

Dewey Livingston: This is an oral history interview with three members of Cordell Expeditions who participated in the historic dives on Cordell Bank in the early 1980s. They are Sue Estey, Don and Elaine Dvorak. This is March 9, 2012, and this interview is taking place at the Estey residence in El Cerrito, California. As lead interviewer, I am Dewey Livingston, on contract with Cordell Bank National Marine Sanctuary.

Jennifer Stock: I am Jennifer Stock, Education and Outreach Coordinator for the Cordell Bank National Marine Sanctuary.

Dewey Livingston: It's good to start with one formality, which is if you would each state your name and make sure we get the spelling right. So state your name and the spelling of your last name at least.

Sue Estey: My name is Sue Estey. The last name is spelled E-S-T-E-Y.

Don Dvorak: My name is Donald Dvorak. Last name spelled D-V-O-R-A-K.

Elaine Dvorak: My name is Elaine Dvorak, also spelled D-V-O-R-A-K. During the expeditions, I was Elaine Senf, and that was S-E-N-F.

Dewey Livingston: Good – thank you. I'd like to start, if you would talk a bit about your personal background, if you wouldn't mind. For instance, your birthplace, hometowns and basic education – just a little nutshell about your background. Sue, could we start with you?

Sue Estey: I was born in Brooklyn, New York, same place as my father was born, except they took me to the hospital to be born. I was brought up near Troy and Albany, New York. I had a lot of water activities in the summertime because we went swimming and sailing. At one point, we even had one of those funny snorkels with a ping-pong ball in the top so it would supposedly keep the water out if you ducked underwater. But there wasn't a whole lot to see in the lakes of New York.

Dewey Livingston: And did you live there throughout your young life until adulthood?

Sue Estey: I went to college at Cornell in Ithaca and flunked out and spent a year in Boston and then came out to Berkeley and finished college out here.

Dewey Livingston: What were you studying?

Sue Estey: At Cornell, I was studying biochemistry. I was in the ag school, and that was one of the majors you could take. And I worked in

two different biochemistry labs: one in Boston and one in Cambridge during the year over there. I came out here and Cornell actually sent a letter to Berkeley and said, “She’d probably be a good student; just don’t let her study science.” So I found the humanities field major, and that let me take a whole bunch of courses that I wanted to take, not just calculus and analytical chemistry and all that stuff.

So, I came out here and within a year or so I was hooked on the ocean and the mountains, and it was amazing out here – so different from where I grew up in New York.

Dewey Livingston: You never left?

Sue Estey: I did leave for four years to Florida in the ‘90s, but that was sort of accidental.

Dewey Livingston: Don?

Don Dvorak: I was born in Honolulu, Hawaii. My father was a career Navy man, and he traveled much around the world. He was never stationed aboard a ship, though. He was in naval aviation, so as a military brat, I had the opportunity to be in Hawaii. Of course, that’s where I was born, and we traveled to Japan where he was stationed for a couple years and been to San Diego, and he was also stationed at Moffett Field, and NAS Alameda. I’ve always had an interest in projects and science.

In grade school, I was always doing some little experiment. In high school, I worked towards the science area. I took many of their science classes and always enjoyed doing projects, whether it was photography or amateur rocketry or model airplanes. After graduating from high school, I enlisted in the Navy, following in my dad’s footsteps, except I didn’t do 23 years.

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I only did 4 years. But the Navy realized that I had an interest in electronics, so after boot camp they sent me to avionics school: aviation electronics. Again, I’m going into the aviation field just as my dad did. That was very interesting. After completing almost a year of schooling near Memphis, Tennessee, I was transferred to NAS Corpus Christi, Texas where I was stationed with a training squadron for six months before I did go to school in Memphis. After completing the schooling in Memphis, I was transferred to NAS Alameda.

That's where my dad was stationed ten years earlier. It was fantastic! And it was also about 30 miles from home, from where I enlisted, and I can't complain about my duty, definitely. I finished out my tour there, and it was interesting working on airplanes. I love working with airplanes. And at that time, it was in a transition where they were going from reciprocating motors to jet engines, and I think I preferred mostly working on the propeller airplanes. And I do remember working on one plane – the Navy designation was R4D.

We civilians know it as the DC3, which was the “gooney bird.” I mean, it was the workhorse of the Navy and Air Force during World War II. So I feel really lucky to be at that era of naval aviation. After I was discharged from the Navy in 1964, I went to San Jose City College to continue my education in electronics. The Bay Area was an ideal place for electronics – all the high tech companies were being formed there, and it was quite easy to find a position there as a technician. In about 1968, I hired on with Fairchild Semiconductor.

They were the pioneer of the microchip, and I stayed with them for approximately 14 years. I eventually needed a change, so I decided – I'll go into this in a little more detail later on – but I needed a change. So I quit work, and I went to a two-year program in marine technology at Orange Coast College in Costa Mesa, California – again, my interest in the underwater field. And it was shortly after I graduated from the marine technology program that I heard about Cordell Expeditions, and I says, “What an opportunity! I wanna volunteer! Here I am! Sign me up!” And of course, that led to ten years with the expedition.

Dewey Livingston: Elaine?

Elaine Dvorak: I was born in Washington, D.C. We moved to California when I was ten. And then when I was 18, I went away to college in Ohio. I went to Antioch College – Antioch has a co-op program, so I did some travel. When I finished Antioch, I went to New York for a couple of years, and then in a sort of roundabout way I ended up in Sausalito, California, and I lived there for 25 years. I tried to work in Sausalito. It's just a small town. There's not a lot of opportunities, and I became very interested in the bird life and marine life there in Sausalito with Richardson Bay and the ocean so close by.

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I found that if I volunteered my services when people had their boats hauled out and were working on their boats that I got invited to sail with them. So I learned a lot about boat work and sailing. And I took courses at College of Marin. Gordon Chan was a professor there at the time, and anything he taught was a good class. And he had fisheries biology and marine biology and I just took whatever he [offered], and a couple of other of the professors there were very good. It's a two-year school, but it's in a wonderful location for studying the marine environment.

I really wanted to get out on the ocean, and I had an opportunity to work on commercial fishing – just to get out on the ocean. I might have preferred to sail to Mexico or something like that, but my opportunity came, and I took it, and I learned how to operate the LORAN equipment and the navigation and got more experience on – not sailboats but powerboats – the big diesel engines.

My first trip out on the ocean on a commercial boat was to the Cordell Bank with rock cod fishing where we would attach a heavy weight on the line and let it down to the bottom until it just touched, and then we'd pull it up about six feet. The line had a lot of hooks on it, and you'd let it soak for a little while and pull it back up and there'd be rock cod and the rosy rockfish and on the bottom of the line there'd be ling cod sometimes.

And coming up on the line would be juvenile fish, too. They would just get caught in the big line, a metal sort of a woven cable. One of the fish that I remember seeing was a little fish about two inches long and completely transparent with a fin along the top and bottom of the fish, and looking it up found it was a juvenile ling cod, and they were just all over the place. And it was also the first time I saw an albatross, and they had four of the black-footed albatross there, and I didn't know what they were. I didn't have a bird book out there, and I just watched them and watched them, and I realized that's what they had to be. I memorized the markings – the little white line around the back of the bill – and looked it up, and that's what it was; but they were just fascinating to watch.

Then Sue Estey introduced me to Bob Schmieder and the Cordell Expeditions. We were working on a mutual friend's boat, and she was telling me about what she was doing, and I was so interested. When I met Bob, I wasn't a diver particularly – although I did have my certification – but I had a lot of experience around boats. And I didn't know it at the time, but he was thinking of buying a boat.

A couple of weeks later, he called me, and he said he'd bought a boat, and I went with him to see this old fishing boat that he had bought. And so I got involved in the work parties and trying to repair the boat. I think that I suspected it was gonna cost him a lot more time and energy and money than he thought it would. I was on the group that took the boat up to Sacramento. The engine stopped about four times on the trip, and we had to anchor it.

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Gary Borton was along, and he was real good at working on the engine. So they got it up to Sacramento, and then as often as I could I would go up when they had work parties in Sacramento. That's a long ways from Sausalito. And then I was on the group that brought the boat back down from Sacramento, and when we went through Suisun Bay – the boat had been sitting out in the sun, and the top sides were kind of dried out – and the water was just coming squishing through the planking in the front of the boat as it came slamming through Suisun Bay.

I had many years of working on boats that belonged to my friends, and sometimes even working on boats where I got paid to do it, and I tried to teach Bob, who had never even owned a rowboat – he'd been out on the boats, but he'd always rented; he'd never even owned his own rowboat – and so I tried to share as much as I could as fast as I could with him of the knowledge that I'd learned working on boats over the years.

And he's a real quick study, so didn't take him long to get very competent. And so as a result of working on the boat, again, like my experience with sailing, I got invited to come along and help provision the boat and do some of the navigation and transfer the boat to Monterey or where we were taking it. I came in right at the tail end of the Cordell Bank Expeditions. I did go on the last trip there, and it was really exciting to see the divers – how excited they were – and to see the specimens. I did a lot of specimen sorting so that I could find out what was down there.

When they would bring back the bags of specimens, we would put a lot of it into buckets of water, and we had an aquarium for the most interesting things. So I'd be pulling sea cucumbers and nudibranchs and anemones, the strawberry anemones and different things out of the collecting bags – the brittle stars. And then we also preserved them, and we would have sorting parties up at Bob Schmieder's in Walnut Creek and go and do that.

And we'd sort different kinds – you know, the brittle stars and the starfish, all the different mussels and things – and send them to different specialists all over the country for identification. And that was a lot of fun for me, too.

Jennifer Stock: With the commercial fishing, was that a boat out of Sausalito that you went on for your first trip out to Cordell Bank?

Elaine Dvorak: My first trip out to Cordell Bank was on a little Monterey fishing boat. It was just me and the boat owner – a tiny little, about a 32-foot boat with an old Hicks engine. And yeah, that was out of Sausalito. There's a fish dock there and a lot of commercial fishing boats. And then I worked on five or six different commercial fishing boats over the next year and a half in the herring fisheries, in salmon, rockfish and albacore.

I just loved going out on the ocean. And the nice thing about Sausalito is when the weather is nice in Sausalito, it's usually nasty outside, and when it's nasty in Sausalito it's nice outside. So a lot of our trips would be for three to six days, and we would just shutdown the motor and drift overnight. So we drifted on the Cordell Bank and woke up there in the morning. It's not anywhere near the shipping lanes, so you're safe to do that 20 miles offshore. Yeah, it was really a lot of fun. It was just high excitement for me to get out there on the ocean. And a little tough – there are a few women who do it.

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When we would run into each other, we would be really glad to see each other, because it's very much a man's world out there.

Dewey Livingston: Approximately what years were you based in Sausalito? You said about 20 years.

Elaine Dvorak: From '72, I think, until '93.

Dewey Livingston: Now, when you'd go out on these fishing boats, would they specifically be destined for Cordell Bank, or would that be changeable? Was Cordell Bank a particular attraction?

Elaine Dvorak: For the rockfish, yes, that's where they went. For salmon, we would be anchored at Stinson Beach or Point Reyes – Point Reyes usually because you can duck behind that point and get out of the wind. And then we would go out and go up and down the coast from there. Where we would try to go would be – you watch the color of the water, and where the water changes from the green/brown coastal water to the blue – right on that border is

where you find the salmon because I guess they like the clean water, but there's more food in the green/brown water.

And for albacore, we would go straight out to the Guide Seamount about 60 miles offshore, and then you can set your autopilot so that you go in a slight circle, and you just circle, and there you look for birds. You look for the terns and where the terns are diving is probably where the baitfish are, and the albacore will be on the bottom driving the baitfish up, and the terns are on the top taking advantage of the proximity.

Dewey Livingston: Were there indications of Cordell Bank – for instance, birds – that you would look for there?

Elaine Dvorak: Yes, we would look for the birds there, and they had certain coordinates on their LORAN also, which were secret, and it was just a LORAN-C, and so they would be looking for certain coordinates, some of them I memorized them like phone numbers and told them to Bob when I had the opportunity. It turned out that some of the same places where the fishermen were going were the shallowest points.

Dewey Livingston: What was the so-called competition like with fishing out there? Did you see lots of other fishing boats? Were there certain seasons that were crowded or not or –

Elaine Dvorak: Well, fishing is done by season, and there was a controversy because at the time, a lot of Vietnamese people had come over here, and they were rigging up boats to do trawling, and if you saw one of those trawlers come through, you might as well pick up your gear and leave – go find another place, because they would just clean it out. They would catch everything and then throw back what they weren't allowed to keep, which would probably die, and then they would take it into Chinatown and sell it there.

We would catch sharks, too. Occasionally, we would catch seagulls because they would take the bait as you're putting the line out. That first year that I went out was actually the El Niño year, and it was not a good year for fishing. What I did see a lot of was the murre and the murre chicks, and you can tell the adult and the juvenile murre apart, and what I understand is that the female lays an egg on the cliff side. That egg is kind of oval-shaped – flat on one end and narrow at the other end so that it will roll in a circle and it won't fall off the cliff.

And when the chick is just a couple of weeks old, then the chick jumps into the water, and the father then takes the chick out and feeds it for a couple of weeks and teaches it to dive.

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And the females will then go down around Point Sur in big flocks and they're feeding to make up for the depletion that would have happened with creating such a large egg.

Dewey Livingston: Did you see that trawling activity happen at Cordell Bank specifically?

Elaine Dvorak: Oh, yes, and when we saw them come through, like I said, you just pick up your gear and go somewhere else because it's gone.

Dewey Livingston: And did that tend to be before Bob and the Cordell Expeditions were going? Are you talking about the '70s –

Elaine Dvorak: That's the same period of time. I was out there fishing when Bob was on the Cordell Expeditions, because the year that I started working with Bob they had already petitioned for the marine sanctuary and the meetings – the town meetings I guess – it was in the '80s that I was doing the commercial fishing, and so they were out there diving at that time.

Dewey Livingston: This is of interest because although we're here to talk about the dives, we haven't really talked to anybody about commercial fishing on the bank. So is there anything else that comes to mind that you think might be of interest specific to Cordell Bank in your fishing experience?

Elaine Dvorak: Well, I'm very glad that the fisheries have gotten together and limited fishing at certain depths, I think that's how they've done it. I knew a lot of the names of the people who were at those meetings. Because Cordell Bank is a very important place for the juvenile fish, and if you don't let them reproduce, then you're not gonna have a fishery.

Jennifer Stock: Do you happen to remember any of those names, or is that something you might remember over time?

Elaine Dvorak: I would certainly remember from a list. There was a **Cass Gidley** or something – was that his name? I would remember them if I saw a list.

Dewey Livingston: Not Cass's Marina? Not that Cass in Sausalito?

- Elaine Dvorak:* It could be the same family – yeah.
- Dewey Livingston:* Do you recall the names of any of the commercial fishermen?
- Elaine Dvorak:* Well, some of the ones I fished with, yes.
- Jennifer Stock:* This is just an aside. It's really interesting because this is not a lot of information we have, so I'm really glad you're sharing what you have here.
- Elaine Dvorak:* Well, one man that I fished with a lot was named Dennis Chelini. It'll take a minute to remember the name of the boat. But it was a wonderful boat. It was an old boat, and he fished for many, many years. He fished the herring, he fished the rock cod and salmon and albacore. He had all the permits. Number seven was his fishing license number. Oh, I can't think of the name of the boat right now, but it will come to me.
- Dewey Livingston:* Sue, you told us about your educational background. What brought you to diving and going out there in the ocean?
- Sue Estey:* I was thinking back to Cornell where I was the biochemistry major. I had to take botany and zoology among other things. And in the zoology class, it was my first encounter with a sea anemone. It had been preserved in formaldehyde, I think, and it was this really ugly kind of brown/green icky-looking gushy thing. So that was my view of a sea anemone until I went snorkeling in the ocean.
- And the other thing that I thought about was that when I was pretty young, I was given a brownie box camera with the kind of thing, you had to hold it at our waist and look down, and it had a mirror, and it looked out, and so I started taking pictures at a pretty young age and haven't stopped yet.

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So most of those things kind of feed into what I ended up doing later. I was living in Sonoma County in Sebastopol, and I took scuba lessons. First of all, I met some people who went ab diving – abalone diving. The first time I went, I rented a wetsuit. I was very nearsighted, and I had a mask with no lenses, and they took me up the coast to a really big tide pool north of Jenner, and we climbed down the cliff and get in this tide pool, and I was nose-to-nose with the sea urchins; since I was so nearsighted, I could see all the little tentacles kind of wiggling, and so that was really the start of my getting interested in getting in the ocean.

After we'd done that probably twice a weekend for several weeks, I took a scuba class up in Santa Rosa, Sonoma Coast diving – so that was 1975 when I got certified in the fall. And a few years later, I bought a used Nikonos that I saw advertised at the dive shop. I finally did my first underwater photo at Monastery Beach. I think it was New Year's Day, and the waves were like one inch high, which is pretty miraculous for Monastery Beach; that was December 1978.

And then it must've been that winter when Bob Schmieder and a couple other guys came to the Underwater Photographic Society meeting and talking about this place, Cordell Bank, and wanting some more divers to come out and help document what was out there. And at that point, I thought, "This sounds like a really good reason to go diving, because I can use my camera, and I can take pictures," and I wanted to do it.

So meanwhile, I'd been going to Sonoma State and taking classes, and they kind of said, "Well, why don't you just go for another degree?" because that gives them probably more money for the school. Anyway, so I took a number of marine biology classes out there and marine ecology and plankton identification and quite a variety – they were good classes, and so I was getting to know the marine environment and to understand what it was I was seeing and taking pictures of.

Dewey Livingston: So more for your own pleasure rather than your career – you were working?

Sue Estey: I was working in a lab for ten years there, but then I applied to graduate school. So I went from Sebastopol to Menlo Park and graduate school in pharmacology at Stanford – not very sea-related, but I did diving while I was going to school.

Dewey Livingston: So diving was your primary activity outside of work.

Sue Estey: And mountain climbing.

Jennifer Stock: Cordell Bank is a mountain.

Sue Estey: Yeah, right – you have to sink down to it instead of snorkel up to it.

Dewey Livingston: Well, we'll get back to being prepared for diving on Cordell Bank then. Don, do you have anything you can share about your getting into diving and leading up to this point of when you would join Schmieder and his group?

Don Dvorak:

Certainly. I go back to 1970 when I bought some used scuba gear. I only bought it because it was a good deal, and so now I have scuba gear. What do I do with it? The next step is to find a local dive shop and take a class to certify. And I did – in 1970, I finished my program, and I was a certified diver. During the class, they took us to Monterey, and we did our checkout dives or practice dives, and I found that very interesting in a marine environment. So I continued to dive in the Monterey/Carmel area with my new dive buddy from class.

And for the first year, I was quite content just to be a casual observer to look at the marine life – anything from a nudibranch to a tubeworm to the giant kelp forests. It was so diverse in our underwater environment. I just found it fascinating.

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That lasted for a year, then I got kind of antsy. I wanted to do something else, so I took up spear fishing. I did that just for a few months there, I managed to bring home our evening meal a couple of times. I lost interest in that, and the next step was underwater photography. As I mentioned, I was project-oriented. In high school, I did black-and-white photography where we developed our own film and printed our own film, and that interest always stayed in the background. So it resurfaced when I wanted to do underwater photography.

I started out with a very inexpensive Instamatic camera. I built a plastic box around it with the means of pressing a shutter button, and I added a flash reflector where I used flash bulbs. Yes, it worked, but it was very bulky. But I did get my first results of underwater pictures, and underwater photography is expensive. So I finally moved into the Nikonos world – bought my first Nikonos, and then you buy a flash, and your pictures start to improve. And then you want another lens, then another lens, and then you want close-up extension tubes. Extension tubes are just perfect for Monterey because of the visibility – you can take close-up creatures – and there's just a vast array of colors and little organisms.

And photography just kept my interest, and it just piqued my interest in the marine environment. And I decided, "Wow, maybe I want to get a job in this field," and I decided to quit work. I found a two-year program in Orange Coast College. I could do a two-year program through the veteran's benefits and personal savings. I could survive for two years, so I moved to southern California and started the program. It's called Marine Technology.

It's not specialized in any one field. It gives you introduction to oceanography, marine biology, seamanship and navigation, then you can decide where you may want to branch out from there.

And those two years were just a wonderful two years of my life. I didn't have to work because my savings and GI benefits, and I didn't have to take a full load because I had some transferable classes from my electronic technology several years ago. And I enjoyed that – just taking my classes and doing well. I was ten years older than most of the students, and I think I was a little more serious about this program. And I did well. I got good grades. While I was there, I also took a parallel program in environmental technology, too. It enhanced the environment aspect of my interest.

After graduating, I thought, "Well, now it's time to find a job." I moved back to the Bay Area, and there were no jobs – very few. There was the USGS that had maybe an opening, but you were competing with people with their Ph.D.s, so I finally realized that I was not gonna get a job in the marine field. So I went back into the microchip high-tech area and didn't have any problems finding a job. And the high-tech area was good for me. I enjoyed electronics, so I stayed back in that field, and I joined the local dive clubs and the Underwater Photographic Society.

And I clearly remember in the dive club called the Sea Era Divers, a spinoff from the Loma Prieta Sierra Club. I would attend their meetings, listen to the guest speakers.

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Bob Schmieder placed an article in the newsletter of the Sea Era Dive Club for a call for divers to explore Cordell Bank. For some reason, I did not get to that newsletter for about a week or two. When I saw it, I said, "My gosh, this is exactly what I'm looking for!" I called up Bob, told him, "I'm a scuba diver, underwater photographer. I've been to Marine Technology School. I'm really interested!" And he says to me, "Well, we have our full complement of divers." I think he must have heard my deafening silence and my heart drop to the floor, and he says, "Well, why don't you come along anyway?" So I did!

And there was just so much interest from other divers, and we knew this was going to be a difficult dive. We're offshore, and we're in open ocean, and it's deep, and it's dangerous diving. It's going to be decompression diving. We need special, talented people with skills to do deep diving. During my stay down in

southern California, I had gone to La Jolla Canyon, and I dove to 120 feet during the squid season. So I had some experience with the deep diving, and I felt confident that I could do it.

But during the early days, there were so many committees – I mean, we had to be sure that we were doing the right thing. We had to learn about safety aspects of deep diving. We had to study and learn about collecting specimens. There were photography groups. I think Bob said he made as many committees as there were people, so each person could be a head of a committee. Of course, underwater photography was my main interest – and of course, safety. We had no idea what to expect out there: sharks, cold, dark.

But we decided that there were three main requirements that every diver had to adhere to. A diver had to use twin-72 tanks or larger. A diver had to have a depth gauge that went to the depths that we were going and a bottom timer. And all our dives would adhere to the U.S. Navy dive tables for decompression. So we were all on the same page, so to speak. It was for about a year at that we did our preliminary committees and exploring possible difficulties, and finally in 1978, we were going to go to Cordell Bank and conduct our first dives.

It was difficult because we didn't know exactly where the pinnacles were – where the pinnacles said they were on the chart, they weren't. So we spent a great deal of time just charting the bank looking for shallow places to dive. And I think I went on just about every trip up to Cordell Bank except for one, I was scheduled to go explore the Grand Canyon. Wouldn't you know it, this is the time they made their first dive on Cordell Bank. It took me a while to get over that. It was just a great disappointment. But somebody said to me, "Maybe there was a reason why you weren't there."

The reason is I'm still here to go on the next dive. So I accepted that. It helped a little bit. But we did get two teams down. We did get a first glimpse of Cordell Bank, and so now the expedition is a success, but we need more. We want more – more photographs, more specimens. In 1979, I was on many, many of the trips out, and I was on the trip that Tom Santilena, Bill Kruse and John Santilena made their dive. And I think I was suited up to be the second team down.

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As it turns out, on that dive, the anchor did not set, and it drifted off the bank, so when the three divers went down, they found that they were not on the bank, but they could see the bottom, and they made a decision to go down and get some samples and get some pictures, and they came back with their samples and their pictures and some very interesting stories. But because we drifted up the bank, that terminated the diving for that day. In fact, that was the only dive that year. Fortunately, we had the opportunity to go to the bank and get some information. So again, major disappointment, but it never hampered my enthusiasm. I was in there for the duration.

Sue Estey: Do you know when that was – that trip?

Don Dvorak: Oh, the 1978 or '79? '79 was – actually, I don't have it written down here. Yeah, I did have it written down somewhere, but it was in I think October. That was, of course, in the window of the best diving.

Jennifer Stock: So at this point you hadn't dove on Cordell yet?

Don Dvorak: No.

Sue Estey: Two years.

Jennifer Stock: So '78, you visited the Grand Canyon. Next year the anchor broke during that one dive.

Don Dvorak: Right. So during the time we were preparing – that was the first year – so '78 was the second year of the expedition they made their first dive, and then '79. So those three years, I was in preparation. But things turned around in 1980. During the first two years – or actually the first three years, we were working on our learning curve. We learned quite a bit in the first two years. We learned how to find the bank through our surveying.

We learned how to deploy the anchor so it would fall right where we wanted it to, learned how to deploy the transect line. So in 1980, we were really ready. We were higher up in that learning curve, and we perfected our techniques. And in 1980, I made three dives on Cordell Bank. So it was now a success for me. I was part of those people who had dove down in Cordell Bank, and I stayed with the expedition all the way to the end, and every year you learn more. You want to contribute more and improve your techniques.

I typically use two cameras. I use a camera with a close-up lens so you can look at an individual specimen or species. Then I would back off and use my little wider angle lens so I can look at that

species in the community. I thought that would be helpful in describing the bank. Bob Schmieder says, “Well, could you do some available light photography in Cordell Bank?” and I kinda scratched my head and said, “Well, I don’t know. It’s pretty dark down there.” Even though we could see our gauges and see the bank, I didn’t think it was bright enough to do available light.

So I added a third camera to my bracket, and at least it was without a strobe. And I found a film rated ASA 1600. It was a color print film, so I tried that, and I shot at 1/30 of a second at the widest opening. And surprisingly, I got good pictures. You could see, it’s more like a landscape picture. So I tried a little bit more diversity with the cameras. What was interesting is the different divers of the group – they all had their different techniques for photography.

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Sue Estey used the macro lens, and extension tube, so she could get right up on an individual and look at it. And Bill Kruse, with his two Nikonos cameras with 15mm lenses and these great big subsea strobes – I mean, that was a monster to manage underwater, and that was very impressive, and he’s responsible for gathering some of the very interesting wide angle pictures, especially the holes that we found – the mystery holes. He got a picture of Tom in there, and he took a self-portrait of himself in one of the holes.

But he also took some wonderful pictures that documented the divers deploying the transect lines. It was important not to just get the specimens, but to document the expedition and the people in it and how we did things. So he’s got some wonderful pictures there.

Dewey Livingston: Bob Schmieder in his interview said about a picture that you took of rosy rockfish – he said, “That’s an image that never goes away; it’s become a classic photo.” And do you agree with that, and where would you place your contribution in the photography of Cordell Bank?

Don Dvorak: Well, I feel fortunate that I had this opportunity to go to Cordell Bank, take pictures and eventually these pictures were used in publications and helped describe Cordell Bank. But that was one of my utmost interests. Here Cordell Bank is sitting out here 20 miles offshore, and it’s literally undescribed. Cordell dropped a lead line on the bank and using a special lead he collected samples, and they’re still preserved over in Washington, D.C. Dr. Hannah collected – did some grab samples of the sediment, and those are the only specimens from Cordell Bank.

It's sitting there undescribed. Can you imagine something so close undescribed? It's just a magnet; "Come out here and describe me!" And that was my motivation – my personal goal. And it was through photography. And there's three pictures that stand out in my mind. One is the rosy rockfish. I don't think I ever seen a rosy rockfish until I went to Cordell Bank. They typically live at 50 feet or below, and I don't recall seeing one in my other local diving, and it was used in one of the brochures for Cordell Bank.

That was a special satisfaction. And another picture is the white metridium with the starfish and the hydrocoral around it. To me, that typifies the Cordell Bank, although I only seen metridium once because it grows deeper. And it's, again, particularly gratifying that a Cordell Bank picture ended up as a cover picture on *Science News*. It further legitimizes our purpose for being a Cordell Bank. And also in the *Defender Magazine*, Sue Estey has a close-up picture of corynactis. Again, it just helps.

Dewey Livingston: Now, had you heard of Cordell Bank before you ran into Bob Schmieder?

Don Dvorak: No, I didn't. When he talked about Cordell Bank, I found a chart, and I found out where it was located, just off the coast, and the chart just shows a 20-fathom pinnacle, and that is all I knew about it. Later on, I found out, wow, it's undescribed.

Dewey Livingston: Sue, could you tell about your introduction to Cordell Bank and Bob Schmieder and the expedition?

Sue Estey: I first heard about the place when he came to the Underwater Photographic Society meeting and asked for assistance.

[00:55:00]

He said where it is, what it was and what they were doing, and asked for help, and that had to have been after the first trips out there, I think, because it must have been winter of '78 or '79. So I don't have any record of doing practice dives before a Cordell Bank trip. But in my dive log, I have notes from two different weekends in 1979 – one end of October and one mid-November. The first one, we went to Cordell, but my note says, "No diving." And I do remember spending hours on the back deck of whatever boat it was getting seasick over the side while they were going back and forth and mapping, because that's what we did.

We used the LORAN and the depth-sounder, and somebody would be writing down the numbers, and somebody would be reading off the two instruments, and we just went back and forth and back and

forth just methodically recording and finally understanding what it looked like in terms of the topography, because otherwise without that we really didn't know where the so-called "shallow spots" were. So October was probably doing that, but the November trip unfortunately was aborted because the skipper hadn't checked his fuel tanks, and we got to the Farallones and ran out of diesel and had to be towed back in to Fisherman's Wharf by the Coast Guard – on Sunday – and they called their relatives and got help to get fuel cans to get enough diesel to get it to the boat so we could actually take it back to its dock.

So that was kind of a loss. And then September 1980 was my first dive on Cordell Bank, and I was with Don and Harry Sherman, and I was a little anxious. We went down the descent line, and I did my best to get there as quick as I can. I could just see the bottom, and I felt like I was going to pass out. I was just like – starting to black out – and I thought, "You know what? You better not stay here if you're gonna black out because you could just keep on going down." And so I headed back for the surface, so I didn't have the time to tell my dive buddies. And they noticed I wasn't there pretty soon.

So that dive was not very useful for me or for them, but I did see – you could still see this incredible array of stuff, even just what little I could see. So it wasn't until 1982 that I did my first real dive and took pictures.

Dewey Livingston: Could you describe the feeling, the sensation of going down there and seeing it for the first time?

Sue Estey: You go down the line, and it takes a while to get far enough down to see the bottom, because it's probably 120 or 130 or 140 or 150 feet deep. So you're in the middle of the water column, and you just keep on going, believing, hopefully, that anchor [was in place] – at the beginning, I was not one of the first divers, so I was not the one to find it hanging loose in the water. By the time they put me in the water, they knew there was a bottom at the bottom of the line. But the pictures give you a clue that if you dressed in the brightest combination of red, orange, yellow, pink, you'd be in camouflage for Cordell Bank. It's really amazing.

I suppose we couldn't see these colors except for the corynactis that turned out to be fluorescing underwater. They were pink even in the blueness of deep water. But if you used your flash or a flashlight you could see the colors. Pretty amazing. And the visibility out there was way better than anything I'd ever experienced diving off the Sonoma Coast, which is where I

learned. There, if I was lucky, along coastal diving, I would hold my hand out in front of my face and see how far I could still see my hand, and if I was lucky to see my hand, I'd look and see if I could still see my feet. But at Cordell, the visibility was real good – tens of feet at least.

Dewey Livingston: On your first dive – and this would be the first one where you got to spend some time down there, which I think was '82 – did you feel like you had time to take it in, or did you keep busy with your photography instead of trying to get a sense of what it's like to be down there?

[01:00:00]

Sue Estey: The time on the bottom is maybe 15 minutes. It takes a while to get there. Then you try to get your camera set up to have the light work with where the lens is focusing, and there's so much to keep track of – you gotta keep track of the time, your depth, the film in the camera, working – so you get a kind of general impression, but you've gotta do so many things while you're down there, and you're down there for such a short time that it's hard to – I saw the color, and I could see that there were sponges and things, but you don't have time to linger on and enjoy the view really.

Dewey Livingston: Don, what was your impression after first facing this incredible place?

Don Dvorak: Well, I have to start with before we get to the bank. We're on a long trip coming out of Drake's Bay or –

Sue Estey: Or Oakland – Alameda.

Don Dvorak: Right – and you just have a lot of time to just think about it, and it's not much to do, and it's interesting, but kind of boring.

Sue Estey: But lots of time to worry, too.

Don Dvorak: Worry, yes.

Sue Estey: Yeah – who knows what the conditions gonna be like? Am I gonna be seasick? How cold is it gonna be? Will I get to the bottom and the top alive?

Don Dvorak: Yes, yes.

Sue Estey: I mean, there were years where I just said, "This is crazy. I'm not going."

Don Dvorak:

Well, I didn't feel quite crazy, but it always was on the back of my mind that it's dangerous. But if we cruise out, we're on the bank, the weather looks good, we find a place to dive, we deploy the descent line, and Bob says, "All right, suit up. We're diving," and it takes a while to get your gear ready and get your camera. But all the time you're thinking, "I'm gonna be diving deep. Is there gonna be a current?" and you kind of get little butterflies in your stomach.

That's not to say I didn't want to go. I wanted to go, but there's always that feeling. You're in a foreign environment, and when I was down there I never felt as if I belonged there. I'm going to have to leave. I'm in a serious situation. But after you get your equipment ready, you get your gear on, and they say, "Okay, jump off the boat. Get in the water. Go," all those feelings went away. Now, my focus is on the task at hand. One is to get down the line and start my picture-taking.

Safety was always, always stressed. I've been on three dives where the dive was never completed. If somebody felt they didn't want to be there any longer, that's the most important thing. We terminated the dive, and that's fine. That is the most important thing.

I'm on the descent line, and Bob says, "Go down slowly. Do not rush down there. Let yourself get used to the depth and get used to the narcosis." We all knew we were gonna be under the effects of narcosis. You get to the bottom, take a moment to look at your dive buddies, see if they're doing okay, get acclimated to the bottom, gather your thoughts and then go about your business.

And that technique worked. When I was down on the bottom, I knew I was under the effects of narcosis. The first effect is tunnel vision, and because we had trained so much, he wanted to monitor your depth, he wanted to monitor your time and your air, so I would find myself doing this like every 30 seconds, looking at my gauges, looking at my depth, looking at my time. That's what my mind was programmed to do, but I continued on taking my pictures. And when I was down there, I also got this feeling – there's a little bit of current flowing over the bank.

It's manageable, and I do not want to follow the current flowing over the bank down into the abyss. That's in the back of your mind, but was really not a serious thing.

[01:05:00]

It's just what your mind does to you when you're under the narcosis. And I remember the bank just burst forth with all this color. There's the yellow, the oranges, the purples, the reds, and that's what I'm seeing. But that's not what is there. You lose all your reds, but my mind under the narcosis puts those back, and those colors might just jump out at you for a fraction of a second when your flash goes off. So I think your mind retains that. But it's just amazing to see the abundance, because it was just such a competition for a little niche where I can build a house and grow, and you'll just see the tunicates surrounding the hydrocoral and just taking over the neighborhood.

It's just very expensive real estate, essentially. But that's one of the pictures in my mind there. And again, it's just the safety that's the most important thing. And after your dive is completed, after 15 minutes, you just go up slowly, and the narcosis goes away. And depending on your depth, you might stop at 30 feet. We always over-decompressed. You never can go wrong by over-decompressing – 20, 30 and 10. And at 10 feet, I'm hanging off there, there's no more narcosis. Now I'm aware of how cold it is. When you're under the narcosis you don't feel the cold.

I'm hanging on the T-bar and just kind of shivering and trying to feel my fingers to see if they're still there – the numbness – and you try to take your mind off that. You might look out for any drifters, plankton or *mola molas* drifting by, or you might play paper, stone, scissors with your dive buddy, but there was always somebody topside there looking after you. There was always a safety person. And when we were on the decom, they would come down and grab our gear and just kind of look at us, make sure our pupils were okay or something – but you know, they were just there for our safety.

And finally, you got back onboard, and you have a chance to think about just what happened. It was difficult for me, because I got these terrible headaches from deep diving, I guess from the excess carbon dioxide. They would last for a couple of hours. I said, "Bob, I don't think I'm gonna dive tomorrow," and then in a couple hours, "Bob, okay, I'll dive tomorrow." But the whole back of the boat was just filled with enthusiasm. People would just say, "How did it go? Give me a description. Debrief. Let's look at your samples. Let's put them into the formalin, and let's separate them."

But I'd like to talk a little bit about the people – the divers. Now, we're on a boat full of divers, full of gear, and a lot of the people were somewhat new to us. But never do I remember any real

conflicts. We were all just had the one point of view of what we needed to do. And it was a fun group.

Everybody was interesting. They all had their different backgrounds and different specialties. Tom Santilena and Bill Kruse were very valuable to the expedition. Tom – one of his primary functions was to set down the transect line. He was typically the first diver down with Bill, and they're the ones that set out the transect line that was our breadcrumbs back to the ascent line so we could follow that out and move off a little bit and come back to it, but we knew where to get back. So those were two very important divers.

And the Sacto team – these guys were just incredible. They were fun divers. They had a real sense of humor. I enjoyed working with them.

[01:10:00]

I remember on one occasion, Bob asked one of the Sacto divers to put a strobe light on the descent line. We'd developed a technique that we would put strobe lights 10 feet, 20 feet on the descent line off the bottom, so this was a beacon telling us where to get back if we lost our orientation. So okay, Sacto diver went down and put a strobe light on there, but these guys have a real sense of humor. At that time, there was a beer called Stroh's Light. You may have heard this story. So he took a beer can and tied it to the anchor line and said, "Bob, there's your Stroh Light."

In fact, me with my little bit of sense of humor a few days later when we had a meeting at Bob's, I went and got one of these little cans of Stroh's Light, and I put a little plastic cover on top of it, put it on a nice little wooden platform, and put a bulb in it that blinked on and off and said, "Bob, this is a symbol of your expert means of communicating with your people."

Another thing the Sacto team did – on one of the dives, they were one of the earlier teams down, and they came up, and my time was to go down. I'm going down the descent line. Let me talk about the descent line. You jump in the water – you're on the surface, and you see the main vessel, you see the zodiac, you see the safety divers; that's the security blanket. And you start down the descent line, and then you find yourself like it's the loneliest person in the world. You do not have contact with the top, and you don't see the bottom. You're sort of in this in-between zone, and it's kind of a lonely feeling to me.

But you slowly make your way down, and you can see some of the brighter spots kind of come into view. Now I see where my goal is, and the closer in then you see all the corynactis and the bright colors. But going down that descent line it's kind of a lonely feeling for just a minute or two. Back to the Sacto team – I had mentioned they were one of the earlier teams down that day, and I followed them, and I was going down. I see a white spot, different from the other white patches I'd seen previously. And I get closer and closer and closer, and I can see it's about two and a half – three feet wide and about two feet high, and it's the sign.

The Sacto team had wrote on a piece of cloth – a paper – that says, “Welcome to Cordell Bank. We hope you enjoy your stay. Compliments of the Sacto team.” And of course, I had to take a picture of that. So these are the kind of people we worked with. There was just so much compatibility – so much brotherhood, if you will, sisterhood, too. We just were a cohesive group. And you had to be. You're on a small vessel with a lot of people onboard and just prior to your dive there's just gear adrift everywhere.

And you couldn't walk around but bump into a person or stepping over a piece of gear, but that was okay. We were a group. We had a task, and it was just absolute joy working with the Sacto team and other members of the expedition.

Dewey Livingston: Was there any sense of friendly competition amongst the photographers or the people doing various tasks? Is that a question I can ask?

Don Dvorak: Oh, yes – in Bill Kruse's interview, we talked about who could have the most cameras on a bracket. I think I won that with three cameras. It wasn't so much a competition. It was just a means to bring back more information.

[01:15:00]

So I had three cameras, so I won that – but I think Bill had the most impressive camera setup with those two 15mm lenses – these great big strobes. How he managed that underwater, I don't know. But he was a real asset to the expedition.

Jennifer Stock: Sue, how about for you. Were you one of the only women that dove on Cordell Bank?

Sue Estey: I think there maybe were three women or four – Susan Dinsmore, there was the nurse whose name I don't remember. I don't think I was ever out with her.

- Don Dvorak:* Yes, and there was another one – there were three other ladies besides yourself.
- Sue Estey:* At different times –
- Don Dvorak:* Yes, and I dealt with at least three of the ladies. Lori Talbot.
- Sue Estey:* Yes.
- Jennifer Stock:* But you were the main one that stuck with the expedition.
- Sue Estey:* I lasted longer, but Susan Dinsmore brought more equipment. She had her own inflatable boat that we took out sometimes.
- Dewey Livingston:* So it wasn't a rarity having women divers taking on such an intense expedition.
- Sue Estey:* I think it was rare – I mean, against how many men who were out there – it was rare.
- Jennifer Stock:* How was that for you?
- Sue Estey:* I liked it. Plus, I didn't have to drag the doubles back up to the compressor to fill them. You know, there were certain perks to being probably the weakest in terms of strength.
- Dewey Livingston:* Something I'd like to ask, similar to Don talking: on your first dive, what was it like for you coming back up and getting back on the boat and the feel of, wow, you've just been down there? Is there anything that comes to mind about that?
- Sue Estey:* You mean my first aborted dive or my first real successful dive?
- Dewey Livingston:* Well, both, but I guess I'm leaning towards the first successful dive.
- Sue Estey:* Well, the whole project for me was – when I wasn't too scared to go at all – pretty exciting. And being able to take pictures and contribute information to the treasure trove we were compiling, really, I was very proud of being able to do that. The camaraderie on the trips was really good, and it felt good having people take care of us. I mean, Bob would set up a list each time of the dive teams – who would be going first, second, third, and who they would be with – and so that was a good way to start.
- You knew where you stood and what order you were hoping to get in, assuming the first dive went well, and sometimes it did. And having to dive with twin tanks – it's a challenge managing that,
-

and especially you're out on the open ocean, and it can be kind of rough. So there was always people helping get dressed. I remember sitting on the rail of the boat and people would come and bring your tanks, and somebody else would help you get into them while they were steadying them so the tanks didn't go overboard before you did. And there were always people in the inflatable zodiac, so we would go in off the main boat, hopefully close to the zodiac.

The zodiac was at the descent line, so once you got there we could go down the line from there. And when we came back up, as Don said, there would be people to meet us at the ten-foot level, come down and get our cameras, people to haul your equipment into the zodiac when you were done and bring you back to the mother ship and help you get back on board. So we all did a lot of helping each other. That was really good.

Dewey Livingston: It must've been some feeling to come up from your first dive and having seen what you've seen and –

Sue Estey: Yes, you try to tell them what you saw.

[01:20:01]

That was part of the deal was to debrief and, "This is what it looked like," and if you were any good at all, this is kind of the topography and the shape of things, and some people were way better at that than others.

Jennifer Stock: I can imagine that coming back to the surface and seeing everybody again, there's just this adrenaline running in your body and your mind, and did you feel like you just had to tell somebody immediately about what you were feeling or the excitement?

Sue Estey: Yes, yes, yes – you definitely started talking when you got up.

Don Dvorak: One thing that was important to me about Cordell Bank was, this wasn't just a thrill dive. We weren't thrill seekers. We weren't going down to get a narcosis high. We were there to conduct some scientific research, and like Sue and myself, we had some background as technicians or scientists that when you go somewhere and you make observations, you need to write all this information down, or if you collect something, all these samples and specimens need to go somewhere.

I knew the importance of documenting this, and Bob stressed the importance of it, because this was not just a fun dive. This was for

“real science,” and that was one of the most important things to me.

Dewey Livingston: What did you tell people that you knew – family, whatever – when you came back? I assume it was a big deal. “I just went and did this.” What did you tell your friends and associates?

Sue Estey: “I cheated death again.”

[Laughter]

Sue Estey: I don’t remember really.

Don Dvorak: Well, I was rather proud that I was part of this group. I stress the importance of going to Cordell Bank and doing something that few or no people have ever done. And I was doing it under serious conditions. But there were several, several gratifying moments about the expedition, but one of the most gratifying was I was at work, and my boss, the founder of the company I worked for, came in with this *Science News Magazine* – he subscribes to it – and he says, “Cordell Bank – you’ve been there. You do that.” I says, “Yes, that’s my picture!” That was very gratifying.

Dewey Livingston: Is there anything else that we might be leaving out about your first dives? We still haven’t talked very much about the subsequent dives, but you talked a bit about the preparation and the description of your first dive and your impressions. Were you also collecting specimens? You seemed to indicate that you did, but were you totally focused on photography?

Don Dvorak: For me, my main objective was photography, but I felt that I wanted to grab something and bring it back just to have that experience of bringing a sample back. But of course, my job was to photograph.

Sue Estey: And I felt that the job was really to use up all the film that I had. So you had 15 minutes to take 36 pictures.

Dewey Livingston: As you approached the photography being down there, and you didn’t have much time, did you try to have a plan in mind of what you were gonna photograph, or were you spontaneous? What was your approach?

Sue Estey: What I remember is the transect would be there, and I’d swim along the transect line and take pictures along that. That was really the plan, to have some kind of known track.

Don Dvorak: For me, it was mostly random. It's hard to plan a dive when you don't know what is there.

[01:25:00]

So I didn't say, "I'm gonna start high and work low or low and work high." I just looked at some of the marine organisms that may be of interest, and you just run along the transect line, or I'd just move off of it a little bit if I saw something interesting. But besides the live organism marine mass, I also made it a point to photograph the sand deposits. I always think of sand deposits as little pieces of gravel and rock, but these are all organic. They're pieces of dead things that have fallen off, and you see chitons.

You see the hydrocoral, the spicules, spine – some urchins. I made a point to photograph that. And also I noticed what organisms were grazing on the sediment or shell pile. And of course, that's a history right there. And the expedition made a point to bring back. You can develop a species list from dead organisms – their tests and shells and spicules.

Sue Estey: And plus, there's things that live in that sediment, too, that you never see.

Don Dvorak: Oh, yes!

Jennifer Stock: What type of things did you see living in the sediment?

Sue Estey: I didn't see it, but when you bring it back up and look with a microscope, you can start to find things – sand on beaches has things living in it; same underwater.

Don Dvorak: There might even be forams in there, which we don't see, of course. But I did see starfish grazing and little gobies grazing. That might be a nice area where the detritus falls into and the grazers will come in.

Dewey Livingston: Did you shoot any movie film, or was that all left up to others?

Sue Estey: I did not.

Don Dvorak: No, mine was primary still.

Dewey Livingston: Quick question about recordkeeping: after these dives, would each of you, Don and Sue, write something up either for Dr. Schmieder or for your own reasons? Was there a certain amount of recordkeeping that was required of you, for instance?

Sue Estey: We wrote things down, and we also told them what we said. I think sometimes they had a tape recorder. So I was looking in my dive logs, and they're pathetic. I think I had filled it in later from the pictures I take, so I would go back and say, "Okay" – I've got like a two layer – I've got a Cordell Bank and what day it was and – I numbered my rolls of film, I think, so I would put that down. But my dive log has really no useful information. I must have just written it and spoken it on the expeditions themselves and turned in my pictures.

Don Dvorak: It was very important that we documented our dive. This was one of Bob's rules. I'll be melodramatic – Bob says, "If you don't write it down, it didn't happen," which is true. I mean, if it's not written down and preserved somewhere, who's gonna know. But when we returned to the boat after our dive – the main vessel, he required us to draw a little map of what we saw and the area we dove.

[01:30:00]

Sue Estey: And I wonder how many of those maps agreed with each other?

[Laughter]

Don Dvorak: Right – there's so many interpretations. There were some people that were really good at sketching, and I wasn't one of those people, but I did the best I could. And you either wrote down what you did, saw; or you would speak into a recorder, and somebody had the task of transcribing all of that. It was a lot of dialogue. But besides the marine ecology there, he wanted to know about us – how we felt. Again, we're concerned about safety.

Did you manage your depth well? Did you manage your air well? Did you manage narcosis well? What was your starting tank pressure? What was your ending tank pressure? What's the length of your dive? Those are all important, but not particularly scientifically important. But it was to maintain the safety of the expedition.

Dewey Livingston: You indicated you turned your photos in to Bob, so the photos belong to the expedition rather than to yourselves, or did you have access to your photos? How did that work?

Sue Estey: I think that I may have my original pictures, because there was a big project to make slide duplicates to be used in slideshows and for records.

Don Dvorak: Yes, Bob took all of our originals, and he made duplicates, and he returned the originals to us. So most of the divers retained the originals, which made be bad in some sense because we had the originals, and someday I'll have to figure out what to do with those, and all the pictures and slides and negatives that were scanned, they were scanned from a dupe, which is of course not the best resolution. So someday, I would like to figure out how I can transfer my originals to somebody that can really use them and be useful, because my relatives when I'm gone won't know what to do with them.

Sue Estey: They'll know exactly what to do with them.

Don Dvorak: Oh, yeah, heaven forbid – they'll wind up in the garbage can. And that'd be a shame, wouldn't it? I need to figure out how to distribute those somewhere, either the Sanctuary or the Cal Academy would be interested in those?

Jennifer Stock: Definitely.

Don Dvorak: Yes – but Bob was meticulous. He numbered every slide. So you could take that picture with that number and correlate to a date and a time and a place where that picture was taken. Again, that is the importance of documentation. He was very meticulous about this.

Dewey Livingston: I'm a photographer to some extent and a great believer in the original image and the original piece of film, so to me that's a really important point that if Cal Academy has been scanning a lot of slides, well they should really be scanning the originals. Especially in those days, the reproduction of a slide was not of the highest quality unless you went to the real high-end places.

Don Dvorak: And the other important thing is the longer we retain these slides, they're gonna slowly deteriorate. They'll start losing some of their saturation and color.

Dewey Livingston: So we'll take a break, and I'll turn these off.

[End of morning interview]

[Begin afternoon interview]

Dewey Livingston: It is afternoon now on March 9th, talking with Sue Estey and Don and Elaine Dvorak. We'd like to continue and ask about the practice dives that you made as part of this expedition series: what was required of you, where did you go, things like that.

Don Dvorak: As part of preparing to dive on Cordell Bank, we needed to do practice dives. They could be done on your own or it could be done as a group. One of the first dives I remember was not at the ocean but it was at Marine World Africa USA in Belmont. We got to dive and went into the tanks with the fish. We would swim around in the tank and we would look out at the people looking at us. But that was a real treat. I don't think I could have done it any other way except through the expedition to dive in their tanks.

But we were trying out new equipment. We didn't need to do deep dives for new equipment; we were trying out communications underwater, what they called hydrophones between divers and the surface. At that time the technology was very new. We needed to trail about a six-foot wire behind us that was on a buoy, a little flotation device. And the systems worked but it was very cumbersome with this thing trailing behind you. It was more overhead to where you need special masks with the microphone in the regulator. So we determined that wasn't a good option to dive on Cordell Bank.

And other places we'd practice at were Monastery. I think two months earlier they dove in Monastery. The interesting thing about Monastery is it's a beach dive, and of course we don't do beach dives to get to Cordell Bank. It's a long swim for one thing, but it gives us the opportunity to evaluate the divers that want to be part of the expedition. You can see how well they can operate with their twin tanks and octopus regulator. You have to have a certain amount of strength and be able to handle this equipment. And it's even a little more complicated on sand. And we did see that some people's enthusiasm was a little higher than their ability and this is what we need to know. We just had to politely say, "I'm sorry, this don't quite meet our requirements."

We also dove the Farallon Islands. If I knew then what I know about the Farallones now I might have opted out. I didn't realize it was the place where the seals pulled out during breeding season, a lot of little pups around. And that's shark food, and I could be mistaken for shark food. However I don't remember the date of the dive so we might have been diving there off season. We had the opportunity to dive there and collect samples, I think we had a

permit to collect samples. And of particular interest to me – was that the North Farallones where the caves were?

Sue Estey: My dive log has May 1990, North Farallones, so it was well after all the Cordell Bank dives I'd done.

Don Dvorak: I see. I do remember diving there and we found a horizontal cave. It was shallow, maybe about six feet, eight feet or ten feet, but we all explored, went in there. And as you went in it got narrower and narrower. But what was unusual is, when you went in there and the further back you get the louder the surf noise became. And it became so loud that it was uncomfortable on your ears,

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at least on this dive. So I never ventured too far back because it was just too uncomfortable. But there is an anemone, a large anemone. I think it's called anthopleura, it's an anemone that often lives in sand or hard substrate and it could be six to twelve inches across. And they're intertidal, in shallow water. They do get a lot of sunlight and they are green from the algae that grows in the tentacles. I was so used to seeing anthopleura as green; in the caves I saw an anemone I haven't seen before, same size as anthopleura but the tentacles were almost clear luminescent and they were white with a little purple on it and I says, "Wow, what a pretty anemone." I did manage to take pictures of it, says, "I've seen something new."

Later on I found out it is anthopleura but since there is no sunlight the algae doesn't grow in it so it keeps that whitish clear picture to it. That was an interesting part of diving the Farallones, besides the potential of the sharks, which I didn't know about.

Dewey Livingston: Sue, did you have anything to say about practice dives?

Sue Estey: First about the Farallones. I remember going in and it looked like that was an arch, just an arched rock kind of thing and I went to swim through that, but then I saw light kind of in a different direction so I went that way towards the light. I was turned around, I did not really understand at first that there were the arch and this tunnel, but I saw the light, I went to the light, figuring I was going out, and I got further in and it got rougher, kind of more surge and gooseneck barnacles were growing towards the other end, and then this gray shape kind of suddenly appeared out of the green water and, oh my God. But I was quite relieved to discover it was really a seal, not a great white shark. Once I got to the far end and realized I'm ____ towards the open ocean because there was a lot more movement in the water I turned around, went out

back the other way. But I have pictures of those white and pink anemones too, and it's pretty neat.

But practice dives, the ones that I remember mostly they were aimed at getting deep but close to shore so we could get assistance if we needed it. So there would be, either at Monastery or Point Lobos where the marine canyon, the Monterey Canyon comes in close so you can get deep pretty quickly. A good way to remind yourself what narcosis feels like and still be able to get back to dry land pretty fast.

But there was also one, I think Lee Tepley had like a tripod, a camera. The idea was to put a tripod down and take time lapse pictures at Cordell Bank. So we were trying it out I think at the Monterey Breakwater, so that was a more shallow practice dive, trying out equipment. I don't think we every used it.

Don Dvorak:

Right. There was quite a bit of trying out new equipment. What Sue is referring to is Dr. Lee Tepley. He's kind of a pioneer in underwater filming. He developed an A-frame, two A-frames connected by horizontal bars. On those bars he mounts a time-lapse camera. In those days things weren't miniature; they were big. And it took one Zodiac to haul this apparatus out off of the breakwater, and we deployed it in shallow water, 30 to 40 feet. I think it operated but just the logistics of moving it was not feasible to take it to Cordell Bank.

So that's one thing we proved that we could not use. And there were other ideas we had in the beginning.

Sue Estey:

Bang sticks, remember those?

Don Dvorak:

Well, we thought of everything possible for every scenario that might happen. But again, there was the concern of sharks. So one of the techniques that we thought of to keep the sharks away

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is to carry shark bellies, just a three or four-foot conduit with a lanyard on it and the other end maybe a little sharp point, or not too sharp. The idea was if a shark came up to you and was a little too curious you can push him away. But most likely if you saw a shark it was too late, if he was interested in you. We carried those in the beginning and decided not a good idea – too much overhead.

Another safety feature that we thought in the beginning would be good to have is each diver would carry, in a waterproof container, maybe PVC, taped to the back of his doubles would be a marine

safety smoke flare, or what they called a flare or smoke. If you came up and you were downstream and it was foggy well you'd have some means of attracting attention. But again it was too much overhead and it wasn't worth carrying. We also learned that we wouldn't be diving in such situations, or we would minimize the chance of losing a diver downstream.

We also experimented with construction helmets with the lamps on top so we could see our way around. But we learned the ambient light was bright enough you didn't need any artificial light, so we did away with those. So we gradually determined what was good and what was not and just minimized the amount of equipment or effort needed to prepare for our dive.

Dewey Livingston: Were the practice dives required by Dr. Schmieder?

Sue Estey: I think so, yeah.

Don Dvorak: Yes, they were absolutely required. In the beginning we dove as a group on practice dives, whether it was a shallow one or Monastery. Every diver had to go deep to experience the effects of narcosis and to learn how to deal with it. As the expedition moved on and we got to some core members it was up to the members to do their own practice dives. Often we would go out to Monastery or Point Lobos – outside of Point Lobos you can get quite deep and 150 feet was quite easy outside of Point Lobos. I did a couple practice dives there but usually Bob required two deep dives, except for maybe the Sacto team.

Sue Estey: They needed five, right?

Don Dvorak: Yeah, we weren't sure about them. *[Laughter]* But the Sacto team people mostly operated out of dive shops. Some were instructors so they were very, very competent people.

Jennifer Stock: Since you both dove in many places in California I'm curious if you saw any habitats that are like Cordell Bank. At any places you may have dove, either Sonoma Coast or Monastery but, is there anything that's similar to what you saw at Cordell Bank?

Susan Estey: I think that the Pinnacles off of Carmel are a little bit like it. They're not quite as luxuriant but they're more in the ocean water and away from a river mouth so it's more clear and you've got more hydrocoral in it, that kind of thing. Maybe Farnsworth Bank down by Catalina but not along the shores of Sonoma for sure.

- Jennifer Stock:* How deep are those Pinnacles off of Carmel?
- Sue Estey:* I think they come within maybe 30 or 40 feet of the surface and drop down to 100 or more, so not really the same but they have some similar communities.
- Don Dvorak:* Cordell Bank, sitting right there on the edge of the Continental Shelf, is just washed with nutrient rich water, it is a special place and I think it'd be very very hard to find a place like it.
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- As Sue mentioned the Pinnacles is a place where you see a lot of hydrocoral.
- Sue Estey:* And that's fairly close to the Monterey Trench too, so it's got deep water nearby.
- Don Dvorak:* Sure, you might get the upwelling. Another place is Point Sur pinnacle. It's quite deep and it's offshore. It differs a little bit from Cordell Bank that the pinnacle there has I think more hydrocoral and more branching hydrocoral there. It's almost as if the water was a little clearer but I'm not sure of that. And Sue mentioned Farnsworth Bank off of Santa Catalina; that bank is fairly deep, maybe 110 feet I think. But that was my first introduction to pinnacle diving and it did have quite a bit of hydrocoral. But nothing can compare to Cordell Bank.
- Dewey Livingston:* Did you observe damage from fishing or dumping at Cordell Bank?
- Don Dvorak:* The only thing that suggested that fishing was conducted out there I might find a lead weight. I think I did see a lead weight, I may have photographed it. As far as broken items that might be what we did collecting. I didn't see mass damage, like somebody trawled across it, or I didn't see any nets on the bank, but there were a few pieces of broken hydrocoral and that could have been our collateral damage.
- Dewey Livingston:* I'll talk a little about photography. Sue, could you start by telling me a little more about your approach to photography down there, getting prepared, the kind of equipment you used and what you might have learned through the various dives? And I'll be asking you the same thing, Don.
- Sue Estey:* My equipment was about as simple as it could possibly be. I had a Nikonos II camera and this is no electronics, just O-rings to keep the insides dry most of the time. I think I used Kodachrome most
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of the time for film. I had an oceanic strobe, big blue thing like that to replace the strobes that when I bought the used camera it came with a little flash, Plexiglas box and it occasionally flashed whether or not I wanted it to, usually not when I wanted it to.

But the oceanic strobe I remember kind of cringing at the cost of it. But it was like, "Well, there's no other way I'm going to get the pictures." And a lot of what I did was macro pictures with extension tubes and a framer, or sometimes I went down with – I found some notes of going down with a 28 millimeter lens instead. But usually more macro photography is what I did.

Dewey Livingston: With the extension tube you're setting that up of course before you go down so you know –

Sue Estey: You pick what you're going to do. It could be only like an inch or two across possibly. Some of them were bigger; I would have to look at the photographs I got to figure out which ones I was using.

Dewey Livingston: So it wasn't adjustable much beyond just maybe an inch or so worth of depth of field?

Sue Estey: No not an inch.

Dewey Livingston: Not even an inch?

Sue Estey: I don't think so.

Dewey Livingston: So you were really down there, looking through a microscope?

Sue Estey: Nose to the ground, yes.

Dewey Livingston: Do you think that was more taxing than if you were just taking pictures from three, five feet away?

Sue Estey: Not really, you just see different things. And for me one of the things I loved about taking macro pictures is, you come home and get the slides developed and project them, then you see all these things that you couldn't see at all because they were really tiny. But they show up when you blow the pictures up like that. I really liked that aspect of it.

Dewey Livingston: Would you define that as your specialty within the team that you took the macro pictures?

Sue Estey: I guess I'd probably have to say that, yes. Other people did too, I'm sure, but that's most of what I took, and the topside pictures.

Dewey Livingston: Then tell me about the topside pictures?

Sue Estey: Well I took a lot of pictures on the boat, of people and what we were doing and the compressor

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and dumping people in the water and the Zodiac, throwing over the anchor. We had anchors but – who made those? They were rebar welded together, right? It wasn't like a regular bought anchor but they were made so that they could grab onto something on the bottom. So then if we did lose one it wasn't a huge expense.

Don Dvorak: Could I respond to that? In the early expeditions we noted that the anchor dragged off the top of the pinnacle. And this became a problem. So Bob came to me and said, "Would you make an anchor that would catch and hold on the pinnacle?" We brainstormed a little bit, thought about it. We thought we would make one out of rebar.

So I went to a friend of mine who's very good at arc welding and he had an oxyacetylene torch. We went to him and talked about welding up something. So he came up with an idea of finding a pipe about 2-1/2 to 3 feet long, about four inches in diameter. Then we would bend rebar in kind of a grappling hook shape.

I went down to a local scrap metal yard and I found the pipe I needed and I just went to the local hardware store and bought some rebar. So we took one piece of rebar and formed a shape that we thought would be appropriate, kind of a J shape. We used that for a pattern to make four more. And we welded those four to the pipe on one end and then we welded another hook-like attachment to the other end so we can attach a clip to it.

It turned out that worked very, very well. We used that type of anchor, maybe the same one through all the rest of the expeditions. Again, that's part of the evolution and developing equipment for your needs. I still have one rebar template I keep for a keepsake.

Dewey Livingston: Sue, did your Nikonos have an automatic exposure system or you're dealing with just setting your strobe – how did you deal with exposure?

Sue Estey: That Nikonos model has nothing automatic about it, period. It doesn't even advance the film an equal amount each time. So

frames are sort of randomly spaced. But when you're doing macro photography once you get an exposure that works it has to do with how far the strobe is from the subject basically and what F stop you'd pick. Usually you pick a high F stop for the best depth of field, it's still going to be pretty shallow and the strobe blasts away and you get it balanced right you get decent pictures. So that's what it was.

Dewey Livingston: Did you do practice photography just like you did practice dives?

Sue Estey: I took pictures usually when I went diving so I guess you could say that.

Dewey Livingston: So you already felt confident?

Sue Estey: No, not necessarily but more often than not something came out.

Jennifer Stock: What percentage do you think were photos that were good? Bad question for someone who spent money on this film.

Sue Estey: So one good thing about these expeditions was that it didn't have to be a lovely composition, it was really just documenting what's there. So you'd go down and you'd take pictures and you get an idea of what's there. So if it happens to be attractive looking as well that's a bonus but really it wasn't about composition, from my point of view anyway.

Jennifer Stock: Did you realize at the time the value of the photos and specimens in terms of what those would mean in the long run when you were doing the diving?

Sue Estey: When you think about taking it as a place that we were exploring that had not, except maybe the Navy, been explored before, absolutely. The photographs in particular, since each of us was down there each dive maybe 15 minutes maybe, and busy looking at gauges and cameras and buddies and line and

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depth – there's a lot of stuff going on. So the photographs really afforded us a view of what it actually looked like when you could just look at the pictures and not have to look at all that other stuff at the same time, so really valuable. And the photographs were good also because they show the animals down there in situ where they live and then you can take the specimens and kind of fit them into where you must have seen them because there it is in the picture. So it was a really good combination.

- Jennifer Stock:* After diving and you had your film developed would the team gather together to see these images all together on a big screen?
- Sue Estey:* We must have done.
- Don Dvorak:* I think we had follow-up parties for the end of the year's expedition. We'd show our pictures and tell our sea stories, of course.
- Sue Estey:* And of course we had sessions for making dupes of the slides.
- Dewey Livingston:* Do you know where the film was sent for making dupes, to Kodak or a specialty lab?
- Sue Estey:* No we did it ourselves.
- Dewey Livingston:* Oh you made the dupes yourselves, copy cameras?
- Sue Estey:* That's why I remember – Bill Kruse was involved, I'm pretty sure.
- Don Dvorak:* I don't remember specifically who did the dupes; I thought Bob might have done some towards the end. But then we might have done it earlier.
- Dewey Livingston:* Sue one more thing: on the topside you were taking photographs and those were duplicated too?
- Sue Estey:* Not so much.
- Dewey Livingston:* So those are your own photos? Did you use a different camera up above?
- Sue Estey:* Absolutely. I think at the time I had a Fuji camera, regular SLR.
- Dewey Livingston:* Is there anything else you have to comment about your photography, specific whether technical or aesthetic?
- Sue Estey:* Well in many ways I felt personally that the topside pictures were more interesting than the bottomside pictures, but that's partly because I thought the way the team worked together was really amazing. So getting that into a camera really meant something to me.
- Dewey Livingston:* Don, how about you go through this similar idea of how you approached photography technically, and as an artist too I think – to me a photographer is an artist as well.
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Don Dvorak: Prior to Cordell Bank I was very much involved in underwater photography. That was my main major reason for diving was just to capture the beautiful images on your California coast. People say, "It's cold there, why do you go diving?" But a lot of people don't realize how pretty it is in our waters. The amount of color is just fascinating. And you can take pictures of things that don't move; you don't have to go chasing a fish tail to get a picture. You get a beautiful picture of a nudibranch, something that small, or you can take a picture of kelp fronds. You can work with composition on something like that.

So I already had pretty good knowledge of underwater photography so I thought that would lend itself real well with the objectives of the expedition. Before the expedition I was using a two-camera bracket. Again, you can shoot up thirty-six pictures in first five minutes if you're fast. But also I wanted two different lenses so I can capture and get a different size. I started with the macro, too, like Sue used and then a close-up, but for the expedition I changed to the close-up to kind of a landscape setup. But again, as Sue was expressing, you have to have everything preset. You have to know what's the right exposure for the distance you're going to shoot. And you just stay at that distance. You don't change that distance. That's going to change your exposure if you do. And everything is preset because the narcosis is just going to make you forget things or turn the dial wrong. So that worked out very, very well for us.

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Sue Estey: What kind of film were you using?

Don Dvorak: Yes, thank you. I used Kodachrome 64. That was a very good film for the grain size. 64 is not a very high speed film so that was pretty good. And when you're using slide film you've got to be very precise on your exposure; there's very little latitude, not like print film. And it's much easier to view slides than it is prints, and it's easier to make duplicates. Later on I added the third camera, as Bob suggested, to do landscape pictures. Three cameras and two flashes, wasn't too bad to handle.

Dewey Livingston: I was going to ask about the three cameras – would you tend to shoot off all the film in one camera and then go to the next or if you were interspersed between them? How would you keep track of number of exposures, or did you need to even worry about that? You had a limited amount of time.

Don Dvorak: At that depth on the Nikonos you didn't try to count your frames; you just looked at something interesting and you took its picture and you moved on to the next one. There's no time just to sit there and think about it, "How do I want to hold my camera, up or down? Do I want to do portrait?" Just go up, click, back off, put the other camera, click, and move on to the next subject. If you see something interesting you go over there and take the picture.

So there was not an organized sequence; you just went there, looked and took the picture as you thought was interesting.

Another reason for turning to three cameras: there's always a chance that you will flood a camera, and it has happened. So if you flood a camera you still have something to bring back. And yes, I have flooded cameras and it got to be kind of a joke amongst them, "Oh there goes Dvorak, I don't know how many cameras is he gonna flood today?" But that was important to have backups, so to speak.

Dewey Livingston: How do you flood a camera? Isn't it the camera's deal or did you not seal it correctly? What would be the issue there?

Don Dvorak: Well you had to be very careful when you assemble a camera, you properly grease the O-rings and you've got to make sure there's not a little bit of dust, or perhaps an O-ring can be worn out. Just can't be sloppy; you've got to take your time. But again, on the boat, moving up and down you're a little fatigued and you might miss a little bit of grease there or something. But for the most part the three cameras worked out very nicely.

Dewey Livingston: Nikonos, that's an underwater camera, right? So you're not talking about having it in a plexi box or anything. So even on those commercial cameras you had to maintain them that way, the O-rings and things?

Don Dvorak: Right. And as Sue said, these are strictly manually operated cameras. You have to choose the F-stop; the camera doesn't choose it for you. And you have to set the shutter speed, which is pretty simple. Usually 1/60th of a second.

Sue Estey: And take the lens cap off, Don. Remember that?

Don Dvorak: You didn't have to mention that, Sue. This was on Easter Island, the best dive ever. And I went through the whole dive, "Oh wonderful picture, wonderful picture, wonderful picture. This is

going to be great.” I got back on the inflatable and the lens cap was on. Did I feel like the village idiot.

One of the things is – because we all had jobs and we weren’t making a whole lot of money, the camera equipment was expensive. And we had to improvise when we could. I used two plastic housings to house my strobes. One of the plastic housings I built out of Plexiglas and another one was a commercial housing with a strobe. They were land strobes but in a plastic box. And they did their job.

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But people like Bill Kruse, he’s got these big subsea strobes – another showoff. No, but that set up I can’t express how important it was he brought back such good pictures with his setup. We kind of like to jab at each other a little bit.

Dewey Livingston: Is there anything else, Sue, that you’d want to tell about photography, taking photos down there that comes to mind? Then we’ll let Elaine get something to say.

Elaine Dvorak: I have a comment about it. I remember him taking the camera and doing a lot of tests beforehand where he’d take it and he’d go somewhere and be underwater, maybe not very deep. But measuring distance and trying different strobes and different films and different apertures, then bringing back the test results so that when he went to the depth on the actual dives that he had a proven setting.

Dewey Livingston: Is there a way to test without being underwater for instance?

Don Dvorak: Not really because the light falloff underwater is very rapid. There may be some formulas you can work with but even in a swimming pool you can’t do that.

I have an interesting story: this was one of the trips out of Alameda, I believe, on the *Pisces II*. Elaine and I arrived at the *Pisces II* with all our dive gear, camera gear and started loading it on board. This was late in the evening and I realized I’d forgotten my camera bracket. So Elaine and I went back home, picked up my bracket, and she didn’t come on the boat with us but I went on the boat and then we left to go out the Golden Gate.

I didn’t realize I left the camera bracket in the car. After we were gone she went back to the car, she realized the bracket was there.

And so now she's trying to figure out how is she going to get the bracket to me when we are underway?

It was fortunate that she was part of the Coast Guard Auxiliary. So she drove all the way over to Sausalito, to the Coast Guard station there, I guess she knew people there. So they tried to hail the *Cordell Explorer* on the marine band, but apparently the radio wasn't on and nobody was listening so we couldn't come in to get the bracket. So she was instrumental in getting one of the Coast Guard people to take their little boat out to the *Cordell Explorer* and bring me the bracket.

Elaine Dvorak: Actually I rode out with them. And he still hadn't missed it. It would have been a disaster if he'd gone out there without it. So we rode up in this big Coast Guard inflatable and handed up the bracket.

Don Dvorak: "Oh we're in trouble; here comes the police."

Dewey Livingston: Wonder what they put in their log after that, how they justified the trip.

Sue Estey: "Training."

Don Dvorak: "Absent minded skipper." But I'm glad she had her connections then.

Dewey Livingston: So Elaine, you haven't had an opportunity to say much for a while so first of all, didn't you meet Sue before you met Don?

Elaine Dvorak: Yes.

Dewey Livingston: Tell us how you two met.

Elaine Dvorak: Well, Sue and I both sailed in the Oceanic Society Crew Group. The Oceanic Society was a much bigger organization in the Bay Area. They had a Bay Area chapter at that time and people who were interested in sailing joined the crew group and there were people with boats and people without boats and we had events and we would go out sailing on a weekend of something and people would sail out of different harbors and we would meet

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someplace and raft together and have a barbecue or something and then sail back to the harbors – and we worked on people's boats when they hauled out and just generally was a good, sociable

group of people. We had monthly meetings at Fort Mason. So, I met Sue through that.

We were out on **Mary Buckman's** boat, it was the Cheoy Lee working on sanding and varnishing and stuff. She was telling me about the Cordell Expeditions and there was a Christmas party coming up, or a Thanksgiving party or something. It was in November of '85. She said, "Well, she got an invitation it said, 'Come bring a friend.'" So she said, "Why don't you come?" I did and that's how I got started with the Cordell Expeditions.

The party was at Bob's house and Sue suggested that I get there before it got dark because it's not easy to find the place in the dark if you didn't know. So I got there a little early, there were only a few people there at the party. I remember – of course there are all these people who know each other and they're all standing around together and telling stories and stuff. And I found somebody who was sitting kind of over to the side and sat down and started chatting with him. He was telling me who people were and all that and that was kind of fun. So that's how I met the people at the Cordell Expeditions.

Dewey Livingston: And they invited you to join?

Elaine Dvorak: Well then Bob bought the boat. I had talked to him and said, "No, I'm not much of a diver. I'm certified but I've worked on boats a lot." So when he bought a boat he called me and said, "Come and see my new boat." So I did and helped him take it up to Sacramento. I mentioned that before, and got involved with working on the work parties.

So I didn't meet Don until at least six months later. That was when the boat was hauled out in Sausalito was the first time I met Don and he and Sue came together to the work party and that was the first I saw him. I didn't actually start dating him for almost two years I think. But I kind of liked him.

Dewey Livingston: So tell us the story about going out on your first trips with them and what your role was.

Elaine Dvorak: Actually the first year I went out – like I said, Bob hadn't had a boat; he'd never owned a boat before and so when he'd gone out with the *Pisces* and the other boats that they took out the skipper said, "We want to go here," and the skipper of the boat did the navigating. I had been with the Coast Guard auxiliary and I'd also taken some navigation classes at University of California. So I

knew how to do dead reckoning and I knew how to use the LORAN and I knew how to look at a chart and figure out where you wanted to go.

So he asked me the first year, he asked me if I would come along and help with the navigation. That was pretty nice. So I did. Then the next year he called me up and he said, "We're not going to need you to navigate, Elaine," and it's like, "Aw, no." And he says, "But I would like you to come along, provision the boat and cook." I'm thinking, "Wait a minute, I'm getting demoted from navigator to cook." What I realized was he was inviting me to stay in the expeditions and whatever way I was needed that was fine with me. And I did still get to do some navigating and drive the boat and stuff.

Then what I would do is I was working four days a week, so I would take off one day, I would -- I took off Thursday, Friday,

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Saturday and Sunday, and on Thursday I would go to Costco and to some grocery store -- actually I went to a grocery store in Seaside because when I crossed the border of Monterey to Seaside and saw a grocery store there I said, "You know, I'll bet you that's going to be a lot cheaper," and it was. They had bulk things, you could buy ten chicken thighs in a package. So I would stock the boat -- like ice, we had ice boxes which would be up on the flying bridge. I would pack things, and bought everything from candy bars and toilet paper and made sure we have pencils and pads of paper and just generally responsible for everything that was going to be needed on the boat, and Bob would reimburse me.

Dewey Livingston: Was it your call what was needed or were you provided lists?

Elaine Dvorak: Pretty much I would go through the boat and look around and see what was needed and as far as feeding them was concerned I think on the earlier expeditions everybody just brought their own food; they didn't have anybody cooking for them. I don't think that the guys necessarily had food when they needed it that way. So it was nice to have somebody to cook.

It was some funny times. Around 10:00 in the morning guys would come into the cabin and they'd just be sort of pacing around and looking. I'd say, "What are you looking for?" "I don't know." And what I realized was they were looking for the roach coach, the truck that drives up and goes, "Do da do do, da doo," and the guys go out and buy their midmorning snacks. That's what they were looking for was a midmorning snack.

So I started putting out maybe a tray of brownies. Then I would just get on the radio and say, “There’s snacks in the cabin here for anybody who’s hungry,” and I discovered there were some people who got seasick. I found a formula that worked. I tried making eggs and bacon for breakfast and people would say, “Oh please, don’t cook bacon, it makes me seasick.” So I found that Cheerios and bananas and milk worked good for breakfast, and it’s just three days and they would eat it.

Then I tried all different kinds of cold cuts and different kinds of bread and found that sourdough bread and turkey sandwiches worked for lunch, and I would slice onions and tomatoes and have plenty of lettuce and mustard and mayonnaise and that worked fine. So breakfast and lunch were the same every day.

Then I would do barbecued chicken one night, I would do pork chops one night and then the last night would be running in, probably. So I might buy the ribs in the packages. And we had a microwave oven. Bob didn’t believe in having propane gear on board. It was a diesel engine but not gasoline. You don’t want to mix. But he had an experience years before where somebody’d gotten – because the propane settles, it doesn’t float away. So we had a microwave, which would only run when the generator was running, and we had barbecue, we had some kind of a stove that we used, and I would use that outside on the deck.

But I might cook chili – I also had to keep supplies on hand in case we were stuck a day, or in case it was too rough to cook what I had planned, so I would always have something like a big can of chili and a couple of cans of sliced tomatoes and stuff that I could just sort of pour together and heat up. I actually won a chili cook-off with my recipe once where everything was in cans. Actually I got second place I think

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which was appropriate because I was a newcomer; I didn’t want to win it. I was very glad to get second place. So I would try to get everything all stowed and put away. Also I would buy candy bars – Snicker bars were the most popular. I would separate the candy into three packages and I would hide two of them because if I didn’t the Snickers would be all gone at the end of the first day. Then they’d want to know where are the Snickers. I also bought cocoa which when the guys came out of the water if they wanted to have cocoa or those noodle drinks, they could have those. Some people were really glad; some people didn’t want to do that, but

that's fine. And the candy bars of course, help get their energy back up when they came out cold.

Sometimes I'd do corn on the cob. I'd start it in the microwave because that kind of cooks the middle first and then I'd wrap them in tinfoil and put them on the barbecue to cook the rest of the way. It was a challenge to find what people would eat.

And it's different – when we went to Rocas Alijos we went on a charter boat and they normally took out fishermen. I thought about calling them and saying that they don't want anything that gives them gas because they're wearing dry suits and that can mess with the buoyancy, not to mention the smell. And they don't eat like fishermen. I thought about calling the crew on the qualifier and saying, "I found out that Cheerios and bananas works for breakfast every day, don't bother with anything else," but I thought, "Of course they know what they're doing." But they ran out of cereal after about a third of the trip. And then they ran out of eggs not long after that and we had to get some extra supplies from one of the other boats that was down there because we were out for about ten days, week or ten days anyway. Yeah, it was fun, it was a challenge.

Dewey Livingston: Was alcohol allowed on board on the *Cordell Explorer*?

Elaine Dvorak: We had beer. They were very fussy about the beer too. Couldn't buy cheap beer.

Sue Estey: Coors Lite, right?

Elaine Dvorak: I don't remember if it was Bud but I think I might have bought Miller one time and got in big trouble. But divers, for the most part, don't drink much alcohol besides a little beer because anything that stays in your system the next day can – and they get high on nitrox, you know, nitrous – they don't need to get stoned or drink much alcohol. Some of the guys drank some beer but mostly not much.

Dewey Livingston: Did you have other responsibilities on board?

Elaine Dvorak: Well, I was kind of hostess. I needed to make sure if there were new people that they knew where things were and how to operate the head and stuff like that. I loved to drive the boat, especially when the waves are behind you and you're surfing on the waves. I was pretty good at that because the boat can really wobble along if you're doing that. You've got to keep steering and it's just a lot of

fun with the *Cordell Explorer*, she's got a big flat bottom and it picks up and it just slide down the wave. Then the water comes way down and then it goes way up. Surfing the waves – the trip down to Monterey later, that was so much fun.

Dewey Livingston: Who tended to steer the boat? Was Bob the skipper?

Elaine Dvorak: Bob was the skipper and he was the best at it. And when the weather was rough or something like that he would do it. I steered the boat a lot when the weather was nice and when we were going downwind, but when we were heading into the waves he was in charge of that because that's the toughest.

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Don Dvorak: Bob felt confident with his crew that he would allow other people at the helm or tiller, wheel. And he let me, "Take this compass heading and take us home." One time I was at the wheel and I saw a sea turtle go by. So I turned the *Cordell Explorer* around to see if I could see it and Bob was up there in no time, said, "We changed course." But he had a lot of confidence in his people.

Elaine Dvorak: Yeah, one time I saw a big leatherback, must have been four feet long, great big leatherback. And one time we were coming across Monterey Canyon, coming back and the place was just thick with huge, green jellyfish. I mean there were thousands of them all around. The bottom drops off of the depth sounder when you go across the Monterey Canyon. I guess the depth sounder only goes to 300 feet or something like that, or did in those days. The fish finders and the navigation was much more primitive than it is now.

Dewey Livingston: Who took care of medical issues aboard the *Explorer*?

Don Dvorak: We always tried to have some person on board that have some medical experience. **Dani Baxter** I think was a nurse of some type. I don't know what her specialty was but she was there, and in the beginning we were taking temperatures, get our core temperatures and so forth because hypothermia was always a concern. It actually turns out that we didn't have to do that but maybe a paramedic or even a foot doctor in some cases, somebody that had some interest or knowledge.

Jennifer Stock: Speaking of cold, did everybody dive without gloves or did some people dive with gloves?

Don Dvorak: I know one person who dove without gloves because I've seen a picture of him, could have been Harry, but it was also Bill Kruse. I can't imagine diving without gloves. But for the most part everybody was covered head to toe.

Jennifer Stock: Was it hard to take photos without gloves on?

Don Dvorak: Actually it wasn't. The shutter release on a Nikonos is rather large, not just a little button but a lever. You just get your finger on there you could push it.

Jennifer Stock: Since you dove there a couple years based on your experiences what did you assume the rest of the bank looked like and did you notice any changes year to year in terms of the abundance of species or absence? So, changes you may have seen over the years and what were your assumptions of what the rest of the bank looked like since you were diving such a small part of it?

Don Dvorak: I didn't see any changes from year to year. Often we were diving at different sites year to year so we saw changes from the various sites. On the higher pinnacles they were mostly covered with the barnacles. There are a lot of barnacles out there and you can see them filtering the water. They were interesting but they weren't very colorful, but we did document them. And if you move down then you moved into the sponges, the hydrocoral and the garveia and the tunicates. That's where most of the color was, and corynactis, certainly.

Some of the steeper pinnacles, if you went down, the ecology changed. It was as if you were in the mountains and you were going up higher and higher and all of a sudden there's the timberline; above that there's no timber. The same on Cordell Bank: you go down to a certain depth and then the ecology changes and it's much, much more sparse, just simple solitary organisms on the side. That was very apparent to me in a couple dives. Of course you didn't see that on mostly the ridges they were somewhat flat.

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Jennifer Stock: How about you, Sue?

Sue Estey: I'm not sure I could tell you which sites I dove on which times. To me I just remember this total jumble of things growing on top of each other.

Jennifer Stock: Just from our experiences, like one year we were out there and we saw just tons and tons of juvenile rockfish and then the next year none. I'm just curious do you have any memories of those juvenile rockfish being abundant or not abundant?

Don Dvorak: I did notice sometimes yes, there were a lot of them: "Shoo, go away, I want to take this picture." That's their environment, so you're working in their environment. When you take a picture and the flash goes off if the juvenile's too close it just reflects back and you get a bright spot. It spoils the picture but that's not important, we're not there to take these really artistic pictures, we're just bringing back a representative set of Cordell Bank.

And sometimes you would see the larger rockfish and fewer juveniles but they were always present, always there. I didn't see too many ling cod, but I did see one. But I did notice the lack of nudibranchs. Diving the shallow waters along the coast you see all kinds of nudibranchs, lots of them, different colors. I do not recall seeing a nudibranch but other divers have captured pictures of them. So that was an interesting observation on my part.

Jennifer Stock: How about surface wildlife? Were there any memorable wildlife encounters at the surface? Any whales come up around you while you're diving?

Don Dvorak: I do recall one of our earlier days, say on a Friday we were out doing some surveying and on that particular day, without exaggerating, there must have been 50 to 100 shark fins in the water, just a lot of them. But they were blue sharks. Blue sharks usually are not a big concern but there were plenty of them. And we just continued doing our surveying. I believe the next day we did go out and dive but the blue sharks weren't there that day. I never seen a shark under water, and it never was a concern, though I usually dive with another partner or two other partners. So when you have three that improves your chances of surviving. But I was more concerned with the depth and narcosis.

Jennifer Stock: Do you have any memories, in terms of surface wildlife, birds or aggregations or feeding frenzies?

Sue Estey: Well, a couple years ago I went on one of the trips that you didn't go on out to Cordell Bank that was just an incredible accumulation of humpback whales and all kinds of birds and I don't remember that from our diving times.

Don Dvorak: I do recall another time that we were out on the bank and it was a fairly calm day. My interest was Cordell Bank, taking pictures. I did not have an interest of the animals above the water. But I do specifically remember one day out on the bank there were probably 1,000 birds on the water and they were not gulls, they were different. They were bigger and their beak was a bit different. I tried to take pictures and I didn't have a telephoto lens but to this day I do now know what those birds were, but they were different.

Jennifer Stock: They're probably shearwaters.

Don Dvorak: Bigger than gulls? Just wondering if they were albatross.

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Jennifer Stock: They could be. Elaine, you had some memories, you have some notes here?

Elaine Dvorak: Yes. Doesn't say what day or where but yeah, I did try and write down – we would see auklets – in fact we anchored at the Farallones a couple of times and auklets nest there and they fly at night. And they would come and get on the boat because they would come to the light, but they couldn't get off the boat. So I would have to go kind of climb among the packs and the tanks and stuff and I would catch the auklets in my hands and release them off the boat as early in the morning as I could, before anybody else woke up. That was quite a neat experience: they're so warm and their little hearts are just beating like crazy. And of course the murres are out there and the shearwaters and sometimes we'd see phalaropes. Sometimes you'd see little flycatchers out there too and they'll come and land on the boat. That always amazed me.

But on the boat – there were flies on the boat so there was plenty for them to eat. That was another thing is, people would try and kill the flies on the transom, use a big board and smash as many flies as you could.

Sue Estey: The more flies you smashed the more flies were attracted to those smashed flies, so then you'd get more.

Jennifer Stock: Is that at the Farallones? The Farallon fly, yeah.

Dewey Livingston: Because we haven't necessarily covered your entire career, so to speak, with the Cordell dives I wonder if you could each just briefly summarize that, "Well I started in such and such, and my last dive, or experience there was such and such," giving a sense of

maybe how many dives you might have done at Cordell Bank. And then we'll go on. Do you want to start with you two? Well first of all you met and you ended up getting married?

Don Dvorak: That's correct.

Dewey Livingston: So maybe that should lead into summarizing your career on Cordell Bank.

Don Dvorak: Well, I'm not quite sure where to start here. Maybe somebody else would like to start while I gather my thoughts.

Elaine Dvorak: Well, I'll tell you one thing: there were a couple of the guys that drank more than the others and there were some of them who bugged me a little bit because they would throw down their beer cans and they wouldn't help. There was a little macho, so there were a couple of guys that at one point I didn't get along with as well but I did later. When Bob was making up the crew list I said – and one of them's wives wanted to also go on two of the expeditions; this cook and I went on the other four – and so I said, "Well why don't you put these guys on that boat with Gail, and you might put some of those people on this boat with me," and Bob says, "These are scientific expeditions, Elaine; this is not a romantic cruise," or something like that.

But when I got out there I discovered, it's like, "Bob, what have you done? You've thrown me to the wolves. Here I am with 11 single guys or something – and me!"

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But one of them was Don, and he looked really tired at the end of the day and we were looking for places to bed down. I did canvas work so I had made some shelters that we could tie over the engine room and up on the flying bridge and some people brought tents that they would just pitch on the back deck, but actually when the boat rolled the water would come up through the scuppers and so the deck would get wet. But I suggested that I would rub his back if he would rub mine. *[Laughing]*. He thinks that's when I got my hooks in him.

Dewey Livingston: Were there other examples of a couple meeting during these expeditions?

Elaine Dvorak: Bob has some examples. I think there were more divorces than there were marriages because once people got into it they just got hooked on it and they didn't want to give it up even if it was hard on their spouse.

Dewey Livingston: So I won't put you on the spot any more about it unless you want. Then just to summarize, Elaine you went on Cordell Expeditions from approximately what year to what year, about how many?

Elaine Dvorak: I first met Bob and the Cordell Expeditions in the fall of '85, so there was just one more dive on the Cordell Bank after that. And that was at the end of '86 because we went down to Monterey that year. And then we came back for one last five-day session up on the Cordell Bank. So I was out there just that one time, then later we've been up there since then but that was all.

Dewey Livingston: Were you aware that was the last dive?

Elaine Dvorak: Yeah, because Bob said when Cordell Bank became a sanctuary he was going to call the expeditions over. And I don't think it actually became a sanctuary until '89, but '86 they had already turned in all the paperwork and that sort of thing, had the public hearings. Or maybe the public hearings were in '88. But anyway, it was in the bag.

But I had been out there before. I think, and I could be mistaken, that some things are more abundant now than they were then. And it might depend on the year and whether it's an El Niño or not because the El Niño makes the water warmer and it's harder on the birds to feed their chicks; they don't get the upwelling, I think. But I think the whales, for instance, have made quite a comeback between the 1980s and now, we didn't see as many whales. I don't know about shark populations. We still fish sharks and they still cut fins off of sharks and stuff like that. So I don't imagine shark populations are doing too really well. I hope they will do better. So there may be relative abundance, but I don't know as much about is probably as the people from the sanctuary do, but I think we see more whales out there now than we did then.

Dewey Livingston: Don, would you summarize your career from beginning to end, maybe giving an idea of how many dives you might have done. And if you have some notes and if you have anything else to add based on your notes that we haven't covered that would be fine.

Don Dvorak: Well, I feel that I'm extremely lucky that I was at the right place at the right time when Bob sent out a call for divers. I came on board in 1977, right from the beginning, and

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went through all these strategy meetings. And I feel that in some way I contributed to help steer the expeditions in the right

direction, whether it was photography, what we wanted to do. And despite missing the first dive in '78 and missing the dive in '79, I managed to get in 17 dives on the Bank in the following years. So that by far made up for the two first years that I missed diving.

I'd like to characterize the expedition as a bunch of people finding a window that looked at Cordell Bank, and our job was to open that window. The first two years that window opened very slowly and a very little bit. But it opened enough, enough information came out that it just piqued our curiosity. We wanted to do more. We wanted to improve our techniques because we didn't get enough the first two years. So we did, we improved our techniques. We got there easier, we'd find a place and that window opened a little bit more. And the next few years more information, more data came out.

By the mid-Eighties and '85 that window was almost all the way open. We know we can go there, we can bring back specimens by the bucketful. We can bring back pictures by the hundreds and thousands. And the window was open now, that now the public has an opportunity to see it. And we have enough information where we could go out and have presentations to the public, help bring Cordell Bank to public awareness. Besides the diving it was a real joy putting together presentations.

One of our biggest presentations was at the Cal Academy of Science, what did we use, 12 projectors?

Sue Estey: I was going to say eight but it could have been 12.

Don Dvorak: All synchronized with the film camera projecting there. Paul Hara was very good at multimedia production, so we were up all night trying to get this production together. And we got it together and we took it to the Cal Academy. Those were all really quite rewarding to our efforts.

Now that window is really open – I think it's going to stay open, especially since Cordell Bank became a National Marine Sanctuary and people like yourself, Jennifer, and Dan Howard are still keeping Cordell Bank in the public eye. And you have your program for you to bring your students in and you bring teachers in, this is all going to help in keeping that window open. I'm glad that in some way I was a participant in opening that window.

Jennifer Stock: That's well put. Thank you.

Dewey Livingston: Sue, would you like to summarize your career, so to speak, and if you have anything else on your notes to bring up.

Sue Estey: When I look at my diving experience, I got certified in 1975 and I got hooked up with Cordell Expeditions in 1979, so those expeditions really happened kind of early in my diving career and in many ways I was innocent when I had a wetsuit that had, like it had a bottom and a jacket. It was not even a Farmer John. It's amazing. But fortunately the dives were really short so I couldn't get too cold. But during those expeditions I moved to a dry suit, during those expeditions I got a strobe that would actually flash on demand.

But later, after Cordell Bank I went on to Point Sur, I did Rocas Alijos, I did Easter Island. But I also got additional training, I got trained as a rescue diver,

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scientific diver, cave diver. It probably would have been better if I'd been a cave diver before I ever went to Cordell Bank because I would have learned a lot about equipment that would have been a safer way to go. But I didn't know, it was really the beginning.

Sometimes, once in a very rare while someone contacts me about diving at Cordell Bank and could they go do it, and I always say we had a lot of advantages that they probably don't have. We were really lucky to have Bob, as organized as he was. We had a lot of divers with way more experience than I had at the time. And we had a team that worked together.

And when I think about a diver going out to Cordell Bank and how maybe it was, say six people went out on a boat or something. You need to find the place, you need to find the ridge. They're very sharp pinnacles; it's not like a plateau at 120 feet, it's like a high point at 120 feet and then it drops off real fast. So I think that organization that Bob developed really made it possible and I think it would be really tough for Joe Diver to go out there and jump in and hit a spot that they can actually get to and live. So I think we were really lucky to do it this way.

Dewey Livingston: That was incredible that they did this as you described, with their own equipment, everybody somewhat different, some more well-equipped than others, and you weren't crazy were you?

Sue Estey: I don't know about that. Some years I thought it was too crazy and I didn't go.

- Don Dvorak:* We weren't insane but we were crazy.
- Dewey Livingston:* I made a note here from way back: Don, you mentioned Dr. Hannah; is that somebody who had dived previous to these expeditions?
- Don Dvorak:* He didn't dive there. I think he was more interested in geology. I think he went out and did some grab samples.
- Dewey Livingston:* Mechanical.
- Don Dvorak:* Mechanical, maybe with something like a Peterson grab or some other mechanical means. But he did bring back some of the sediment.
- Dewey Livingston:* Now when you first dived did you think like Dr. Schmieder did that you were the first ones to be diving there? Or had that already been proven false?
- Don Dvorak:* Well I missed my chance to be on the first team. I was in the Grand Canyon – those guys were really envious of me.
- Elaine Dvorak:* Are you referring to the holes?
- Dewey Livingston:* Yes.
- Sue Estey:* I think we both went diving before they found the holes
- Don Dvorak:* Yeah, I just wasn't there. But my dive, again, was on the third year, and when I went down I didn't get down to the bottom for the first time and sit there and reflect, "I am here. I am here where few people have been." That didn't even cross my mind. My mind was pre-programmed: take pictures, watch your narcosis, stay alive, come back. And that was, again, the most important thing to me. Later on I had time to reflect, I've been there. Only a few divers have been there, and I had an opportunity that most don't have. But again, being the first was not the most important thing for me, it was my opportunity to help describe Cordell Bank.
- Elaine Dvorak:* I think when they found the holes it was a surprise, that obviously somebody had been there with some more advanced equipment that *Cordell Explorer* had. That was before *Cordell Explorer* even. And Bob went to the Navy something or other – he went somewhere and tried to find out about that and then that door closed. And they weren't saying anything. But apparently it had something to do with submarines and being able
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to – they didn't want the Soviets to be able to have a submarine out there. And so they had some kind of equipment that they had bored into the rocks there. That's the best we know. And I don't know what is known about that now, whether they've ever come clean and said, "Yeah, we did this." But that was a big surprise to find that. Evidently the Navy had been there.

Jennifer Stock: They probably weren't looking at it like you were, though.

Sue Estey: No, they probably had a more practical point of view.

Don Dvorak: National defense.

Dewey Livingston: Did any of you get involved with NOAA or the National Marine Sanctuaries – you already said that you knew that something was happening with getting a designation. Were any of you involved with that, whether it be going to hearings or –?

Sue Estey: I don't think I was.

Don Dvorak: No. We knew Bob was involved in the designation, and when it went up for nomination – I guess it went out for public input. I think I received a letter from Bob saying this is where it's at, public input. And I said to myself, "What an opportunity to express my needs for the Cordell Bank to become a sanctuary." And I had the opportunity to write the letter to NOAA. I thought it might carry a bit more weight being a person who has been there and I could describe it to them. So I said, "Yes, make it a sanctuary, use the larger boundary limits." And that letter is online. I went back and read it. I saw your letter, Sue. I saw Sue Dinsmore's letter. There were a few people from the expeditions that sent in their thoughts. That gave me kind of a nice warm fuzzy feeling that I can give firsthand input.

Jennifer Stock: Did you know at the time what becoming a national marine sanctuary meant?

Don Dvorak: I didn't give it much thought at the time. I was so consumed with this project at hand. But as the designation progressed through and to the point where it was designated, yeah, I finally realized the importance of Cordell Bank becoming a marine sanctuary. It is now protected, and it most likely will be a marine sanctuary forever.

Sue Estey: Not like the state parks.

Jennifer Stock: How about you Sue?

Dewey Livingston: Any involvement?

Sue Estey: Well, Don says I wrote a letter.

Jennifer Stock: I actually remember you wrote a letter. You did. Look in the designation document and there's letters in there.

Sue Estey: I remember going to a hearing but I think it was about offshore oil. I remember speaking at some kind of meeting like that. I don't think it was for the sanctuary.

Jennifer Stock: Similar time period?

Sue Estey: Yeah.

Jennifer Stock: So there was interest at the time of offshore oil in this region?

Sue Estey: I think so, yeah.

Elaine Dvorak: I have a copy of the letter Bob sent to us, some of those letters about the public hearing and the boundaries and offshore oil drilling and stuff like that. I don't want to make a lot of noise with this thing here but they're in this file.

Dewey Livingston: I think we're running low on time now so just a few kind of ending questions and I'll start with you Sue, if you will: how do these experiences of diving on Cordell Bank rate with all the other adventures you've had? You've dived a lot of really amazing places. Where does Cordell Bank stand?

Sue Estey: Cordell Bank is an amazing place to see but there are a lot of the places I'd go first because if you

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go to 150 feet you can't stay very long and I would, given a change of picking where I want to go diving I'd go to Indonesia like I'm about to do right now because there's tons of stuff to see and it's not so deep and it's not so cold and, even though it's farther away, it's in many ways easier to get to, there's services, dive boats that actually go there routinely. So Cordell Bank is an amazing place but it wouldn't be my first top place to go.

Dewey Livingston: What do you want people to know about Cordell Bank, if you had a desire to make sure people appreciate it?

Sue Estey: That it is teeming with life, that it is out in remarkably clear water for California coast and – even on the top of the water it can be amazing but diving it's even more so.

Dewey Livingston: Do you have any feelings on the fact that you were part of this group that led to the designation of Cordell Bank?

Sue Estey: Sure, I mean I'm proud to have been a contributor to this. I'm glad I got to go, I'm really glad I got to meet the people, the other divers. For years I went diving them at different places in the world, so it's been good.

Dewey Livingston: Don, how does this rate with your other adventures? Where does it stand in your heart?

Don Dvorak: Cordell Bank, having the opportunity to dive there, help describe it, is the number one high point in my life, excluding family. In 1984 I had the opportunity to carry the Olympic torch in the relays that were at Los Angeles. And prior to Cordell Bank that was my biggest, highest high, as it were. But then along came Cordell Bank, and that surpassed the torch run. That's always going to be a very fond place in my heart. It's a place that should not be forgotten. It should be kept in the limelight, keep the public aware of such a special place right off our coast, unlike any other, and you're doing a great job of that, Jenny.

Jennifer Stock: I was just going to ask you do you have any tips, either of you, to help with that, because it's a challenge.

Don Dvorak: Oh I bet it is.

Sue Estey: I think a glass bottom submarine sounds like fun.

[Crosstalk]

Don Dvorak: Could we get a ride in the submersible? *[Laughter]* But the Cordell Bank finally becoming marine sanctuary, all of our work culminated right into that one event, that process of turning Cordell Bank into a marine sanctuary. And I think in itself it's going to help preserve it. And the worry is can we maintain that interest in the sanctuary? It's going to take people, it's going to take contacting the right government offices to keep funding our sanctuary. And I hope it will continue in these hard times. But that as a marine sanctuary, that's my biggest reward.

Dewey Livingston: Any closing thoughts, Elaine?

Elaine Dvorak: Well the Cordell expeditions were certainly one of the high points in my life; I like big excitement and there's been a few things that I've really wanted to do – one of them was to get out on the ocean and I think that was the best way for me to do it that I could have imagined. And I've had some other exciting things happen in my life but this is definitely right up there with the best of them. Of course we've had the Farallones National Marine Sanctuary so I did have some idea what the designation would mean, and of course the Monterey

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National Marine Sanctuary too, to protect this whole beautiful coast and to try and protect a breeding ground on the ocean we need a lot more work yet than has been done if we're going to keep on feeding the population of the planet without depleting the oceans and I think that what you're doing is really important and I just hope that people can be made aware – and the research that you're doing that we helped to start with that baseline information – I know that in some places where they have protected areas from fishing that the fish have come back. It gives me hope for the future.

Jennifer Stock: Thank you, that's wonderful.

Dewey Livingston: Any final comments or thoughts?

Don Dvorak: I don't know if I should say this. As I mentioned, it was important for the crew to have a sense of humor, and I had my little bit of sense of humor too. On one of the dives I brought down a little rubber alligator, about eight inches long, the kind of alligator that belongs in your tub to scare the kids. I took it down on the dive and I set it on top of some hydrocoral and I took a picture of it.

Jennifer Stock: I've seen that picture and I wondered what it was.

Don Dvorak: And “Bob, Bob, we have a new species here. I think it's an invasive species. We've got to be careful; we can't let this thing propagate!” But that was my input for our humor.

Dewey Livingston: Sounds like you finally solved a big puzzle that the sanctuary was worried about.

Don Dvorak: Right.

Dewey Livingston: Well, thank you all for spending the time doing this, and Jenny for putting this together. It's quite a program.

Jennifer Stock: It's so wonderful to sit here and listen. I just really appreciate it. Thank you so much.

Don Dvorak: Well, I appreciate you giving me the motivation to go back and review. And I love listening to the oral history of the Sacto Team, Bob Schmieder....

[End of Audio]
