

Dick Long

Beneath the Surface of San Diego:

A History of Perspectives & Innovations At Depth

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Oral History Recorded by:

Ashleigh Palinkas

At Diving Unlimited International warehouse

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Ashleigh: I'm here with Dick Long, a pioneer in dive suit invention and construction and owner of renowned drysuit company, DUI. Dick, thanks for meeting with me today.

Dick: Absolutely.

A: So Dick, where were you born and when did you come to San Diego?

Dick: I was born in Berkeley, California. I came to San Diego in 1963. Um, I was a product of World War two, my parents were divorced. I was boarded out, that was common in those days. Parents would pay money, for instance, they were worried that the Japanese were going to bomb the shipyard where my father worked, so they put us out on the farm that did not have electricity or running water.

A: In Northern California?

D: In Northern California.

A: Mm-hmm.

D: And um, we were in a one room school, but that was common during then because, again, they were worried that the Japanese were going to bomb and kill people. Um, I -- when I got out of the army I spent a couple of years, and that's where I learned to dive in Monterey. And when I learned to dive there was no such thing as classes. They had a little book on diving and -- they had two, two of them and it had the most basic fundamentals. The first time ever

that I cleared my mask, I was diving by myself on scuba, I got tangled in an anchor line, which was made of pressure chord and my mask got knocked off and flooded and I said, "hmm." I remember reading where you could clear the water out of your mask while you were underwater by blowing bubbles into it. So I said, "hmm, let me see" went like this and I put my hand like this and the water came out and I said, "son of a bitch it works."

A: On-the-spot training!

D: I could have died.

A: Or panicked. About what year was that would you say?

D: Um, well that would have been about 1958. Okay, um, maybe 1959 at the most.

A: Do you remember the very first time you wore a mask in the ocean?

D: Okay, it was the first time I wore a mask in the ocean. A guy where I worked was a skin diver, he took me to Monterey, and he took me in the water. I wore his suit, which was much too big for me. I saw fishes that big [holds up palm] which excited me.

A: Yeah! Laughter

D: I saw I had about six-foot visibility but at that point I was gone. I was --

A: You were sold?

D: I knew that this was my thing.

A: And when was the first time you used scuba?

D: Used scuba actually the first day I dove in the water. They didn't let me have a weight belt, but I was piping around breathing around underwater and I thought was that trouble.

A: So that's what you remember about your first ocean dive?

D: It was six-foot visibility, the water was not rough. We were in the rocks at Lover's Point.

A: What was the main motivation, were you curious or was this potentially to lead to a job, or --

D: No, no, no, the guy that worked where I did was a skin diver. And I had lost a lure that my uncle had given me in a freshwater lake. I bought a mask for a

\$1.95 and a pair of fins for a \$1.98 at the surplus store. When I went out, I not only found my lure, but everyone else's because there was a barbwire fence that everybody else knew about, but I didn't. And I got my money back by selling the lures that I got to the fisherman on the dock, and when I told my friend about this he said, "What kind of suit did you wear, a wetsuit or a dry suit?" I said, "I wore a bathing suit, you know, what's all this about?"

A: [Laughter].

D: He said you are coming with me next week. So he took me to Monterey, and that's where he introduced me to the ocean and all of that. And after that I just couldn't get enough. At the time I was married, my wife was pregnant, I worked through my vacation. And the baby got half the money and I got the other half of the money and I bought a kit wetsuit, that's mainly what you did in those days. You made a kit wetsuit. It was not nylon lining, just rubber. And I, the first thing I did is spill the glue all over the kitchen floor.

A: So a kit wetsuit, meaning it was a kit to put it together?

D: Sure.

A: And not kit was the name of the brand?

D: No, no, no, no, and everybody did that. It was a common way to do that. I look at some of the old magazines, you will see where they sold kits and then you could modify the kit to more appropriately fit you, your make.

A: And for the time they were fairly expensive?

D: Well, it depended on -- we would say they are dirt cheap now because they were like \$29.95.

A: Okay.

D: But you made a \$1.60 an hour.

A: Yeah.

D: Okay, so go from there.

A: Right, right.

D: Anyway, I went to work for this guy on the weekends. Um, and he paid me a dive deal, rather than in money, and he said he never met anybody who

worked so hard in his life. So he wanted to go into business and offered me a 50/50 partnership, and that's what started it.

A: Wow!

D: And I was there, I met um, the guy who started NAUI.

A: And that was what year?

D: That was probably around 1958.

A: Uh huh, I see. Okay.

D: And then I went to the first instructor -- there was no such things as classes, they didn't exist. But then we had the book called: "The New Science of Scuba Diving" published by the YMCA. And we studied that, that was our Bible. And you had to have good water skills. We would say you had to snorkel dive for a year before you could scuba dive.

A: Mm-hmm.

D: And we didn't have safety vests and BC's and things like that. So, you needed to be strong in the water.

A: Yeah.

D: If you were not strong in the water, we didn't want you around.

A: Right.

D: In the summertime they were like losing a diver a week in Monterey because people were buying scuba gear and going down in the water and not knowing what they were doing.

A: Wow.

D: Anyway, um I went to the first national instructor course there ever was which was held in Houston, Texas. And I'm NAUI instructor number 49. There's a rumor we are all dead, but it's not true.

A: [Laughter].

D: Anyway, now that rumor is now over. Okay, um, I -- hunting probably was the big thing and we caught fish.

A: Yeah.

D: And we ate them. The name of the game is if you kill it, you eat it.

A: What's your favorite?

D: Okay, I love to catch lobsters.

A: Me too.

D: Because they are wily and all that, but the best eating thing is halibut, and I like to filet it; filet all of the bones out of it, and if you are careful with doing it you can do that. And then cube it up, and then I put it in a tempura batter.

A: Nice.

D: And then I used a homemade tartar sauce and when they come out and they are burning your fingers and then you pick them up and you role them in the sauce and then eat them, that is -inaudible -- that is -inaudible-

A: So diving here in San Diego, did you have particular dive sites that you regularly hunted?

D: I had a couple of guys die, I was there. It made a major impact on me.

A: Right.

D: Um, the one guy -- we were in the spear fishing contesting and we were diving too deep, and he held his breath too long. In fact, on that particular day I was coming up blind because we were diving at about 80 feet and we couldn't find the fish in shallow water. So, somebody yelled over there and I did mouth to mouth on them and nothing worked.

A: Wow!

D: And the other guy died of -- he had some kind of an internal problem.

A: And these were here in San Diego, these incidents?

D: No, no, no, those were up in Monterey. And they were probably in 1962, okay. And then I made a survey, I went all the way to Canada and all the way to Mexico and I looked at -- because my partner and I, I was being much more progressive and he was just not being very progressive. So I said, "If you are going to move, where are you going to move?" My first choice was Santa Barbara because they had the Channel Islands out there, but there is not enough population, most people there are retired or what not. Whereas, San Diego had the most concentration of Navy divers and it is a big city.

It is much bigger now than it was then. So I decided to move here, and actually I opened up my business in La Mesa, and we were against two or the

biggest dive organizations, The Diving Supply and The Diving Locker; both of which are gone now.

A: Mm-hmm.

D: Everybody said you are crazy to do that, and I said, "No, I rather go against professionals than someone who is not okay."

A: Yes.

D: So anyway, I came here.

A: That's what brought you here?

D: Yes, that's what brought me here. And a guy introduced me, one of the salesmen was a former frogman guy and he took me over to Coronado and introduced me to the demolition teams, and I was making wetsuits, and I started to make wetsuits for them. And there was a case where I went in to talk to these guys about making wetsuits, and they were walking up the pier, and there was two guys holding up a guy stumbling and I said, you know, "what's wrong with him?" And they said, "Well, he's just cold." And I said, "I'm a little skinny Jim, and I can capture him." And I said, "Yeah, look what he is wearing." There is no reason, and again, I got started in terms of protection because I was from Monterey, and I was so cold up there, so cold. I remember crawling out of the waves once diving by myself -- because that's what we did -- crawling out of the waves, and I laid there for probably 20 minutes before I could get up and walk to the car.

A: Because you were just skin diving?

D: No.

A: What were you doing?

D: Well, I was breath holding. And I had a suit, a wetsuit. But I had been in the water long enough and that water is 47 degrees.

A: And then back here in San Diego, after that guy was so cold...

D: I said, "Right. You give me \$200, and no restrictions, and I will build a suit" -- because what they had was a swim vehicle. In theory it would last six hours, but all they had was an hour and a half. An hour and a half before they froze.

A: Yes.

D: So suddenly it wasn't worth anything. So, I said, "I'll bill the time he's underwater or you won't pay for it." And the guy said, "Really?" These guys are guys that don't talk a lot except for if they go drinking or what not.

A: Yeah.

D: They are hell raisers. And uh, he said look you measure this guy and you measure yourself and you make a suit for you and a suit for him. I said it is just a wetsuit. I mean, it is nothing fancy; I got so cold up north that I had to develop a better thing. So I had the hood attached to the suit. They had five zipper suits. A zipper on each arm, each leg, trousers come to here. I'm the guy who invented the farmer john trousers. The suit you would pull over like a sweater. It had no zipper in the front. And I attached the boots to the suit and had the ankles loose to promote blood flow to the feet.

So anyway, I came back a week later and the guy said, "okay." And I showed them how to put my suit on and taught the guy how to put his suit on, and then we walked down to the pier and we went to the end of the pier. We walked out to the end of the pier and I said, "Okay, I will see you in three hours and you guys pay me" And they said -- he says, "Get in the boat." And I said, "Excuse me?" He said, "I said, big mouth, get in the freaking boat."

I turn around and there are three of the biggest guys that you ever saw in your life behind me. I probably weighed 130, 135 pounds. And um, I said, "I think you want me to get in the little sub?" "That's right big mouth; we are going to see how long you last." So, we got down to the boat and they towed us out, and in the bay, where we are towing a buoy behind us so they knew where we were and we were just running a square course. So long this way -- so long this way and at a 90-degree angle, and every once in a while we were hitting the bottom and when you did, the water was shallow, the boat would fill up. The guy's back was against my chest because we are breathing off of boat air, we don't have scuba tanks on. And I had to -- to make sure he was still there and about an hour and a half later, we let off what is called an M 80, it's a firecracker, it is a big firecracker.

A: Yeah, yeah, yeah.

D: It goes off in the water. And they come to the surface and they say, "How is it going?" And the guy behind me goes, "Well, you know boss, I'm doing better now." Boss said, "I know, we have had a problem following you." Boss says, "But how are you doing?" And he goes, "I'm fine. I'm fine. How are you?" "I'm fine, you know, good I asked you first." Laughter. Down they go and we are in the water about another hour.

We bang another one, and he goes, gets in the boat, and he says, "Well wait, I have got 30 minutes to go, you guys have to pay for this thing." So I get in the boat, and we are going back and he says, "You are going to get paid, first. Number two, obviously you know something we don't. And we want to learn."

So that's, that was my introduction to group of those guys, who in turn had some problems to solve. And I became their guru and whenever they had a problem they gave it to me, and I would solve it and bring it back to them. They were outlaws; the Navy has a procedure by which they are supposed to go through. These guys didn't do that. It was too slow. They were fighting in Vietnam --

A: Yeah.

D: And they had serious problems to deal with and the Navy labs were not helping them at all or solving their problems. So we were having to solve their problems and we solved a number of them. Then they in turn, they bought SeaLanb II and then they appointed these guys to be the safety standby divers, and then remember when they -- well, you can't, you weren't born yet.

When they first tried to put the [SeaLab] habitat down it was going to slide off into the canyon. So they picked it up and then they went down with their scooters, and found -- and found a better place and then put it down. So then, they made me part of their team. The frogs did, and at one point they had a lot of problems and the SeaLab, the guys were living underwater 24 hours a day, but the average of time per man per day outside was only 15 minutes. 15 minutes.

So, they had a meeting, and they told me to come to this meeting, and I got there and here was all the SeaLab guys on this side and all UET guys on this side and I said, "Why don't we help fix the problem?" They said, "Fix what? We are getting fooled underwater. We can't lock the guy out. We are supposed to be locking the guy out doing these experiments." They had electrically heated suits, all of these suits down there, but none of them worked a damn because they used helium. So I said, you know, let the master divers that are there help, and the engineers from other companies were incredibly gracious with the information.

I mean, you sit around all day long and do nothing but eat and drink coffee and talk. And so I'm just an endless set of questions and the guy says, "You never run out of questions do you?" And I said, "The only time I was warm was when I had to pee in my suit." So anyway, I learned about these guys that had tried using hot water in the suit. And so they asked me to make one, and when I saw it, I said, "The idea of water is great, but that thing is going to hurt somebody." So then I made my own.

And I can go into all of the technical details, but the first time they used it the guy said, "Holy shit, this is the answer." And that was actually -- from then on, when I tried to go into the commercial industry with this, um, only the guys from saturation were open to it, the rest of them, they weren't. As I had one guy say one time -- I was asked by an oil company to go give a presentation to a British diving company. These are all guys that wear hard hats, because they needed, for political reasons, they had British divers in the North Sea working on British oil rigs. So they -- because the Americans were unruly for sure.

A: Right.

D: Anyway so they had me go to this place and they had hardhat diving, they had hand pumps and things like that. So I laid everything out on the table, I said, "First of all guys, you are going to make three times the money." Three times money, day one. All of these guys were older guys for the most part. So I

get into my little spiel what is called a Kirby Morgan Mask, and I had a hot water suit and I had fins and a backpack and a few other things.

The guy comes up, and he gets up -- and I wish I could speak with a British accent but I can't. But a great big guy. All of these guys by nature are huge men.

A: Yeah.

D: And big fingers because they could take the cold.

A: Yeah.

D: So he says, "Let me get this straight. you are going to take away my shoes -- my lead shoes and give me fins?" "Yes, sir." "You are going to take away my 80-pound belt and give me this little backpack with a scuba tank on it?" "Right." "And then you are going to take away my big copper helmet, and you are going to give me a little mask?" "Yes." "Then you are going to take away my heavyweight underwear and give me nothing?" "Yes." "And then you are going to take away my big canvas suit and replace it with this little thin thing? And not only that, but afterwards you are going to pump --

A: Water!

D: Water into where the same place I am?" And I said, "Yes, sir, but we are going to heat the water and put it in the back." He puts his arm around my shoulder and he says, "Son, I don't think you are big enough." I was sitting there going, what did he say? He's a huge -- And another guy said, "Don't pay attention to him." He said, "I'm buying the first round at the pub" and he walks out. And the guy said, "Don't pay attention to him, he is always like that. We want to know, we run into this about three times a month."

A: Mm-hmm.

D: That started a whole little revolution.

A: Wow! What year was that?

D: That probably had to be, 68 or 69.

A: Wow!

D: So I mean, to be honest with you, I built dry suits, I built wetsuits and then I built dry suits out of wetsuit material in the very early sixties before those

came to be, and I used the zippers out of a space suit. In San Diego we had a lot of connections to people that you might have a hard time getting to talk to today because the city was much smaller.

A: Right.

D: And so, I was able to talk to, to get -- communicate with people and they would help me.

A: Right.

D: I was able to get zippers out of a space suit and um, because they were pressure proof. I got the company to make them backwards so the seal would be on the inside rather than the outside. I put it outside rather than the inside, the seals.

A: Okay.

D: So then when we used them, I realized inside of the suit, it doesn't matter what you put in there, it won't be what the guy wants. The insulation was helium and it was only about 25 percent as effective as it was for the guy wearing it, and air would not be effective. So then we did hot water. And um, people who ran diving companies, as one guy told me one time, he said, "Look how much money -- these guys get paid more money than I do and I own the company." He said, "They get paid by the foot" but it is miserable, miserable, miserable work, and extremely dangerous work.

A: Sure.

D: But he says, "If I'm paying as much money as I do, I like knowing that they are miserable down there." Okay, and besides that I get to sell to divers by the day, so when I freeze a guy out, I get a new diver. Something better, if I give him a hardwired suit, they can be there all day. So, I don't get to sell to another diver.

A: Right.

D: I said, "But the guy can't do anything?" He says, "But it doesn't matter."

A: He doesn't care.

D: So anyway, when saturation diving came in, it became mandatory to have a hot water suit. You couldn't do it any other way. And when the oil embargo,

when the Arab oil embargo came in, they had to develop oil in the North Sea and so then it became kitty by the door. I mean everywhere I went they would pick me up in a car or put me up in a hotel. They would feed me and look after me like I was a golden child.

A: Was there -- there was nobody else making hot water suits?

D: Even the people buying them didn't understand them. They just knew that when they did what I told them, it worked.

A: Yeah. Wow!

D: So it was, we know far more about travelling in space now than about being under water for sure.

A: Yeah.

D: I was very very lucky to have incredibly smart mentors who said, you know, he is at least trying to do something, I'm going to help him. They educated me. For instance, one of the guys, the first guy who ever said, "you need to pay attention to this guy," was a, at the time he was a commander from the exchange student -- exchange officer from the British government named John Rawlins. Well, John Rawlins ultimately became Admiral, who ultimately became the Sergeant General for the British Navy. Now in theory, because the Navy is a -- the senior military unit, he was Her Majesties, he was the guy you reported to in theory.

The doctor's don't report to them, he just funds whatever the crown says.

A: Right.

D: But anyway, he told the Navy, he told them they need to pay attention. If the Navy produces stuff, we are not going to buy it. Well then, when they got out here at SeaLab III. They killed a guy. Because they couldn't keep him warm, so that was a tragedy and of course that program was the cover story. Which is worth reading. The only time they talk about us, we got two paragraphs the people who wrote the book they say, "I understand you made these things" -- and I said, "I don't know what you are talking about because I

make hot water suits, but I don't know what you are talking about.” Okay so, let's get back to your questions. I'm too far away.

A: Well, let's see here. Back to fish, what's the biggest fish you ever saw?

D: I ran into a, what we would Jew fish, not a Grouper, but a Jew fish.

A: Sure.

D: Down in the Sea of Cortez that weighed 600 or 700 pounds.

A: What about here in San Diego?

D: The biggest fish I ever found here in San Diego was probably 400 or 500-pound Black Sea Bass. And to me, I will never get tired of diving with those things, they are just magnificent. Just incredible and I feel bad that at one time I wanted to shoot one. Just as it was, I never shot a Black Sea Bass, I shot a Black Grouper in Mexico, but never a Sea Bass and I'm glad I didn't.

A: Yes. Well, I have been seeing them a lot lately. I would say 300 pounders or less, but still they are really incredible, and to see them after hearing the story about how many of them have been lost. It is kind of motivating.

D: Yes, in fact, one of the nice things, I remember a guy killed one.

A: Recently right?

D: And they arrested him and when it first got reported. I said, “Just let the divers take care of him.” He will never do that again.

D: Yeah.

A: So we can go ahead and talk about the type of gear you use the most. What your preferences were what you like the best -- and if you still dive today.

D: What I --

A: Are you still diving? Are you currently diving?

D: You are going to get thrown out of here. Wash out your mouth with soap! [laughs] Okay. I dove almost everything and anything you can possibly conceive of. Even if I was just diving only to be diving, I would want to be diving with my hose and communications and hot water and all that stuff. It is the safest; it is the most secure communications, if you need someone to reel you in, you can just say, “Reel me in” and away you go. Today I am diving single one hundreds. I turn 77 in about two weeks.

Um, I'm using Apex single hose regulators. When I first started diving, single hose regulators, well they did exist, but we were all diving without them. And a dry suit obviously. Underwear, I have been doing testing with the heat system and electrically heated underwear and that has been -- that is the wave of the future. You are built wrong to be warm in the water, you are supposed to go into the water and come out cold. I don't care what you are doing, or what you say, you come out cold. Okay that limits what you can do and how you can do it.

A: Right.

D: We want to put you in a situation, when you finish what you are doing, regardless of what you are doing...yeah today, here, okay you are dressed in shorts and a T-shirt, but you are not cold here. You can be in this room all day long, and when you left this room you wouldn't be cold. If you worked here, if you came into the room warm and you left cold, they would put me in jail. That would be violating an OSHA standard. But you will do it to yourself in the ocean.

A: Yeah, right.

D: So, that's ludicrous. If you are a scientist, it makes you stupid underwater. Why would you do that to yourself? Okay, your human body and brain work best when they operate at maximum temperature, just like your car. It has to have the right temperature in the car; a plane doesn't work well if it is too cold or too hot. Okay, your body-- basketball players, they come out and run around the basketball court and the coach will not let them play until they are sweaty and if they are not sweaty, they won't play. And that's because their body is at peak performance at that point.

A: Makes sense.

D: When we put scientists under water, I have had guys come out of the water and they don't know their name.

A: Yes.

D: And yet they are scientists doing observations.

A: Yeah, what kind of data does that get?

D: Right, what kind of data do they have? Same thing with fingers. All of my work is done with the eyes and the fingers, if you can make a diving suit that houses the fingers and the eyes; the problem is that to connect the fingers to the eyes takes a bit of material.

A: Okay.

D: So what kind of equipment do I use today? I use fins. They are bigger and stronger even at this age. My legs are still bloody strong and I have a doctor friend who dives with me and says, "Dick, you are old and fat" and I said, "Yes, but you can't keep up with me." And he says, "Because seals are old and fat."

A: [Laughter]

D: Split fins, they are efficient at low power input, but if you put maximum power into them, they fail.

A: Yes.

D: Okay so to me split fins are not a smart thing to be doing.

A: Yeah.

D: It is like looking at the speed of the speed boat, it is skinny and long and it runs at a high RPM, if you look at a tugboat, the prop is the three-foot wide and turns slow, but it will push a cruise boat.

A: Right.

D: Okay, so it is the same thing if you talk about going under water. You will hear people say, "Dry suits have more resistance to the water." No, they don't. Your tanks and everything else are more resistant to the water. The point is, if you are swimming with a wetsuit, the crotch is all the way up, because it is skin tight and the dry suit is not, so therefore, every time you kick -- move your legs you feel the restriction between the legs. If you want to get rid of that, you have to pull the suit all the way up before you get into the water, so that it is really tight in the crotch. When you drop in the water-- say you drop in the water, and the water will push the air out and it will stay there.

A: So these days, where do you like to dive the most?

D: I used to always dive off the beach. I used to have 16-foot paddle boards back in the day of competition diving. Today, I only dive out of a boat. And I'm

77, I can do that. I like diving at Channel Islands and for the Black Sea Bass off of Catalina, you almost always see them.

A: Yeah.

D: Probably one ever my most favorite places to dive. California, at this site, at this juncture we are really running much more east and west then we are north and south. It is going this way above Los Angeles. So if you look at San Clemente Island. Some people call it the north end and the south end, actually it is not, it is actually the east end and the west end. And I like the east end of San Clemente Island. And if you go around, what we call the Petters Rock or across up to the other end of the island there is a reef that comes out and it is about 55 feet at the top of it and it runs about 120 feet at the bottom of it and that thing is just, it is all volcanic, and it is has big fish around it and it is just gorgeous, it is honeycombed with caves in there for small fish, not for big people, but for small fish. And I really enjoy that area. I also enjoy diving with the harbor seals, and I have been night diving with harbor seals and that's fun.

But to be honest with you, I have done a lot of night diving and, you know, I learned that the big fish were the ones that lay all of the eggs and the big lobsters were the ones that lay all of the eggs. And so I don't catch either one anymore. I have a bunch of spear guns, but I haven't used them in 25 years.

A: What about here in San Diego? Where would you prefer to dive?

D: In Point Loma, Point Loma.

A: Reef mostly? More than kelp forest?

D: No, no, no, kelp forest. If you go off Point Loma and what we call the ancient sea cliffs are out there and in fact, I lost -- about ten years ago I lost my wife to cancer and she and I were married above a place called the Indian cliffs. It is a place that is 102 feet above water and the cliff there is about -- covers about 55 feet, and there is a place that was actually cut by rain water cutting a gully, and at the front end of it you could drive a pickup truck into and at the back end it narrows down kind of like a chimney, and you swim out the top and there are a couple of railroad wheels inside there.

A: Wow!

D: And, um, my wife and I got married right on top of that. And then, when she passed away, I have her ashes and when I go our ashes will be mixed and we will be put there and mixed with concrete. And in fact, her husband is a clever construction guy and I already designed the whole thing and how it will be done.

A: Wow!

D: And that's where I will be. I try to tell people, when I tell them where it is and what not-- more people know about it now. I say, "Leave everything alone! Don't take scallops, they take years to grow and just leave them alone. Let other people see them."

A: Yeah.

D: So did that answer your question?

A: Yeah, you did, absolutely.

D: And that area, what we used to do-- I had an office in Scotland and I used to travel all over the world, and when I would come home, I would go down there and there was a 31-foot bertram and I could take six divers easy, we could go down and go into the mouth of the cave and there was a slot at the top, it was not a true cave. It was about that wide. The sun was shining through and the fishers are in it. And I would be out there three out of four Saturdays.

A: Sounds wonderful.

D: To me it is a holy place, it really is. And people don't respect the ocean for what it is and what it needs to be and to protect it. I am sure you know about the Yukon.

A: Yes, of course.

D: Well, I'm the guy who sunk it. I have half a million dollars tied into that ship of my own money and me and 2500 people sunk that sucker and I am trying to get another one. I think San Diego should be the diving capital of the world, we are not, but we should be because we have better water days even over Florida. Florida has some clear water, but they also have times when

nobody dives because of the weather. It just beats them up. Harder to dive in a hurricane.

A: Right, I think San Diego is the best place to dive that I've ever been.

D: We will not run out of things to see in my lifetime.

A: Absolutely. I think actually you answered my last question which would be to describe your perfect dream dive in San Diego.

D: Part of my perfect dream dive would be, I really like diving with the Black Sea Bass, but where they are is not particularly in a beautiful place.

A: Right.

D: Up there at-

A: Catalina?

D: Yes, Catalina. The Italian gardens, in that section, anyway. Um, so my perfect -- my best dive would be at the eastern end of San Clemente Island at the furthest southern side, again, taking the true orientation of the island.

A: Right, where that wall is?

D: Where that wall is and where the big kelp bed is. What we used to do, we would go down to the bottom and dive around the bottom and then after we have seen what is there, we come up into the kelp bed and cruise. It depends -- 15 to 25 feet depending on the visibility-- and cruise through really slow through the kelp forest, if you go slow then the fish won't run away. They will move away and keep an eye on you, but they don't swim off.

A: Yeah.

D: They don't run away and then you are going to see what is there. If you go whomp whomp whomp, they see you and run away.

A: No good!

D: That's not what I want to do. I want to see the sea lions coming through and especially if you go over there in the summer or the late fall, you will see the schools of anchovies and you will see the barracuda.

A: I love it there.

D: I remember I had a friend who was -- still a dear friend who was a WestPoint graduate. He was in Vietnam and had a silver star, he got shot at

and that took him out for his first time and we are out on the boat and he says, "Dick, how many fish are we going to see today?" And I said, "I don't know, a million." He said, "Get out of here." So we go into the water and we swam all the way around Petters Rock or the Wash Rock by the cap and we swam all the way around that and came back in and got back on the boat and we were worn out. And I said, "Dave," and he said, "Yeah Dick?" And I said, "How many fish did you see?" And he says, "God I don't know Dick, but there was at least a billion."

A: At least a million! [laughter]

D: At least a million. The outside of that rock by the way. It washes out the water, and it drops out to about 120 on the outside.

A: Yeah.

D: That's a cool place too.

A: I really love Catalina. The Wrigley USC research station they have out in Fisherman's Cove is a heaven. I spent a week out there just free diving – I didn't have my Scripps license yet so I wasn't on scuba, but it was the first place I ever saw a Black Sea Bass. I see more abalone diving out there than I do back here, too.

D: Oh, yeah. But the biggest abalone I got was in San Diego.

A: Really? How big was the abalone?

D: It was -- well, I mean it was a red abalone about yeah big around [~12"], and at that time they were as common as rocks.

A: Right.

D: And that's not so anymore.

A: That's right. Now, to see one like that these days would be a big surprise--

D: Yeah, we used to think about getting abalone by just going down in the ocean and it was like going to the store for a loaf of bread. I mean you expect bread to be at the store, right? Well, we expected abalone to be there. I mean we ate a lot of abalone in those days.

A: Sure. My mom grew up eating a lot of abalone, too. Also a lot of lobster. Did you see the lobster populations decline over time?

D: Oh, sure. It is nothing like it used to be. You used to go out diving and there would be clouds of them following you whenever you went. Big ones and today you don't see the big ones at all. I see one and I say, "Stay there, don't come out, hide." Hey look, I did more than my share. I built all of the guns, we dove against the Attics, I can free dive to 100 feet and all of that stuff.

A: Sure.

D: I mean, I'm a product of World War two. And we were raised with cowboys and Indians and girls were raised with home economics and dolls. That was, you know, your perceived path in life.

A: Right.

D: Men were hunters. Women were home makers. And there is nothing wrong with that model, except it doesn't work anymore. I started off as a one man band. And when things here grew and I needed employees, it had more to do with their qualifications and—actually, the bigger part was where is their heart and their drive? Do they have the drive to do it? You said you started on this project here and you want to do this the rest of your life. What does that mean to you? How old are you now?

A: I'm 27.

D: So you are 27, you are a young pup, so what does that mean? Where do you want to be ten years from now, 20 years from now, 30 years from thousand, what do you want to be doing?

A: Am I allowed to still not know at 27? [laughs] I think I still want to be in San Diego, and just knowing more about it. The people and history and underwater ecosystems.

D: That's not what I asked you. What do you want to be doing? What gives you your passion in life?

A: Being underwater. Or, just being near the water. The ocean!

D: Okay. The reality is, my passion is in the water and underwater as well. And protecting the water.

A: Protecting the water.

D: Remember I told you this, suits come back every year in a body bag, and my job is to stop that. Prevent that.

I can't do that under water. I have to do that in the political arena, in the engineering arena and in the business arena.

A: Absolutely.

D: You've got to do the same.

A: Dick, I can't tell you how honored I am to get the chance to talk with you today. I think this will be wonderful for my project. Thank you so much for your time.

D: Any time. It's fun.