

Located in Kruse Audio file #2: 1:37- 8:33. Pages 47- 50

*Dewey Livingston:* In the six or seven years it seems that you were diving, could you characterize the – I use the word evolution or the change over time in these dive expeditions from beginning to end?

*Bill Kruse:* When we began, we didn't quite know what we were up against but we were crazy optimistic and appeared, looking back, to have a way of figuring things out as we went. Finding out when the weather was right, when the currents were right, when we should turn around, when we should abort the dive. All of these things we sort of learned the hard way, in some cases, and also, the equipment we were using, we didn't know what we needed to begin with and slowly but surely evolved the techniques.

There was really nothing to reference to, at least in the sport diving field, in what we were doing. It was different than cave diving. It was different than most of the other wreck diving. We were out at sea. We were exposed. We had to deal with navigation, so we went through a series of navigation upgrades from the compass to the LORAN-A to the LORAN-C. We actually bought a LORAN-C and put it on whatever boat we were on so we could have a better navigation technology than the skipper did, in many cases.

Towards the end, we actually had a GPS, one of the first GPS that were available commercially and it was the size of a full 19-inch rack, 3-U high. And the engineer from Motorola had to come out to operate it because he didn't trust us. Then we could actually visit places and revisit places as long as we did it within a two-hour window when the satellites were in position because they weren't all up there.

We found there was trouble getting tanks filled. Bodega Bay and Point Reyes don't have dive shops just sitting there ready to fill tanks, so we bought two different compressors, one that we had used before but didn't have the capacity to serve the expedition and finally, Tom and I chipped in and we bought a real compressor that we could put on the boat. So we were actually able to fill tanks during the day and coming and going and we had extra air available without bringing incredible amounts of extra tanks.

So it reduced the load, it increased the safety that we had, and by and large, even though we trained every year because we had new people, we had to get in shape, the routine started setting in so we could actually pretty well predict this is how long it's gonna take, this is what we have to do, and we could bring new people up to speed pretty quickly because we made those mistakes to some extent before.

So we got more efficient and the last significant trip that I remember, which was in '86, to a place we discovered with the NOAA sonar survey, it actually was quite a smooth dive. We had many people in the water. I believe we had three or four teams in the water at one time, which was pretty incredible for a 40-foot boat, and though it was a lot of work, it went relatively smoothly at that point. Of course we had good weather and that helps an awful lot.

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So it did evolve. It evolved to the point where for what we were doing, what we were willing to invest, and what we had to find out or what we thought we should find out, we sort of found it was time to move on to something else. We pretty much plateaued in what we could do. We'd solved the problems and we started the process to having the sanctuary nominated. That was well on its way at that time and there wasn't a whole lot more to do. And we were hoping that the establishment of the sanctuary would create new opportunities and more rigorous science in the long run and now we see even climate related science that could be built on that, but we didn't see all those things at the time.

But it seemed like we hit a logical break point to see what would happen next, 'cause since it was volunteer and we were paying our own way, we all had other things we wanted to do, too. So the expedition moved on to other areas, Point Sur, Farallones, and Alijos in Mexico, to explore different areas, to apply what we'd learned in different areas, and those turned out to be pretty satisfying trips all in all, too. But they didn't evolve in the same way. They were scientific but they were more short-term adventures, as well.

*Tom Santilena:*

Another thing that I thought of in terms of the evolutionary part of it away from the technical stuff of it is that we had a core group, we always talk about a core group. And there was a time at the beginning that we had no idea what we were doing so you had no choice but to evolve. Well, the core group was pretty much there through the whole expedition but there

were people flowing through the expedition all the time and one of the worst things for a person to have to go through and I'm sure it's the same with everybody if you don't know what to do. If you go on a fishing trip or on to a boat and you just look, "What should I do?"

And as we went along, we knew what was gonna happen. We had evolved to the point where we could tell somebody, "Here, do this. Do that." So they weren't so closed and in the dark and feeling this trepidation of, "Why am I here?" So we could actually tell what was to be done because of what we had already gone through. We didn't know what was done and now when we knew what had to be done, we could pass that on to other people so they didn't feel so uncomfortable. They felt really part of the group.

*Bill Kruse:*

So this reminds me. The Sacto Team actually came much better prepared than any single group of people before that and integrated almost immediately, both in ability to do stuff safely and efficiently and also to work into the routine that we'd developed. They had done enough of this level of diving before. We worked together well. We had more than a good time.

*Tom Santilena:*

Yeah. They were really friendly. One of them, Jerry Seawell, I mean he and I almost became brothers out there. They were technically astute and at the same time, they were just a wonderful group of people. They were fun to be with, which is on an expedition is fantastic if you have people that you like and enjoy being around.