wondering if we can start at the beginning. Could you tell me when and where you were born?

Cliff Newell: Where I was born? Waltham, Massachusetts, March 14, 1941.

MG: How old does that make you today?

CN: Eighty-three.

MG: I'm curious about your family history and how they came to settle in that area. Maybe you could start by telling me about your father's side.

CN: My father's mother and father came to this country from Ireland. They weren't married at the time. They met, I think, at Ellis Island. They probably sailed from Galway because they were from Athenry, which is a small town. Anyway, they settled in Waltham, Massachusetts. I'm sure my grandfather went to work in the quarries, and then along came my dad. My mother was born in Quincy, I believe, and grew up there. My mother was sixteen years old when they married. They were married for fifty-five years, and then my dad passed away. In 1941, I was born. '41. My dad left Massachusetts and came up here to work in the Bath Iron Works. That was the start of the war, and my mother followed in 1942. I was fourteen months old when they moved to Bath.

MG: Where does your mother's family hail from? Are they Irish as well?

CN: No, I know they spent time in Virginia, and then Port Hawkesbury, Nova Scotia, and then gradually immigrated back into this country. I don't know what they were running for.

MG: Okay. A lot of folks, especially from Canada, came down to Massachusetts and Maine for the millwork.

CN: My grandfather on that side was a captain on a salt banker. Those were big sailing ships that worked the Grand Banks and whatever, catching fish, and they salted them to preserve them because there was no refrigeration, of course. So, they called them salt bankers. One trip, he came ashore and never went to sea again. They moved to Massachusetts, and he became a carpenter.

MG: Did you know your grandparents well on either side?

CN: No. When I came along, there was just one left, the grandfather on my father's side. He lived in Massachusetts, and we were up here. I can remember seeing him when I was a little kid. He lived on a farm. I think it was like a boarding farm. But I didn't really know him. I can remember going there. They had those big workhorses, Percherons, or whatever they were. To a little kid, they looked as high as this ceiling.

MG: Was that part of his occupation? Was he a farmer?

CN: No. I don't think he was ever a farmer. Just a place for him to live.

MG: He was a boarder there.

CN: Yeah.

MG: Do you know how your parents fared during the Great Depression? Your mother would have been pretty young, but what about your father and his family?

CN: I really don't know. I've heard my mother talk about borrowing a penny so you'd have enough money to buy a quart of milk, and when you get the penny, you paid it back to whoever you borrowed it from. So, stories like that. I can remember as a kid eating tomato soup cake. We didn't eat much fish because my mother didn't like it, except every Friday; naturally, the Irish Catholic, you ate fish, or you went to hell on Monday. We always had a roof over our head, but I don't think there were any extras.

MG: Do you know how your parents met?

CN: They worked in an A&P grocery store. One day, Dad offered a ride home to Mom.

MG: It sounds like your father came up to Bath Iron Works as part of the war effort. What were those years like for him?

CN: Before he came here, he worked for Ford Motor Company somewhere around – I don't know where they were in Massachusetts. Anyway, I don't know if he lost that job. He met somebody that he knew that lived in Massachusetts, that already worked at the shipyard in Bath, and the guy told him that he wanted to come up here. He could get a job without any trouble at all. It probably was more money that brought him up here. My dad was six years older than my mother, which was quite common in those days. So, he came up here, and he worked part-time as a policeman as well as working in the shipyard. My dad was one of those people that would rather be working than not. When I was a kid, we might go two or three days and not see him because he was working extra shifts. Eventually, he'd get out of the shipyard, and he was full-time in the police department in Bath. In the end, he was the deputy chief of police in Bath.

MG: Did he ever tell you any stories about his career as a policeman here?

CN: Not really. He used to talk about during the war and the shore patrol and things like that. Bath was alive with Navy personnel. He retired on Friday from the city police and became the Chief Deputy Sheriff for the county the next day.

MG: What are you looking for? Oh, yeah.

CN: That was his badge when he was a policeman.

MG: It says he retired in 1970. And that's when he became the sheriff?

CN: Right. That was February ’70. In November of ’71, he answered a domestic quarrel, and the guy opened up with a rifle on the car. One bullet came through the door, and it hit him in the leg, and he lost his leg.

MG: That must have impacted him physically for –

CN: He was done then. He never worked again.

MG: What was that like for him?

CN: I think he was disappointed every day that he couldn't go to work. I actually did a job – all the time that he was the policeman and then the sheriff, he also had a part-time [job]. He was the janitor in a local bank in Bath. We didn't know – he might be able to do that because he had a prosthesis. So, I did that until the determination was made that he couldn't do that. I don't know how long I did it – three or four months. I worked at the lab in Boothbay at the time. I'd leave there, come up to Bath, clean the bank, come home, and have dinner, and get up and go to Boothbay again the next morning. I'm sure he gradually grew into sitting on his duff. It's like me; I can't do anything either. I have multiple sclerosis and have a hard time walking. I have a pretty much complete workshop that's over in that part of the basement here. I used to build custom cabinets and stuff like that, some to sell. That bookcase that's upstairs, that's all part of my handiwork. I built this house.

MG: Oh, wow.

CN: Not alone. I had help. Now, I spend the day sitting in that chair, that recliner. I was rather active all my working life as a diver. I was on the road constantly. I can just imagine how he felt not being able to do something.

MG: Yeah, I can imagine. What was it like growing up as the policeman's son? Did you feel like you had to be on your best behavior?

CN: You didn't get away with much. If I did something and another policeman saw me, he would tell my father, especially when I started driving. He was also the truant officer for the town. But we went to a lot of things. We were privileged to attend a lot of different functions and whatever. He used to take me with him pretty much everywhere. If there was a show of some kind and he was working that show, he would take me with him. Or if carnival came to town, they would put police there to patrol that; he would take me with him. I didn't feel inhibited much because he was a policeman.

MG: How did you feel about him? Did you admire what he was doing? Did you miss him being home?

CN: We were proud. Typical Irishman. And he was. You could cut your finger on the crease in his pants, we always used to say. And never went on the street, that he wasn't spit-shined and polished. That's the typical Irish cop.

MG: Do you know what his role was at BIW [Bath Iron Works] when he worked there before he became a police officer?

CN: What was his role?

MG: Yeah, what was he doing at the Bath Iron Works?

CN: He was repairing pneumatic tools. That was the day of rivets. That's what held ships together was rivets. I can hear it now. All day long. We lived right-handy to the shipyard, and you'd hear that *brrr-brrr-brrr* as the rivets were headed over, and his job was repairing pneumatic tools, which would be the rivet guns and other chippers and that type of tool.

MG: I think I read that you have a sister who was born maybe after the war in 1945 or 1946.

CN: My sister? It'd be my youngest sister. She's five years younger than I am. '46, yeah.

MG: Do you have other siblings?

CN: I have an older sister that's five years older than me as well, and a brother that's a year older than she is. There's four of us all together. My brother passed away last Thanksgiving.

MG: I'm so sorry. What was your dynamic with the siblings growing up?

CN: Because of the age difference, there really wasn't much participation. I was kind of in between. My brother was great for giving me money – Friday night going out somewhere, maybe on a date with Judy or whatever. We've been married sixty-two years.

MG: That's amazing. Tell me a little bit about some of your early childhood memories. What do you remember about this area and Bath while you were growing up here?

CN: It was a good place for kids. Parents didn't worry about you being out after dark. There was a whistle that went off at the firehouse – it could be heard all over the city – at quarter of nine, and that was your curfew as a kid growing up. If you didn't hear that, you damn well better be home when the streetlights come on. But you had pretty much of a free reign. I can remember walking down the street with a rifle, headed to the woods to target shoot. God help a squirrel if we saw one. I was involved in Little League, all those sports as you as you get older – Little League, Pony League, Babe Ruth League, and all of that. You depend on your parents to cart you around to that stuff. I had an enjoyable childhood, I think.

MG: Did you attend church regularly? Were you involved in the church?

CN: My mother was Protestant, believe it or not. My dad never missed a Sunday or a Saturday evening mass. We attended church, the closest church in the neighborhood to wherever we were living at the time. We might have been Baptist one year, and then the following year, we were Congregationalists, but we attended church quite regularly. I was a deacon in the Congregational Church in Bath at one period of time. As kids, I don't think we missed much Sunday school.

MG: Did you enjoy church?

CN: I think so, but I don't remember. My memory is still pretty good, but it's not that good.

MG: Did your mother ever work outside the home

CN: My mother worked – there used to be a restaurant right where the shopping mall is when you come into Bath. Used to be a small restaurant, family-owned restaurant, right there. When my sister went off to nursing school, my mother went to work there. That's the only time she ever worked outside of the house. My father probably wouldn't let her.

MG: Tell me a little bit about the schools you attended growing up.

CN: Well, we moved from the south end of Bath to the north end, believe it or not. I'm not sure where I went to kindergarten, but I can remember being in South Street School up until the fifth grade. That's when we moved to the north end, and then I went to North Grammar School, and that was sixth and seventh grade. I can remember – I don't know if I remember it from my mother telling the story or from my own memory, but this South Street School had a big, long banister from the second floor to the first floor. Naturally, I slid down the banister, and when I got to the first floor, the teacher was standing there waiting for me. I don't know who I had for teachers at that school. The sixth grade, I had a woman named Helen Hayes as the teacher. Another kid and I went to the store at recess and got in trouble in that class. Seventh grade was Ruth Trueworthy. My desk abutted her desk. She was going to straighten me out. She was a friend of my parents. From there, I went to Bath Junior High School and then Morse High School.

MG: What were you interested in high school? Were you getting an inkling that you might study marine technology and science afterward?

CN: I don't know. My main interest in school was getting the hell out of there. I was a typical boy. I think I may have been six months from graduating, and it finally dawned on me – if I was going to marry this girl, I better be able to support her. I'd always had an interest in electricity. I went off to Maine Vocational and studied industrial electricity for a year. Today, you would come out of that as an electrician after you took your licensing exams, but the marine technology program started. It must have been the first year that I was there, and I always liked being around the water. In fact, I'd fished for lobsters by then. My parents had a cottage on the same river further up, and so I used to hang around with the guys that were in the marine technology program. They acquired a ship from the Navy that needed some work before bringing it from Philadelphia up to Portland. Since I knew some of the electrical trade, the instructors asked me if I would be interested in going down there and helping them get the ship ready since I was

going to transfer the following year anyway. That's what I did. It was like leading a duck of water, leading me into marine technology. It was a natural fit.

MG: Well, tell me a little bit about the curriculum and the things you were learning.

CN: It was a mixture of some engineering, marine biology, physics, of course. That's all I can remember, really. Mathematics. But a lot of hands-on. Once the ship arrived, there was probably more hands-on than there was classroom stuff. I enjoyed the engineering part. Diesel engineering is what the engineering was because that's what the ship had – diesel engines. Because I'd been there longer than the rest of them, I became a chief student engineer. If the ship went out, I was in the engine room.

MG: Did you envision being on a crew on a ship?

CN: No. Actually, when I graduated, the US Geological Survey tried to recruit me. That was before NOAA – USGS. They did the coastal surveys and geodesy and all that stuff. But I wasn't interested in going to sea. I didn't mind going for a short time. When I went to work at Woods Hole, I used to ride the commercial fishing boats and make every other trip that the research ship that was assigned to Woods Hole made.

MG: Was that the *Albatross*?

CN: The *Albatross* wasn't there yet, so we were using – they were using the old *Delaware*, *Delaware I*, which was an old eastern rig side trawler. I was standing on the dock when the *Albatross* pulled into Woods Hole for the first time. I was amazed. If you look at a BIW destroyer, everything is smooth and sleek looking. The *Albatross* looked like somebody had taken a hammer to bend the steel plates.

MG: What accounts for that difference in design?

CN: Well, it wasn't so much design. It was just the technique used to bend the plates. See, the ship is made out of a whole number of different pieces of steel sheet, and they have to bend some one way and some another way and weld them all together. Well, at BIW, they grind all the welds after so it makes it smooth. The *Albatross* didn't have much grinding and straightening,

MG: Backing up a little bit, can you tell me a little bit about your courtship with Judy and how you two met?

CN: [laughter] We met in high school. Actually, I came down by here in the summer, and she and another girl were swimming off the float down in front, and I stopped for some reason. Anyway, when we went back to school that fall, she was a student librarian. She was a sophomore, I was a senior, and I saw her in the library. Actually, it's not courtship, but my mother and my mother-in-law were the den mothers when I was a Cub Scout. So, the plot thickens. Anyway, shortly after school started that year, there was a dance at the high school, and I asked Judy if she'd like to go. That's how it started – all through high school. She went off to Cambridge School of Business in Boston. I went off to Portland, and we still stayed together

through all that. I graduated on a Thursday or Friday, and we got married on Saturday, I think is how it worked.

MG: That was in 1962.

CN: Yeah.

MG: What was your next step after vocational school? I just want to note that that vocational school is now SMCC [Southern Maine Community College].

CN: Yeah. In fact, our granddaughter Molly is going there for nursing school as we speak.

MG: Oh, neat.

CN: We got married, and I had no permanent fjob. I did have a job. I was working on a barge in the river with a diver, working on the water pipe. Anyway, on our honeymoon trip, I guess I knew of a possibility of a job at National Marine Fisheries, Woods Hole, so I stopped in there. A fellow who had graduated from the marine technology program was going to go there, but he turned it down. So, I thought, "Well, maybe this is still open." I went there, and I think I went to work, something like the middle of July of '62. I went to work there.

MG: You had just mentioned you were working on a barge and doing some of your first dives. Was that your introduction to diving?

CN: First dive I ever made was in one of those.

MG: That's a Mark V –

CN: Mark V helmet. That's my mother's high school diploma. I made that frame for her. It was at her house when we cleaned the house out, so I grabbed it.

MG: I meant to ask you if either of your parents was college-educated.

CN: No, no.

MG: Well, tell me about your introduction to diving and using the Mark V and what you were doing.

CN: I just kept bugging. My job was to sweep the deck. A friend of Judy's father owned the company. Judy's father, for years, was the superintendent of the waterworks, and that's what they were working on, the water pipe. I needed a job. The guy hired me. I kept saying, "I wouldn't mind trying that. I wouldn't mind trying that." They kept saying, "Well, if we get any closer to the shore, we'll put you in it." They dressed me into the dress, which is a big canvas suit. I can't remember if they put the helmet on me or just the breastplate. See, that comes apart between the breastplate and helmet. Anyway, I think they put the helmet on, and they went off to lunch.

MG: And left you to do what?

CN: Just sit there in the sun. When they came back, I challenged their lineage and said, "Either put me in the water or get me out of this damn thing." They couldn't believe that I still wanted to. Anyway, up they helped me over the side. Down I went. It was, I don't know, maybe twenty or thirty feet. It wasn't all that deep in the Kennebec. Zero visibility. They told me how to handle the air inlet valve, and then there's a button inside. Can you see where there's a wheel there?

MG: Yes.

CN: That's the chin button. So, if you start to get too light, you can hit that, and it lets air out of the inside of it, of the whole dress. It makes you heavier. Anyway, I walked around in it for a few minutes – I don't know how long – then, I said, "All right, I've had enough. Pull me up." They said, "Pull in on the chin button." It goes both ways. "And you'll come up." So, I did. Up like a rocket just shot to the surface. Air embolism written all over it. When I got to the top, I was blown right out. I said, "All right. What do I do now?" "Let go of the chin button." I let go of the chin button. Some water came in. "Well, you got to let go of it to get some air out of that suit so you can get your feet under you." I finally figured I'm going to have to get a little bit wet to get down. I got down a ways. The next thing, *pfft*, down, I went to the bottom. A fall in heavy gear is somewhat of a hazard. Anyway, I think they pulled me up after that and helped me over to the ladder, and up I came and stripped out of the dress. I wasn't even much of a swimmer. I never thought much about becoming a diver. And then I went off to Woods Hole, and I was there – I'm trying to think how long. Two years.

MG: I have two years in my notes, and you were with the Bureau of Commercial Fisheries [BCF]. It wasn't the National Marine Fisheries Service yet.

CN: See, the whole outfit changed from Department of the Interior, BCF, to the Department of Commerce, National Marine Fisheries Service; I think that is just how it went. Anyway, went there for a couple of years, and every time we turned around, we were on the road driving back up here. This is where we wanted to be. So I came to the conclusion that sooner or later, we'd be splattered all over the Maine Turnpike, so let's get out of here. I called my dad. I said, "Find me a job." He said, "Give me a week, and I'll find something." He got me a job in a shipyard.

MG: Can you say a little bit more about what you were doing for the Bureau of Commercial Fisheries in Woods Hole and what it was like to live there?

CN: I was a sea sampler. Now, that's an actual position. They have quite a few sea samplers. I think I was the only one at that point in time. Maybe Sam Nickerson was one as well or had been. I would ride the commercial fishing boats out of Boston, New Bedford, Gloucester – wherever they decided that something they wanted something checked out. It was mostly measuring discard fish. And I would do that. Then, in between riding on those, if there was a trip that came up on the *Delaware* and eventually the *Albatross*, then I would make every other trip on that vessel. So, I was at sea a fair amount of time. I'd go aboard the beam trawlers in Boston with a mattress, make a bunk in a potato locker, and sail. Usually, they were eight-day

trips. They really didn't want you there. There's "Big Brother" looking over their shoulder. Anyway, after a couple of years, I said, "The heck with this," and we moved back here, and I went in the shipyard.

MG: Were you among the first crew of the *Albatross*?

CN: I wasn't really crew, so to speak. Assigned to the Albatross. I was a technician in the lab. Then went to sea on the *Albatross*.

MG: What were you doing on the *Albatross*?

CN: Measuring fish and volume and lengths and taking otoliths for aging. It's basically data collection.

MG: That was where I saw Patrick Twohig's name and Robert Livingstone's. He's pretty well known and has done a lot of research with BCF.

CN: Bob Livingston was a marine biologist. "Bones," we called him.

MG: And your nickname was "Tippy," I read.

CN: My name?

MG: I read that your nickname was "Tippy."

CN: If you ask people around here if they know Cliff Newell, most of them would say no. In fact, a fellow that I worked with in Woods Hole came to Bath one time, and he stopped at the city hall in Bath and asked the policeman on duty if he knew where he could find a Cliff Newell. The guy said, "I never heard of him." Then my father was a policeman there at the same time. I grew up with the nickname "Tippy," and people around here still call me that, either Tip or Tippy.

MG: Where does that originate from?

CN: Oh, that's another story. There was a little girl in the neighborhood. Well, I'm named for a cousin, Clifford (Demers?), and his nickname was Kip, so they gave me the nickname of Kip. But there was a little girl in the neighborhood who couldn't pronounce K's. She called me Tip or Tippy, and that stuck. Our son is Kip. He's Clifford Davis Newell II. So, that's where that came from. People still call me that, which doesn't matter to me. I've been called a lot worse.

MG: [laughter] Tell me, you only spent about a year at Bath Iron Works. What were you doing there?

CN: Fifty-one weeks. I was part of the electrical crew. There's various stages. Some people just run the wires from point A to point B. I worked in one of the firing control rooms, running all the wires in these little tracks and whatever to the piece of equipment that they went to and then

wiring in lights and telephones and that type of work. It was a specialist crew that did the connection to the computers. It was actually computers that made the missile parts and the guns and whatever operate. That's what I did. But it was fifty-one weeks. There was a story in the *Bath Times* that the lab in Boothbay Harbor had acquired funding for a new lobster research program. I knew the director of the lab.

MG: Who was that?

CN: Bernard Skud. I met him somewhere along the line in Woods Hole. I called him and asked if there were any job openings for someone with my capabilities. He said, "I think we have a job that was designed with you in mind. When can you come down?" I said, "How about tomorrow?" I said, "I get out of work at four o'clock. I'll need a few minutes to clean up, and I'll be on my way." When I left there, I had the job.

MG: And what was the job? What were you doing?

CN: It was studying lobsters with a fellow that was the head of the program. His name was Richard Cooper, and the program we started out with was more of a behavioral study of the American lobster in situ. So, that's how I got into diving. And I can remember telling Bernie, I said, "Well, I tried it once. Didn't bother me much. I lived through it." Anyway, at that time, anybody who was going to dive for any branch of the government had to be Navy-trained. So, I went through Navy dive school as a civilian.

MG: Where was the Navy dive school?

CN: That particular one was at the Washington Navy Yard in DC in the Anacostia River.

MG: Tell me more about this. So before you started the position, they sent you to DC for this training. Who did the training? What was the training like? Was this where you wore the JIM suit?

CN: No, this was scuba diving. The classes were taught by Navy divers, and the class was run by a Navy master diver, with help from his cohorts. Just like any other class, we started out in a swimming pool, graduated into the Anacostia River, then back into the pool. The difference between that course and a recreational class is we went back into the swimming pool for the last day for a hell week exercise, except it was only one day. You're swimming around in circles, and people would jump in the water and pull your regulator out of your mouth and put it around behind your back, wrap the hoses around the regulator on the back of the tank, and stuff like that. It was just to see if you'd freak out, I guess. But I was older than any – I was the oldest one in that class. I was twenty-four. It didn't take me long to realize that those instructors were not going to come to the bottom of the swimming pool to get you. So, guess where I stayed. I stayed on the bottom. I can remember the mouthpiece on one of them – one guy grabbed the hose. This was two-hose regulators. I don't know if you're familiar with them or not. You don't dive, do you? Anyway, there was a hose on each side of your head. They grabbed that, pulled on it, and one of the bits on the mouthpiece got caught between my teeth. It didn't slow it down any; they just ripped it right off, type of thing. My buddy got hit in the head with a tank. I can

remember that. [In] the Anacostia River, you were tied together with your buddy, a line between you with a buoy to the surface, and you couldn't see from me to you in filthy, dirty [water]. Everybody had ear infections. The Anacostia River back then was a sewer. That was '65/

MG: Yeah, I have '65 when you did diver training.

CN: '65 I graduated, yeah. Anyway, that was really all the Anacostia River was; it was an open septic tank. You could feel the heat from the infection in your ears. That's why they moved it out of there. They moved it from there to Panama City, the Experimental Dive Unit.

MG: This sounds like torture to me. How did you take to it?

CN: I was always in the opinion [that] I can beat these guys at their own game. And I already told you, I figured out that they didn't want to get in the pool, so get on the bottom and stay there.

MG: So they couldn't hassle you as much?

CN: Yeah. The first day I was there, the master diver stood up, and he [said], "La-di-da, welcome to our class," and this, that, and the next thing to the class. There were twenty-three students in that class, I think. He went on and on and on. He said, "And one thing you need to know is there's a sand crab in here." That was me. "And I'm not going to point him out." Well, everybody else has stripes on their coveralls; I didn't have any stripes on mine, so I just said, "Well, I'll show you." I finished top in that class. There were thirteen left when it was over.

MG: You were one of the few non-Navy guys there.

CN: Yeah. The other guys from BBH had gone – it was Cooper and a guy named Peter Henderson who didn't last more than a couple of months. He didn't care for diving. He was afraid, and he dropped out. They had gone ahead and gone through it. When we went for the initial physical, I had an inguinal hernia, so I couldn't go when they went. They went in June or July, and I went in November.

MG: These were people who you were working with in Boothbay?

CN: Yeah.

MG: So, you finished up dive school. Any more stories from that time? How long was that training?

CN: Three weeks. I finished up. They handed me the diploma. I called the lab and said, "I passed. Shall I stop in New England Divers in Beverly and pick up some equipment?" They said, "Yeah, stop and pick up whatever you want, whatever you need." So, I continued on and drove. I don't think I went beyond Bath. We lived in Bath, and I used to commute to BBH every day. We were in the water two or three days every week year-round with that program. I can still remember the first dive I ever made out of Boothbay Harbor. I found a Rolex watch and a brand-new fishing lure. It turned out that there was a guy from the Navy base in Brunswick who

was diving with the guys, kind of filling in because I wasn't trained yet, and he had lost that watch several days before then. I came along, and there it was, picked it up.

MG: Did you return it to him?

CN: Oh, yeah. His name was Jack Swindler.

MG: Well, tell me, what about the lobsters you were looking at and learning?

CN: It was mostly – you'd turn over rocks. Some you'd see with the claw is sticking out from under the rock. Other ones, if it was a rock that you could roll over, you'd roll it over. If there was a lobster, they'd catch it, and then you would record the sex and handedness, the crusher claw being the ruling claw, so if they were either left-hand or right-hand. That's pretty much all we did to start with, and we were doing migration by counts, not individuals but by diving the exact same area year-round and having the data. Say you saw fifty lobsters in July, and you saw ten in December; you figured they packed up and moved out of there. It was that kind of a study which led to a tagging study. I probably tagged five thousand lobsters with a little Spherion tag – that looks like a folded-up staple on the end of it inserted into the upper end of the tail muscle of the lobster. We did that. We started at Monhegan. We used the Monhegan study to make sure that the tags were going to hold. And then we went offshore with them and tagged a lot of lobsters in the offshore canyon areas and places like that. Off the end of Cape Cod, there's another area we tagged lobsters, and we would release them right there. Then, if a fisherman caught them and returned the tag, they'd get a reward. The ones in Monhegan, we would pay the reward but take the lobster and put it back in the water. Some of them were caught probably a dozen times. They weren't going anywhere. But it was good information as to whether or not the tag would work. They worked fine, actually.

MG: What was your relationship with the lobstermen like at that time?

CN: On Monhegan?

MG: Throughout Downeast Maine.

CN: I didn't really have that much affiliation with the lobstermen. I was lobstering myself when I went to work in Boothbay. But because I was working on that lobster research program, there was a rule at the lab that you couldn't commercially be involved in a lobster fishery and working there at the same time. So I quit lobstering and sold all of the traps. I wasn't closely involved with the lobster fishermen. We were at Monhegan because we used to go out there on the mail boat and spend the night and check on the tags and let them go. We stayed with the Odoms in the store, and you'd see the guys in the bait sheds. I don't know who handled the money. It wasn't me. We'd spend the night playing cribbage and whatever. We got along pretty well with those guys.

MG: That lab didn't last too long in Boothbay. How come NMFS [National Marine Fisheries Service] didn't remain a presence up there?

CN: Say that again,

MG: That NMFS lab didn't last too long.

CN: Those of us that worked there thought – there was a guy that worked there that was probably one of the better statisticians, named Vaughn Anthony, and Bob Edwards, who was the director of the lab in Woods Hole, wanted him in Woods Hole to run the statistical lab there. Anthony was from Bangor originally. He wouldn't go to Woods Hole. Well, he closed the lab, and Anthony went there then. Out of fifty people working at the Boothbay lab, there probably were a dozen of us that ended up going back to Woods Hole with a tear in our eye. I tried more different places. I tried to buy a marina down the road here in Cundy's Harbor and one over in – there's one in West Bath on the upper end of New Meadows. But nobody wanted to sell, and I didn't want to go back in the shipyard, so I went back to Woods Hole.

MG: What about the Bigelow research lab?

CN: That wasn't there then. If it was, it was minor.

MG: So, you reluctantly returned to Woods Hole. Did Judy come with you? Had you started your family by that point?

CN: Oh, yeah, yeah. I'm trying to think what year we went back to Woods Hole. Have you got that written there somewhere?

MG: I have that you were in Boothbay from 1965 to '73. Does that sound right?

CN: Yeah. By 1973, we had the three kids.

MG: Well, tell me first about that before we move on to Woods Hole. Tell me about starting your family and your children.

CN: I think we were married nine months and twenty-one days when the oldest daughter was born. When we get married – you remember the thalidomide scare with the birth? They thought it was birth control pills. Well, I dumped the birth control pills down the John, and it didn't take long. Judy was pregnant. So, there was the first one. The second one was planned. That's Kip. Then, Sara, the third one, was kind of a surprise. Where did she come from? We were married in '62, so Kate was born in '63. Kip was '65. Sara, I think, was '68. Sara lives in Scotland.

MG: Oh, wow.

CN: Kip is a captain on the Bath Fire Department. He's a paramedic, firefighter, Captain, whatever, and a part-time lobsterman. That's his boat out front there. You can just barely see the white. See it? Kate lives on Cape Cod.

MG: That's nice. What was the new role and the new work like in Woods Hole? Were you still doing lobster studies?

CN: We were doing mostly offshore tagging when we went back there, and I would work on trips on the *Albatross*, participating in the data gathering. The way it worked on those [is] they pulled people from different sections and put them on the ship. Most of them didn't like going to sea. Most of them were sicker than dogs when they were out there, and I wasn't. They used to beg me to go on Russian ships, and I wouldn't go. I said, "We're fighting with them on one hand. I'm not riding around with them in a ship on the other." And I never did.

MG: It's nice that they didn't make you, or you didn't have to.

CN: No, they couldn't force you to go on a foreign vessel. I had a reputation for being somewhat of a hard ass, anyway. They probably said, "Why bother to fight with him? He's not going to do it anyhow."

MG: Well, I'm really curious to hear when and how your career takes a bit of a turn with the habitats and the diving. Can you talk me through that?

CN: Well, the diving – there wasn't much going on with the diving in Woods Hole. In '75, I think that's when I got in the EDALHAB habitat.

MG: '72?

CN: Yeah, that was one of the first ones. That habitat was actually built by the engineering students at UNH [University of New Hampshire].

MG: Yeah, I read it was undergraduates.

CN: Yeah. It was an oil tank where they added some valves and cut a hole in the underside. I guess that was my introduction. The people that were – it was a fellow – I can't think of his name – from URI [University of Rhode Island], who was head of the study that we were doing. They had deposited a bunch of tires all tied together and weighted on Pacific Reef, which is off Miami, to see if fish would move into that artificial reef. So, we were counting fish by species. I think it was about a five-day saturation in that habitat. It was an open-circuit type thing. Then, in '75, we had the Helgoland habitat, which was a major operation. The habitat was owned by GKSS, which is the German version of the Atomic Energy Commission. It was shipped over here on a freighter. It was some other country's ship that actually brought it over from Germany, and that was a three-month operation. I was the offshore dive supervisor for that. And then, leading up to my time in the habitat, that's what I did. We had a fatality in that program.

MG: Wendler?

CN: Joachim Wendler. It's with a W rather than a V. September 15, 1975. That's coming right up.

MG: What happened?

CN: He embolized coming to the [surface]. He was part of the German checkout team when it was first put on the bottom. The habitat was towed to the site and then sunk to the bottom. He was part of the checkout team. The day that they were to surface, one of them stayed on the bottom to run the system, and there was supposed to have been another – the first team would go into saturation. That checkout team had been saturated, but it was four or five days, whatever. Anyhow, he embolized on his way to the surface. He was carrying one of those throw-away cameras in a plastic bag. All we can do is guess that the bag got away from him. You know, if you reach real quick for something, you [gasps] suck your breath in, okay? And that's enough to embolize you, and it was rough that day, so if he took a deep breath when the wave was up here and didn't let it out when the wave went into the trough – the water doesn't move along. It looks like it does when you're offshore. It really just goes up and down like that. The height of that wave is going to be directly related to the differential pressure within his lungs. When he reached the surface, I was down below on the pickup boat, putting my suit on in case there was a problem on the buoy when they came up because it was rough. I came up on deck, and the guy said to me – Bill High – I don't know if you've ever heard that name. He said they were on their way, and I cursed, I'm sure, because they were supposed to wait until I said, "Come on." So, quickly zipped up my suit and looked, and there they were on the surface. Some of them were swimming towards the support boat. We were laid back, probably, I don't know, fifty feet from the buoy that they'd come up on, and one of them was staying there, and it was Wendler. I bailed over the side and went after him. Anyway, I swam out to him, grabbed hold of him by his tank and brought him back to the small boat. It was about a forty-foot boat, and we did mouth-to-mouth and CPR taking him back to the beach, but he never took a breath.

MG: What do you do next when something like that happens?

CN: What do we do next?

MG: Who do you call? How do you manage this? What's the protocol?

CN: A board of inquiry was set up to try and figure out what went wrong, and of course, an autopsy was done on the deceased, and we just kind of spun our wheels for a couple of days. We did put him in a chamber. We had no chamber offshore, which is something that I'd been bitching about since the program started. When we got ashore with this guy, we put him in the chamber and pressed him down. But even then he never recovered His wife and a six-month-old baby [were] standing outside. It's like somebody walked up and kicked you in the stomach. You're so close because you're working so hard together. You know the hazards going in but feel bulletproof.

MG: Was this the first instance you'd had where the hazards were tangible and real? I know you were aware of the hazards, but then seeing someone lose their life –

CN: This was the first fatality I was involved with.

MG: You would go on to develop really stringent diving rules and regulations around safety. Did this incident inspire that?

CN: I'm sure it was always in the back of my mind if it was not in the forefront … [opens filing cabinet] This is the curriculum that I made for new divers.

MG: Pretty intense. There's hundreds of pages there,

CN: Yeah. I figured that I trained something like twelve hundred divers.

MG: When did you have the opportunity to start training divers?

CN: Well, I got to know [Dick] Rutkowski in '75.

MG: How?

CN: After the fatality, Morgan Wells – does that name ring a bell?

MG: Yes, Dick talked about him quite a bit, and he helped start the diving program.

CN: Yeah, the dive program was ongoing, but Morgan came on board just about the time of the fatality in Helgoland, and they immediately shipped him up to Rockport. That's where our headquarters was, Rockport, Massachusetts. That's where we were working out of. And along the way, he brought Rutkowski up there from Miami. I know Rutkowski came down when it was time for me to come out of the habitat. Rutkowski came to the bottom, along with Wells. They were going to escort the four of us out of the habitat, and so that's how I got – that's when I first met Rutkowski. We didn't hit it off as strong as our relationship became over the years, probably because [it was] a new kid in my neighborhood type of thing. Anyway, shortly after that, he asked me to help him with the training program. He was running the training programs, and he asked me to help him with it. I wasn't too interested in dealing with beginning divers. Eventually, I agreed that I would show up for the third week of the training program. It was a three-week deal, and I would show up for the third week. I did that a couple of times, I think. And then I agreed that I would show up the first week. Rutkowski used to handle the classroom, and I would handle the water work. Of course, then Rutkowski left NOAA. We were teaching a class in Seattle, and it was about the end of the second week or thereabouts. And he said, "Newell, can you handle this?" I said, "What do you mean 'Can I handle it'?" He said, "I'm going back to Miami and [retiring]." "Well, have a happy day." He went off to Miami, and I took over teaching. From that point on, I ran the training program, and I put that – Dick never had a written curriculum; everything was off the top of his head. I thought the students deserved a written curriculum, and I needed something to go by, so I put that thing together, and the rest is history, I guess.

MG: Well, I'm still not clear how you went from doing fisheries work in Woods Hole to being involved in the habitats.

CN: There wasn't much going on in Woods Hole for me. If the dive program had something going on and they needed an extra guy, or they wanted an extra guy, they would call me and see if I wanted to go. It wasn't only the habitats. I was off to the Bering Sea a couple of times, out into the South Pacific. Because there wasn't much – the dive program was pretty much dead in

Woods Hole. So, Dick Cooper, who was my supervisor, would say, "If you want to go, go." I had a little shop there that took care of all of the dive equipment and overhauled our regulators and this, that, and the next thing. I got so I was spending more time with the dive office. Then, when they decided they were going to move to Seattle, they asked me if I was interested in going out there and building that facility. And so I jumped on that.

MG: Was it previously in Virginia Key?

CN: Virginia Key and we'd do training in Norfolk. I can't remember what river that is right there, by the Atlantic Marine Center. It's where the NOAA ships tie up. And then we also do another third week in Seattle at PMC [Pacific Marine Center]. Then, the space became available at the NOAA facility in Seattle. Have you ever been out there?

MG: No.

CN: It reminds you of a college campus; all the different facets of NOAA are located within this one complex. Originally, they were going to bring the ships out of Lake Union into Lake Washington. So, a big dock was constructed. There's part of a building about a hundred feet – more than that – two hundred feet long by seventy-five feet wide, was the facility for the ship's electrical power. Anyway, when they decided they weren't going to move the ships, that space was available. The decision was made [to] move the dive office out there. The headquarters, at the time, was in Rockville, Maryland, but it was an office building. By moving to Seattle, first, we built a thirty-foot deep by fifteen-foot diameter tower. This was a recommendation from the IG's [inspector general] office. That's another story. The guy who worked for the IG in Seattle. This must be the Department of Commerce IG. [He] was walking through that building one day and bumped into a guy who used to help us with training, and neither Rutkowski nor I had any use for him, and he knew it. Anyway, this IG said to this guy, "How's things in the dive program?" And he said, "If they don't straighten their ways, they're going to kill somebody." Once he heard that, he had to investigate. So, he went through the training program, full three weeks, and he came in there. His name was McIntosh. I don't remember his first name. [Ray?] Nice guy. I said, "What are you doing in here, really?" He said, "Oh, I'm just interested in diving. I'm a sport diver." I said, "You can lie to me, but you need to know that if you're going to be part of this program, you have to be a full part. You got to fill tanks when it's your turn to fill tanks. You've got to participate just like everybody else." "No problem." And he did. But the NOAA Diving Program was the only program within NOAA that got a successful report from the IG's office that year, and it was him going through the training program. His recommendation was that we build that tower for checking out people in dry suits for the first time. We didn't build it ourselves. We contracted for it. Anyway, we're already thinking of moving out there. Wells called me one day and asked me if I was interested. I said, "Well, I guess so. Not much going on around here." Like I say, I was all over the map. People had been diving in the Bering Sea. The Bering Sea is cold, as you can imagine. When you breathe – when air goes through the first stage of the regulator, and then it expands into the second stage, there's cooling because of the expansion. So, ice would form on the outside of the regulator, and they had a couple of close calls. Well, usually, when there was a close call somewhere, my phone would ring next. It was the way they were diving that was causing the problem. Anyway, I took a couple of crews up there. First one was studying the feeding habits of the gray whales.

Next time I was there was juvenile king crabs and sea [otters]. The plan was the scientists were going to try and come up underneath the sea otter with a butterfly net and capture the sea otter. I said it'd be a question of who's got who. Anyway, there were three different things, and the sea otter was the last part. But they changed their mind. They weren't going to dive. I said, "I'll see you later." They dropped me off in Nome, and I flew back [and] probably went off somewhere else. One year, I spent 235 days either on the road or at sea different places for NOAA.

MG: How was that for Judy and your kids?

CN: Probably a relief to get rid of me. The thing of it is , I wasn't happy with nothing to do. I mean, it's funny, I was like my dad; if I wasn't working, I wasn't happy.

MG: When you got the dive program started out in Seattle and the building, did you move out there? Did you live out there for some time?

CN: Yeah. We lived out there for – we moved out there in '89. From '89 to '96. I went out there to work in '86 TDY [temporary duty]. Then Judy came out in '89. We sold the house we had there. I retired at fifty-five. That was the old Civil Service Retirement System. I had thirty-five years service. So said, "I'll see you later."

MG: Then you moved from Seattle back here to Maine?

CN: Yeah.

MG: I found this picture online, and I don't know who you're standing with. This is from Helgoland.

CN: That is Joachim Radiske. He was a German habitat technician.

MG: Do you remember what you were doing here?

CN: Well, it was during the Helgoland safari. We're on land. You can see the grass around us. But we must have just come in. It may have been the day that saturation ended.

MG: Can you say what you mean by that, by saturation ending?

CN: Sitting here, you and I are saturated at one atmosphere pressure. This is one atmosphere. If we go underwater or under pressure, thirty-three feet, that's another atmosphere added in. If we stay there long enough, our tissues will take up the same amount of gas to balance that, so you're saturated at that depth/pressure. Helgoland was 120 feet. So, thirty-three, sixty-six, ninety-nine – okay? Say, 120. But it would actually be ninety-nine, 130. So, remember the surface is one, so you've got one, two, three, four, five atmospheres, so you're going to take on that much gas and be saturated at that level. When it comes time to come up, you decompress to get rid of that additional gas, which is in solution, as long as you're under pressure. But if you come up without taking time enough to off-gas, that will bubble up. That's decompression sickness. If it's in your brain and lungs, it could be a gas embolism if you hold your breath. When I came up from

Helgoland, I had a gas symbolism. I have a right-left shunt in my heart, what's called a patent foramen ovale [PFO] as a whole. So, microbubbles coming out of saturation – and you always have a lot of microbubbles coming out of saturation – you feel them going through your blood vessels and throughout your body; it's like you got ants crawling on you. Because of that PFO, enough of those microbubbles jumped across, and I had a gas embolism. At that point in time, we had a small chamber onboard the recovery ship, and they threw me in that and pressed it down. So, here I am. You get a lot of pictures here.

MG: What's the next one?

CN: Aquarius. They took that old habitat – Aquarius is what's written. I think the one with the picture is Hydrolab.

MG: That's right. I think you might be one of those mannequins.

CN: [laughter] I don't know.

MG: One is supposed to be Sylvia Earle. Another might be Morgan Wells.

CN: The one on the right looks like Morgan with all the hair,

MG: We can't identify the third one. We thought it might be you.

CN: I don't know. Morgan had more time in different habitats than any human being.

MG: I'm not sure if I have any more pictures. The rest are notes.

CN: What was that?

MG: I'm not sure I have any more pictures in there.

CN: There's one of the JIM suit crew.

MG: Oh, right, yes. Tell me about that.

CN: Well, that was something that – the Navy was studying the JIM suit, okay? I think the title is a biophysical aspects of the JIM suit operator. It was something to do with the physical well-being of the operator. They weren't studying the suit itself. They were studying the people inside of it. The guy who was in charge of their program for the Navy was Arthur Bachrach, PhD. He thought maybe NOAA would be interested in the JIM suit because we were doing a lot of submarine work at the time, these small, two-men submarines. Maybe some were a little bit bigger than it. He thought it would make a good vehicle for submarine research for different parts of NOAA. At that time, there was the MUST [Manned Undersea Science and Technology] office. The MUST office thought, "Well, who knows? Who are we going to put in it?" You know whose name came up. So, I went through the training with the Navy guys, again as a civilian, and we mostly worked in different swimming pools and tanks and whatever.

Eventually, we took it to the Isle of Shoals and made one open-water dive there. It was a Mickey Mouse crane system they had for lifting JIM, and [they] bumped the side of the deck with it and knocked the arm off just as they were bringing it to the surface to put it up back on the barge. I think that was the end of that program right there. But I was with them – I would fly to Washington on Monday morning and fly back to Hyannis on a Friday afternoon. You know, go down Monday, come back on Friday, and meet up with those guys wherever we were going to work for the week. We did a lot of work in Silver Spring, which is right outside of DC. There's a Navy facility there. They had a tank that was a hundred feet deep and another one, a revolving water tank, that you could have whatever current you wanted in there, [in] Indian Head, Maryland. We spent time there – Panama City, Florida. We were all over the map over a two-year period, I could say.

MG: Were you employed by the dive program at that point?

CN: No, I was employed by the National Marine Fisheries in Woods Hole, but my travel and whatever was picked up by the dive program.

MG: Well, I have a million more questions for you, but I'm wondering if we should take a break today because it's just about noon. We've been talking for nearly two hours.

CN: Whatever you want to do, dear.

MG: Would that be all right with you?

CN: Sure.

MG: Okay.

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

Reviewed by Molly A. Graham 9/21/2024
Reviewed by Cliff Newell 10/11/2024
Reviewed by Molly A. Graham 12/13/2024