

Karen DeMaria: April 5th, 1993, at 1:30 p.m. I am here with Glenn Evans and then Mark Nease will come up afterwards. Do you understand the reason why I am sitting down and interviewing you? You understand what my research report is all about?

Glenn Evans: Basically, just refresh.

KD: I have been hired to do a research project documenting the changes that have occurred in the Florida Keys marine ecosystem, that being water clarity, water quality, coral, seagrasses, fungi, fish. So, what I am trying to do is document what changes have occurred by people who have spent a lot of time on the water. So, that is why I am talking to you guys. First thing I need to do is get some background information. So, that is the main thing. That is mainly so I can –

Mark Nease: Check for credibility?

KD: Well, not really. It is more for later on when other people look at my report and they say, "Well, how did you come up with this kind of information? What kind of people did you interview?" I can give them, "Well, these people lived here, here." I have got all kinds of different statistical stuff that can be used out of it. Glenn, what is your mailing address?

GE: 1208 Flagler 2 q3.

KD: How long have you lived in the Keys?

GE: Sixteen years.

KD: Fulltime?

GE: Fulltime.

KD: Have you always lived in the Key West area?

GE: Key West to Big Pine. Marathon, actually. Not anywhere east of the American Shoal, that's for sure.

KD: [laughter] What?

GE: We don't go anywhere east of American Shoal or west of the Dry Tortugas.

KD: Well, I can understand why.

GE: My only access to that part of the world is what they tell us about it.

KD: How much time do you think you spent on the water? I know you work here. The sixteen years you have been here, have you pretty much worked here at the dive shop?

GE: Correct.

KD: How much time do you normally spend on the water in one week?

GE: Six days. Six out of seven generally.

KD: That is the same sixteen years. You said location of water experience is west of American Shoal?

GE: [laughter] No, I'm just teasing. Anywhere from Key Largo to the Dry Tortugas.

KD: Really? How much time have you spent up in Key Largo?

GE: The most times. Just I've only been out there probably fifteen times, maybe twenty times.

KD: What is your most area?

GE: Right here, just the American Shoal to Western Dry Rocks.

KD: What kind of information do you think that you might be able to give to me? What do you think that you have observed, water clarity, water quality?

GE: The clarity of the water and especially the marine life growth and degrowth or whatever.

KD: [laughter] Growth.

GE: What's more abundant and what's happened to it.

KD: Mark, what is your mailing address?

MN: 1116 Seminary.

KD: Years living in the Keys?

MN: Thirteen years.

KD: That is fulltime? Have you always worked here at the dive shop in those thirteen years?

MN: No.

KD: How long have you been here?

MN: Four years.

KD: What did you do before that?

MN: I worked at the other dive shop.

KD: [laughter] You do not care for that.

MN: I worked with reef freighters and worked at the galley and marina and also ran my own boat.

KD: So far you pretty much have done boat charter and then diving things for those whole years?

MN: Yes.

KD: So, how much time would you say on average you spent in the water in a week?

MN: Half the time, so I guess three, four, five days.

KD: [laughter]

MN: I figured about one-eighty days a year.

GE: The students are driving me nuts just like bumps on a log.

KD: [laughter]

MN: I don't think she's really interested in that.

GE: I know. That's okay.

KD: So, thirteen years is your water experience, right? Location?

MN: Also, between American Shoal and the Dry Tortugas.

KD: On pretty much Oceanside, right?

MN: Yes, more than that.

KD: Do you go back that much?

MN: We haven't in a couple years but I used to go out there.

KD: What kind of information do you think that you might have that is helpful for me?

MN: I'd also be to tell you a little bit about water clarity and subjective opinion of marine life concentration.

KD: You both finished high school, did you not?

GE: Yes.

KD: High school. Any college?

GE: Associates degree from Florida Keys Community College.

MN: Me also.

KD: Graduated in two years? I am going to give you a name now.

MN: Code name.

GE: Code name?

KD: No, sort of. But the name in the system. I am trying to figure out what you best – since you are not really charter boat captains or anything like that, do you agree that probably you would be best fit under divers as in dive shop owners, workers, vessel operators, and crew?

GE: Yes.

KD: As commercial fishermen, boat captain, recreational fishermen, divers, scientists, and others?

GE: Diver, captain because I'm either out on or under the water. That's pretty much why it's six days for me a week because I do both. So, even just like today, I've just been out diving all morning.

KD: You also teach. Mark?

MN: Pretty much same, dive vessel operator and diving.

KD: You do not teach classes though?

MN: I do.

KD: You do? I guess I never really see you as much. You always see Glenn. [laughter] What kind of things have you noticed with the water? Mark?

MN: I would say one of the most market observations that I can have is when the water temperature warms up in the summertime that the algae soot and also the white precipitous chalky coloration that we get pretty much in summertime.

KD: When does that usually start?

MN: As far as that goes.

KD: I mean month. In the thirteen years, is this a normal event?

MN: I'd say within the last maybe three or four years.

GE: I'd say three years asbestos. I'll back up on that. Especially what Mark says with the algae blooms in the summer, just the water's almost [inaudible] and it would get up through the nine and then bleach out that fire coral and just stay like that. Also, now these past winters the same observance for getting the damn green algae out there. The Gulf Stream doesn't come in and that visibility is almost as green as that sheet right there, and up and down the reef. It's just really something. I just went back from eighty-six, just fucking every day of a 50- to 70-foot of visibility.

KD: In the wintertime or – yes?

GE: Just pretty much all year round. But this year it's minimal of 30- to 35-foot consistently, May, July.

KD: So, basically about three or four years ago you noticed that the summertime, that was when you realized the real distinctive thing, the water got green?

GE: Stayed green for months at a time.

KD: When did it usually go away?

GE: The first real hot spill not until usually September.

KD: Does it coincide with fronts, you think, or the weather patterns or is there anything that you have observed on your own that you think might be a trigger besides the hot summer?

GE: I think for some reason the Gulf Stream just doesn't come in anymore like it used to. We just do not get the blue water. It used to light up Hawk Channel just like a swimming pool. Now, the last couple years, maybe once or twice a year is it clear in Hawk Channel. Years ago, it was just always clear. It just seemed like the Gulf Stream would just come right on in. Now I don't know if it's because of the atmospheric conditions at the Gulf Stream, where the moon is, or whatever. But it just doesn't seem to come in at all. That's definitely holding it down.

KD: When was the last time you saw Hawk Channel clear?

MN: Not this winter, not in the last three months. It has to have been last fall.

KD: Last fall?

GE: There are the most beautiful reefs in Hawk Channel. They're spectacular. That's one point you might want to make too is that those reefs in Hawk Channel since they're not visited and they're not heavily dove or touched or anything, they're pristine and some of the...

KD: Is that, I guess, what you would call offshore patch reef?

GE: Offshore patch reef, yes. The ones in 35 to 40 feet. When you can get that clear water in there, the soft corals, the Gorgonians, the sea rods are just magnificent. Like I say, even now, it's just so rare that even clear in there. I remember almost every day going down on these boats in the [19]70s. I started work here in [19]78. Just right here going down on that same boat. Just every day, you'd look over the side and see those coral heads. Another point too, is we have that wreck with the *Aquanaut*. I think this has to do with the Gulf Stream too. But the *Aquanaut* was a little, wooden tugboat, and 77 feet of water off from Western Sambo. We dove that wreck literally every day and we'd free dive. We had a buoy 15 feet below the surface and that's how we found it because we didn't have any electronics. We'd get off there and line it up. We'd go down there and dive that literally every day and it would be 50- to 75-foot of visibility. Now, three years ago I went back to find that wreck and I've gone to it about six to seven times since then, absolutely zero visibility. A total silt sand pit down there, nothing. Even on the days where the surface water was clear, it was still just a silt down there. Just soaked in it.

KD: That was one of my other questions, the thermal finds. I guess that is what I call it, thermal.

GE: Mark said it's been really noticeable. Other than just from a day once and a year, this year has been...

MN: We haven't really had a real good chance to review this.

KD: That is okay. That gives you an idea.

GE: 5- to 10-foot visibility in green water.

KD: In June.

GE: In end of June. 29th, 10 foot of this. 5 to 10 foot of green water. 5 to 10 foot again up to 4th of July.

KD: Eighty-seven, yes.

GE: Put in the Coriolis effect, the deforestation, all this stuff. Trying to figure out what's eighty-six back in June as well. Now it's twenty-five for the visibility of clean water.

MN: Ninety-one.

KD: In greenish water is it...

GE: Am I making my own terms? That's what I call it though. But yes, there'll be that junk floating in the water.

KD: Then what do you remember beyond that? Is it something you say in summertime? I

asked this before, the summer green water, has this always...

GE: Green water.

KD: So, during summertime you normally did have the green water.

GE: Whole month and then more spotty where it's like it'll have some green water in June, then you'll get [inaudible] and it seemed like it was just clear. So, we did a lot more free spearfishing then. So, we had a lot functioning as much as it is now.

KD: Popular, I guess, yes.

GE: It's not as advanced or popular like that, even though we're the only ship.

KD: 46 degrees, that was before I moved down here. Is that Fahrenheit? Yes, I guess it is.

MN: It gets green in between [inaudible]. I don't have good records but I would say...

KD: Back in the [19]80s when they would have these algae?

GE: But what the heck is this? Looks like snot.

KD: [laughter]

GE: That's the way we described it. But the visibility in the middle of February until the end of February, out of 9-foot stake, flat [inaudible]. Generally, when you have the current is when the – what I think personally anyway – is when the Gulf Stream has that much current. It's just that when it's ready to come in and it starts pushing that water and starts pushing it.

KD: The currents during the year, is that anything?

GE: Except right now it seems like it goes out of every direction, I swear.

MN: Without entering all this information into some kind of a computer, maybe talk to Bill. He's highly opinionated about the current. He keeps tabs on a trend or something like that. Like I say without, as people often do, what's the best time to come down as far as conditions go? I always think scientifically that that can be backed up. But those are two distinct bodies of water and whichever one is winning over for a clear shore area from the proximity to the main ship channel too. That's pretty much the middle of the nearshore where the flow is coming from in this area. Probably there's not the main ship channel and then of course the conjunction is what the tide is doing. I can see about Western Dry Rocks is where you start to get out of the effect of that towards the...

KD: You get there and you get out towards [inaudible].

MN: Once you get on either side of that, probably much after that and you get 5, 10 feet in.

KD: Yes, the story we have heard before was like that.

MN: So, that's what I...

KD: For the last three years, typically would you say that...

GE: Not in the winter.

MN: You never really get that in the wintertime. Water temperatures, like I say, I know 85 –

GE: Yes, 86.

MN: – degree level, whatever it is, it might be right around 85 degrees because algae really seemed to get a lot of this.

KD: Would you say that this year or have you had any other or have you ever had green water in the wintertime like this and the visibility so bad and it is really anything like this with four digits?

MN: No, it's a lot of this is subjected. I'm sure it's probably been a gradual thing but it's far more strung out. So, I'd say in the last 15.

GE: Below 15 feet, it's 71 degrees. For the last month, in fact I just read, it's how cold the water is.

KD: Is that something that...

GE: It's how cold the water is. I just can't even remember in the past if I think 5 to 30 is just cold water. Can't believe it.

KD: In the last month.

GE: Then Mark and I were [inaudible] down.

KD: So, that and also right after the strong winds is when we had those real low tides.

GE: Low tides, so you had to [inaudible].

MN: We've been running way ahead of the usual winter precipitation.

GE: In the winter months, we're 5, 6 inches ahead.

KD: So, Don and I were driving up the Keys a couple weeks ago right after the storm. It was the weekend after the big storm, the Long Key Bridge area, it was just hell. You could see the definite differences. That is the color it should be when the wind is stirring it up.



MN: Now look what it is.

KD: Yes. You would get a milky color.

MN: The stuff that stays in the water. It just doesn't really settle out.

KD: Is there anything else about probably the day before?

MN: It was even before that too.

KD: Yes, probably within the last month or before.

GE: What the heck? Kind of was proud of myself.

KD: So, we talked so much about the reef area. Have you noticed something?

GE: Grouper over 5 pounds of snapper. It used to be just you can swim out there even from shore without any problem. But as far as most of the time though because even with the north wind...

KD: It is 20 Greensboro? I see it in Long [inaudible].

MN: Is when I'd get out there.

GE: I think it's even the coral too because you'll see it right next to the coral like for a black band that's easy or thin or something, that will grow on that and just spread.

KD: Any other comments, Mark, that you saw?

MN: No, I don't have anything to ask.

KD: Where is your favorite dive spot, Mark? Where is your favorite place to go diving? Used to, not now. I am not thinking the last two years.

MN: I'd say the wreck what we commonly call the Bar, the second reef line all out front but especially Western Dry Rock going down.

KD: Why are these areas your...

MN: Well, they're out especially you being outside the fringing reef line, you're more prone to be outside the effect of the nearshore water. Especially once you get well down west of the main ship channel, you can consistently find a lot better water quality conditions.

KD: What is the depth of the water that you are talking about?

MN: 40 to 110 feet or deeper maybe.

KD: Is there anything that we have not really talked about that you have noticed that you want to add and make sure that I know about that I tell the world?

GE: I think just to sum up, we notice we're trying to use the word either an abrupt change or a gradual change overtime. I really couldn't put my finger on anything abrupt. I would use the word gradual change. We made specific references to the different species that were in abundance ten, twelve years ago. Then went through a period of not being abundant and then some of the species that are again starting to become more abundant are the turtles, jewfish.

KD: Prawns.

GE: Prawns.

KD: Stuff that is part of regulation.

GE: Some of the most prevalent species that come to mind for me are the still commercially-valuable groupers and snapper species and the spiny lobsters which just declined and never had built back up. The gradual declining of the nearshore water especially in the areas around the main ship channel and a certain distance to either side of that where it seems to have a bigger effect as far as the best diving and probably the most remaining species numbers and diversity and numbers of individual species, which I think are in those areas just outside of the nearshore water's effect.

KD: Do you notice much more seaweed or anything coming up in here? How about even offshore? Have you noticed a change in the seaweed lines or are you noticing more debris out there while you are on the boat?

GE: Less weedline.

KD: Less weedline?

GE: Less weedline. Less [inaudible]. Now that we see as much coming in on the reef, but a lot of times too out of the deep wrecks, you get nice patches of it out towards 250 feet of water. I don't know if someone's taking it or what, harvesting that stuff. I think the Japanese are –

MN: These are coming out to North Carolina [inaudible].

GE: Men, they're just chopping that up.

KD: What about floating garbage or even nearshore garbage? Are you noticing anything that has changed, the stuff that you see in the mangroves or even washed up in here? Anything that sticks in your mind?

GE: For the University of North Florida, I did a study for them last year. It seemed like it wasn't

just the voters, whenever we'd get an or east or a south wind, it seemed like there's a lot of trash coming in. But then with the north wind there's a lot of trash going out too. So, I think it was a combination of both people just blatantly just not being aware of –

KD: What about on the wrecks and on the lake, are you seeing more or less garbage, cans, bottles, papers, monofilament trap stuff, whatever.

GE: Actually, that's been more consistent with itself. Not extreme amounts where it's damaging anything, but your occasional (anchor?) fisherman throw in a bottle or a chum bag or a box of split or something like that. That's what I did for those people up there in North Florida was the designated an area of a couple hundred square feet and just what did you find there? Basically, one or two cans, a bottle, and monofilament. Then of course, with the trash bags and everything trying to clean them up.

KD: Basically, you really have not noticed a big difference in either?

GE: No. No, decline or advancement. Pretty much consistent, so I don't think really any type of dumping and there's really hurting it at all. I think the main thing that needs to be done is you need to educate more of the people coming down here to the Keys. Now again, this place is just opening wide up with all these dive shops and snorkelers and everything. If you're going to put all those people in the water, they got to have some type of cognizant idea that this is a livelihood for a lot of people. Its reef is an extremely fragile ecosystem that doesn't need a bunch of yahoos out there manhandling it and standing on it and raping and pillaging everything that's out there. I hate to see it happen, but boy, they're going to have to either make it an entire protected area. I like to see them designate a certain reef's hands off for a year. Just don't even go there and then go back again like that. Just give it a little chance.

KD: Do you think there was a problem with tourist divers on the reef?

GE: Big time. They're becoming more aware now, I believe, as a lot more of the dive facilities are becoming more professional. But again, you got a bunch of idiot dive operators out there too. That's just how other people are going to act and I see it all the time.

KD: Well, any Tom, Dick, and Harry can come down here with a boat and take people out just like that.

GE: That actually happens. I think one of the first things they need to do is ban the sports season for lobsters. That has to go or just say, "Here, only residents of Monroe County catches lobsters." I like to see it like that. That's just going to be the point where one of the things I truly enjoy to do, which is to spear a couple fish for my own dinner table or to catch some lobsters, right? Like I said this last week I couldn't get out and catch six of them in a place where I'd catch a hundred of them if I wanted to. It's just really bad.

KD: Is there anything else you have noticed in the books? Any other species? Corals and stuff? You do a lot more diving with the reef.

GE: I'm out there. I will say too that some of the star corals of the Western Sambo, which is one of my favorite places to go, there's isolated coral heads. These things are just as vibrant and as alive as they ever were. These are these monstrous star corals. When the water's clear, if you get over 30, 40 foot of blue water, it's just a fantastic dive in that selected area right there. Then as Mark mentioned, the Bar or the Ten-Fathom Ledge just right off from Western Sambo and 35 to 45 feet, very alive. You see, when the water's so murky all the time, everything looks dead, everything looks gray, there's no color coming down there and that's what hurts me. I feel that the coral polyps and the fish, the coral polyps are getting choked out and all that silt's getting in the fish's gills. When we had that long run of that murky water for two weeks, I just thought nothing else. This is going to hurt to reef more than anything else because there's no sunlight getting down there and there's all that particular matter floating around.

KD: It has got to be almost like there is stuff that the pulp has got to be suffocating. Then they need the light for photosynthesis and everything.

GE: They need the light. Got to grow that algae and get that zoology [inaudible] in there. So, I feel that. Again, just nature in itself sometimes too is hurting it. But again, with all these people in the water and all this industry runoff and all the salinity in the Florida Bay with nothing being reproduced and that's what's going to wipe us out, out here. Because there's no more small groupers, there's no more big groupers, hardly any short lobsters out there. Where's it going to come from? Now, they have all those trappers out there again, keep saying they're going to cut back or trap them, they're putting in five thousand more each year. If you wanted to, those opening the lobster season, you can from buoy to buoy from here to Key Largo.

KD: What do you have? You have logbooks from how far back?

GE: I'm just going back. [19]86 was the last night I had here where I was keeping for someone.

KD: Just remind us, how far back do you go with your logbook?

GE: I probably have them from [19]78. That's when I first started working as a dive master for Reef Raiders, which is now Key West Diver out here.

KD: [laughter] How about you, Mark?

GE: I was going to keep my log...

MN: [19]88. Goes as far as back as that.

GE: I have some photos from back then, underwater and land from the [inaudible] at the Keys. Going back in?

MN: See you all later.

KD: Call Brady and make sure I remind him.

MN: Brady?

KD: Yes. I cannot get a hold of him. He was supposed to come over about 4:00 p.m.

GE: Probably doesn't even where he's at in the storm.

KD: [laughter]

GE: I think he's still out there.

MN: Earl would be an interesting one, yes.

KD: Earl would say no. Is there anything else that you wanted to tell me about changes you have noticed or that you think need to be told that we have not covered?

GE: Just again, I believe education is the key if we can just get to the people, get them more aware.

KD: You think there are too many people?

GE: Too many people.

KD: Living here and tourists or just tourists or?

GE: Too many tourists coming in that really don't care about the reef itself. They're just here to live in their big houses or whatever. But I think there's a decline in the people that are actually aware of the reef that's out there and just the marine resource that it is. See, I myself just like going under water and looking at it. I could care less about taking a bunch of people diving or whatever because I thoroughly enjoy the interaction of the corals and the fish and everything, and I can't even go down there and see them. They're just not there. I can't go back to my favorite places and catch whatever I wanted, it's just sad when it gets to that point and there's just nothing left anymore. Then like I said, there's still a few of the areas that are just as alive as they've ever been.

KD: On the corals or the places that you go for diving, do they all pretty much look the same as they did fifteen, sixteen years ago, do you think?

GE: Not as alive. Again, I feel too the sensibility...

KD: Is it because of fishing stuff or?

GE: – because there's not as much there to keep it going. So, again, instead of having fifteen different varieties of fish in the same area, you have one or two.

KD: Less diversity.

GE: Less diversity, exactly. Not the multitudes and myriads that you see or read about. So, again, that means...

KD: So, each of you, you have noticed an actual decline in coral coverage or our sponge coverage or an increase or nothing?

GE: A little bit. The areas where it used to be a lot more competition for the corals to exist in one area seems like some have just given up and died, like they've just been encroached upon by something else. So, yes, it seems like some of it is phasing out and it just doesn't seem to be, like I said, like the demand or the competition like they used to do with everything being vibrant. It seems like it's slacking off and the algae are taking over. Again, when that urchin left, they fed on those algae out. There's nothing to feed on those algae.

KD: Do you think that is good? Did you notice it as the same time or are you saying basically that would have died off and then because of that you are seeing much more out there growing on the reef?

GE: Algae and a lot less coral growth. Now, I'm afraid that there are some chemical in the water that killed those sea urchins.

KD: No one knows really what killed them.

GE: They were wiped out down in the Virgin Islands. I moved down there too and I was really – man, this is –

KD: Essentially, it was throughout the Caribbean but not a big continuous area. It was just like big patches throughout.

GE: Now, one good point, in February I was just down the Tortugas and just snorkeling around the patch sheets. Next to the port I found some black sea urchins. There were some there. So, that was great to see.

MN: At least remember all the dive back information.

GE: I brought them back in my bag and released them out here?

KD: Really?

GE: I wanted to. But I did see some, so I'd go get a lease or something. Whatever it was that wiped these out, at least it didn't quite get all the way out there. Like Mark was saying too, the shipping lanes and the channels and everything too, those just seemed to take in a certain area.

KD: Well, I think we have pretty much covered everything for now. Anything else you can think of or you think that is...

MN: That's all I've got, though it wasn't much.

KD: Mark, the reason I asked about Tortugas is if I start picking up a pattern after I start talking to more people, I might want to sit down and look through them myself. So, I just try to make notes of who might have information if I need to go back on things. Well, thank you very much for your help. I appreciate it.

GE: You're welcome.

MN: Good luck.

GE: Good luck on your assignment.

[end of transcript]