[00:00:00]

Female Interviewer: Go ahead and start recording and do you want to just – so this just Vinnie Fonascus *(phonetics)* here with Mike Gibson *(phonetics)* and it's February 20th and I'm here with Will Ward.

Male Interviewer: And well, what we try to do first of all is just have these state your name and then where you're from and just a little bit of your background, what kind of type of fishing you do and how long you've been doing it? Great. Okay.

Interviewee: So, thanks for the invite, Mandy, Mike and welcome to the folks who knows a staff. I was born and raised here in Florida, I'm a Florida native for generation, five generations. Floridians here over running a decade now, a century I should say, of our family being here. My history in the fishery began mid to late 70s as a child working on the back of boats, working at dock arenas, cleaning boats, boat fishing, commercial fishing, charter fishing, recreational fishing in the summers because I couldn't do it because of school. But the summertime was fun because I get to get on the boats and go out and explore, you know, the curiosity of a young guy, a teenager.

And then from that, I progressed, worked at the industry, became a licensed US Coast Guard Captain, ran shorter boats, head boats, commercial boats, has a seafood company for several decades.

Male Interviewer: When did you get your Captain license?

Interviewee: '94 I believe that my first issue was like, I believe it was. It's in the 90s, early 90s I would say to latest 91-94, somewhere in there. And so, I ran head boats for the Hubbard's here for example, the Hubbard's family. Wilson Ward was still alive at the time I did the overnight trips offshore to the re-fish complex, history fish complex and *[indiscernible] [00:01:43]* both as a head boat captain, also ran head boats and chart boats and the double Eagle fleet and along the charter boat fleet and clear water marine so, I have experience there as well.

But I fished the Gulf, I fished the South Atlantic, I fished the Caribbean, I fished New England as well but not extensively as I have the [00:02:00] southeast United States from Texas to Florida through the Caribbean and the South Atlantic, including the Bahamian islands, et cetera. So, but I've had charter boat, head boat, commercial *[indiscernible] [00:02:11]* in the fishery and also from the perspective of a wholesale operator, vertically integrated sea food company that worked with myriads of fishermen, hundreds and hundreds and hundreds of fisherman working their wares if you will, both in the pelagic fisheries from tunas, swordfish to mackerels to escolar through all the grouper species, all the snapper species, cobias, mahis and the list goes on pois *(phonetics)*, et cetera.

And a fairly decent amount of inshore since you mentioned it, the mullet fishery, the Spanish mackerel fishery, the shore based, we call it the five miles or less fishery state water based fisheries if you want to call them that stone crabs, lobsters, et cetera.

So, it's a myriad of industries and fisheries that I've been involved in either be as a fishermen in the context of a harvester to a distributor, wholesaler, and producer. And then as a charter boat side which was, I did simultaneously and then there was some transition. There's some cost training if you will, right? So between the charter and head boat fleet at the time that I was in first invested into the industry. We had a charter industry/commercial industry which means a lot of the charter boat captains that were really good fishermen with commercial fish part time, and vice versa, because the seasonality of the tourist business, right?

So, we had markets that need to be fed, no pun intended, but they really need their fresh supplies of good quality products. And then we needed the commercial stuff for this commercial side. And then the tourism, the ambassador's of people from Indiana, Chicago, Tennessee, wherever, England, all over the world they came here to fish in the area. So we would do that for them as well.

So that's kind of a, [00:04:00] probably a worthy synopsis of 35 years.

Female Interviewer: Impressive though.

Interviewee: Well, I mean, I just, I don't want to – I want to give you the guard, the 30,000 foot level first, right?

Female Interviewer: Yeah, no, that's great.

Interviewee: And then on the law school and doing fisheries work that I do now so which I love, because I love, this is my life. This is my life's work. Hopefully at my graves though *(phonetics)* that I made a difference.

Male Interviewer: So we do want to focus on red tide and everyone get a historical perspective on it. So we want you to kind of reminisce about when was the first red tide that you remember and can have some recollection about what happened and then kind of progressed from there to other red tides.

Interviewee: Well reminiscing on red tide, I couldn't help but remember my father. My first memory of red tide is my father telling me about red tide as a young boy here fishing. Now, they were much more simple types of fishing back then, very, very parochial in nature. You know, they didn't have that blinker machine, you know what blinker is but it wasn't even, they don't bottom machine, so it was blinker and sort of blinking you or bar soap. They had all, I mean there's all different kinds of things, Sexton's and I could go back down that road with you, but it's an interesting transgression or change over time of the modernization of the fleet we have. Oh my god, have we come?

We've gone from here to Mars and back in the ability to harvest and access fishery resources. So that was the first memories of my dad and telling me about them having

bad outbreaks and blooms. And in principle, Mike, they would have been around, as I remember my father's memory is pretty good about my father, as a Navy man, telling me that it was mostly around the warmer months.

He was always just – he sometimes he gave me months in June and July or whatever, but as a warmer more, warmer month prolific kind of [00:06:00] scenario. And they were bad, the outbreaks could be bad, not to deny they couldn't be.

Male Interviewer: Did a particular year that you remember more often, decade or…

Interviewee: No, you know what, if I had some things, maybe at home, I might be able to look up from dad and me talking and my brothers and because my other two brothers, I'm the youngest of six. So, named after my father's father, who was a Navy man too in World War I, my dad, World War II. And I always remember them telling me about it and my grandfather fishing in World War I earlier on the 30s, 40s, 20s, 30s and his experiences too, but that was more of a kind of second generational right, the good old days kind of thing. So, it's a little more hazy. But they had it back, all the way back to the childhood. All be it, to be honest with you, not on a level that I've seen recently for some reason.

Male Interviewer: So he talked about how, what would you say about…

Interviewee: Well, he would say to me about, you know, the several years about having lots of lots of fish kills in the bay and it could be in Tampa Bay. He was out and so he told me on an egg monkey, saw a kill up on the beach on Egmont one year that there was a lot of mullet pin fish, occasionally, dolphins or manatees, but not very often, not very often. I didn't remember him speak specifying, it was more fish kills than mammal kills. But not to say that wasn't, you know, something that didn't occur, just his memory wasn't as vivid about that.

Female Interviewer: Did he talk about taking time off from fishing? Do you know – did he ever have take a break for several months, because of the red tide or…

Interviewee: Well, there were areas that because of the smell, yes and the coughing and the smell and the redness each of that. It was isolating or an isolated areas in the bay maybe [00:08:00] there were others as a bay you could go. I remember him telling me that they'd have to avoid areas to fish and just completely stay out of those areas because of the mere, you know, potency of the redness or the smell whatever.

But it was up around Gandy, I remember he told me it was Gandy Bridge, had some Cockroach Bay had some areas. Bishop's Harbor, you know, where that areas of the bay. You guys know the big one I can show you on the map where that is.

Female Interviewer: Actually yeah, we can start mapping out. So we want to actually draw out in space if you have any fish knowledge.

Interviewee: So this is the Courtney Campbell Causeway here. This will be the – this is the Howard Franklin bridge, I'm sorry, the Gandy Bridge. Howard Franklin Courtney. So, you know, in areas of this area, the Bishop's Harbor is down here. Bear with me here. Cockroach Bay and Palo Beach area. So, you know, areas through here, it means down through here. This is the Egg Monkey kills. This is the Foto Soto areas. And then, you know, then we have, you know, there was occasionally some beach – areas of the beach that would have, you know, spotted areas where they'd be, you know, like maybe a stronger isolation here and skip and there'd be some here. But it was, you know, fairly in it – now we're talking about this the other bay right, we're not getting any…

Female Interviewer: So we have a chart so I mean you know, further out...

Interviewee: Yeah, let's start with Tampa.

Female Interviewer: Yeah.

Interviewee: Those would be some of the areas that we saw that and I'm not holding true to those areas. Remember, it doesn't mean there wasn't fish kills here, or here or here or here. My father might have been fishing in these areas, you see?

Female Interviewer: Yeah.

Interviewee: Or one of the fishing areas because of what was going on. So, it's driven by your activity versus the spatial location and distribution of the actual kill necessarily. But at least it gives you an idea that no, it could be anywhere in the bay basically. I mean, it's…

Male Interviewer: And so these were probably [00:10:00] closer inshore because he was fishing probably closer inshore at that time? Is that right?

Interviewee: In his offshore fishing and in his inshore fishing. In the offshore nature of it, I remember dad telling me that they had some offshore kills, but it wasn't a common occurrence as the inshore kills. There was a disparity, I feel glad you brought that up, there's a disparity. The inshore kills to the offshore kills, they saw some, but the disparity between the amount of kills that they visually saw now, this is only their anecdotal observations, right?

But it bears mentioning, it's still an observation for what it's worth, that they would see these kills close shore based. But then less pronounced but one of kills offshore in the 50s, 60s, and maybe through the 70s. But that being said, I don't know, I'll leave it to you guys to decide for what that means.

Female Interviewer: Yeah.

Interviewee: I do know that more recently, we see a lot of kills offshore in big Reapers and grounds and *[indiscernible] [00:11:01]* kills offshore.

Female Interviewer: So, this would have been like, roughly what date is we're talking about here?

Interviewee: I'm sorry?

Female Interviewer: Roughly what decades is this like?

Male Interviewer: Dates? You said dates?

Female Interviewer: Yeah, dates or decades or…

Interviewee: So, I would say from the 1950s, even up to the 1970s and even some 1940s. I mean 40s, there was also kills because he was here and his father was here at that time. And there were still kills – I'll just say there were still kills. And they were – the patterns were, I don't know, I'd say very symmetric in that day. There's no whim or warm about it. I think, you know, when you talk about these types of plankton and I guess maybe that's the interesting component of it. Every everyone's at risk.

Nobody gets a free ride. Sooner or later, if it's settles in a new area, you're going to get whacked and that whole grass area. That seagrass area with those pin fish and all the, you know, the food web [00:12:00] starts getting whacked pretty good.

Female Interviewer: Okay.

Male Interviewer: So that's kind of what he told you about. When did you, what was your first experience with red tide and…

Interviewee: The 70s, yeah eary 70s. Well, I mean, I started as a young kid, you know, probably late 60s but I was a young baby then but I don't – I wouldn't have a vivid enough memory to be helpful probably. So the 70s for sure, the 70s on, I'm pretty much a topic because then I was addicted to the war. There's no get away for me.

Male Interviewer: Any specific one that you remember?

Interviewee: You know, I don't remember the dates Mike, but I can tell you what. I can tell you who would help me sharp my memory, sort of like what we do in court. We refer things to the clients, well we do because, people forget.

Female Interviewer: Yeah.

Interviewee: And they're just honest. And remember gently a fact. But then you say well, this help you remember refreshing your recollection? The St. Petersburg Times at a time, not the Tampa Times, probably have some really great documented evidence back to the 60s, 70s forward about the big fish kill or red tide kill. And I can promise you that

when I was a young kid, we used to read the paper, actually, which I hate but we don't read the paper anymore, we move on a dinosaur.

But because I do, I like reading the paper. But when we read it and we see it, those dates, I know Jive *(phonetics)*, I can tell you, I remember as a child before I was even a teenager, reading the paper and then a teenager, the Evening Independent it was called and St. Petersburg Times would document these events pretty, pretty good. And they would, locations, you know, how it was and commentary from people and it was pretty interesting stuff.

So, if you have questions about how you can cross reference and corroborate what I'm telling you, look to that as a cross reference as a third party independent. So you got the bias kicked out, right? And now you got something to work with.

Female Interviewer: That's really good, thank you. That's useful.

Interviewee: I mean, and I know they have – the Tampa Times will probably have a wonderful micro-fish or lab or I mean, you guys aren't going to probably that kind of research [00:14:00] but you…

Female Interviewer: I remember doing the micro-fish.

Interviewee: I mean I'm well way back, you guys remember. I'm dating myself here old, I'm an old dinosaur.

Male Interviewer: Yeah, I've been in the library with *[indiscernible] [00:14:09]*

Interviewee: Well, it's just that might be something that – I'm just saying you could really hone in on this and get it down to, you know, '78 was a bad one late '91 or, you know, I'm not saying that – I'm just saying that it would help me oh, yeah now I remember. Now I plan and starts spattering off things going God, it just made me think about something that I forgot right now before you.

Male Interviewer: So, in the 70s and from what you remember and then comparing and understanding where we are today in the severity that what range of one to 10, with 10 being the worst, where were those be in the 70s? Was there one particular that would be anything that you…

Interviewee: I'm sure Mike, there were, I can remember that from a decade to decade perspective. There have been some bad red tides within a 10 year period. You're going to get a bad red tide here generally speaking. That's a general trend, 70s, 80s, 90s all the way through today.

Male Interviewer: Okay.

Interviewee: So that being said, I can't say that there isn't any really bad red tides in 70s. There were, just don't remember the dates.

Male Interviewer: Okay, it's all right. Okay, that's good. Moving beyond the 70s, when is the one that you remember the most?

Interviewee: I remember there was a really bad one in the 80s and a couple of bad years in the 80s, and maybe two or three bads in the 90s, maybe one or two in the 80s. I want to say two, maybe. I want to say three in the 90s because I knew there were several cycles of it. We just, we thought we avoid it and boom, we got hit again. And we've had – moving forward in the last 10 years, we've had, seems to me [00:16:00], a more uptick in both the number of them. The number of the severity of them and the duration of them, monthly, the spread. Instead of it being an isolated area and, you know, bad, it's always bad. We don't, fish kills which is a national phenomenon. This bacterias I mean loves plankton, as I understand that, whatever it may be. The outcomes – sorry, maybe.

So, it seems to me that that we've seen an uptick in my memory, going back from the 70s perspective and just kind of having a rough timeline, like of how my memory is of it. And I don't want to oversimplify it but I remember seeing them and they were here and then they were gone. They were here and then they were gone and lingered a little bit. Now they're here, they're not gone, and they continue to linger. And then they come back, pop back up, and then they pop back up on the South Beach. And it's almost like holes in a boat, okay?

You got five fingers. You got the five fingers, you can always work it and but now I'm running out of fingers and I don't know what to do. I got toes or crap. I'm going to fall down and *[indiscernible] [00:17:13]* So, it's almost that as if there's an uptick, there is a pronounced uptick in and I can't speak to the exact volume of it because I don't know…

Male Interviewer: So on this timeline, you would say it has kind of gone?

Interviewee: Well, on a continuum, there's been…

Male Interviewer: And it's severity and duration.

Interviewee: Yes.

Male Interviewer: Both of those?

Interviewee: Yes, over time. Over – both in the 70s is what? There will be a 40 year, about 50 years timeline.

Male Interviewer: Yeah, 40-50.

Interviewee: So, 40-50 years. Over 40 to 50 years, or for certain, over 50 years because I've been on that plain long enough. Over the 50 years that I've been here on this planet, I can tell you that the severity and the duration is increased.

Male Interviewer: Okay.

Interviewee: That's undeniable, in my opinion, in my opinion [00:18:00]. And I spend 200 days a year in the water for a living for almost 20 years. So, I don't stand from this from the hindsight of a Ivory tower, with all due respect. I'm not *[indiscernible] [00:18:12]* no because I am educated too, but I mean, I appreciate academic education and I love science. I love learning and achievement. But I love getting on the water and really grinding it, the truth of it in the real world experience.

And then speaking to captains, which I, I mean, all of my captains collaboratively had hundreds combined, hundreds of years on the water experience. At one time, I could be in a room with him talking with him about this, because we just talked about it, you know, like, what's going to happen next year, what's going to happen in five years? And sure enough, we would have a bad red tide.

Five years later, we may not have a good recruitment if we gag group or something depending on the lifecycle of the animal, right? Everything is on cycle. Not so much on white bait and sardines and, you know, those kinds of things, trout. But those cycles of life are dependent upon how bad that kill was and where the kill occurred may have a direct correlation if not causation, but correlation at least to what happens in the recruitment cycle for a given species.

Male Interviewer: Yeah. So, how about the more recent times? Do you remember the most recent ones that you've had?

Interviewee: This last year's one was really bad. I mean I'll start with the most recent one because that makes it easier for me. Last year, we had red tide on and off, for almost a year, almost a year, not three months, four months like we could have traditionally. I mean, again, I wasn't doing the sampling so I don't know at the cellular level or there wasn't some level of the blooms album blooms offshore, which they occur. But we didn't see the cause and effect of that like this. [00:20:00]

And so Sarasota, Fort Myers, Naples, all my colleagues up to the south part of the bay, all the way down through Anne Maria Island (phonetics).

Female Interviewer: Yeah, it's driving out, yeah.

Male Interviewer: Can you kind of draw out the scale of the scope of that one?

Interviewee: Yeah. Well, I'd have to go south because I mean – well, there is, I mean it was, well, offshore we had kills, offshore, this is 40,000.

Female Interviewer: It's the feet so.

Interviewee: Well that's feet? Okay, well, that's good. It's feet and then we're anywhere up trough here, we have major kills offshore of groupers, snappers, any of the Rufus complex species. We had shore based kills a long Anne Maria Island enclosures. We had closures from swimming around St. Peter and stuff of course. We got to be careful to understand what if that is red tide. What if that is the city of St. Peter dumping sewage. And I'm really, you know, don't even get me started about that. You want to get me started, just get me started on that and we'll be here for a day.

But that has been, you know, closures and et cetera. So I don't want to – there's some cross confusion of issues here. And then as we go south here, and here we go south, all the way down to Naples, there's going to be spotty areas like this, all the way down the beach, all the way down to Naples, all the way down. I mean, all the way down to Everglades city. All the way down to the 10,000 Islands. Naples, Fort Myers, Port Charlotte, Englewood, Venice, you want to see more? All the way down south to the keys.

Female Interviewer: So is that pretty much just continuous?

Interviewee: Well, it's, you know, maybe here and there and here and there. But it sort of like you're dodging bullets to get away from it. It's just like, where this stuff come from. I mean it's exploded. It's exploded. It's like a cancer.

Male Interviewer: Was it as far offshore down south?

Interviewee: The word I heard from fishermen and the guys, they still, you know, can consult, we can talk with on a regular weekly, we talk with all those guys. It was the same way but spotty [00:22:00] in certain areas as well. But it was an offshore component of it. They were swimming through acres and acres of fish kills. And, you know, we've had that in the past when you have flood – remember, you take off, you go offshore and you're fishing out here 120 feet, you're coming back in, fish kill, nothing, nothing, nothing. Kill, nothing, nothing, boom, you know, the wall of death. And then boom, you're out of the wall. It's brown water really nasty stuff and then you get back in and it's okay.

So, you have this hiddenness pattern to it and the guys and ladies that are on the water, the ones that run the chart boats, the head boats. They do it for a living and or some recreational aimers that are out there on the regular. They see these things. They pick these things up, they have their cues. So, I can't speak to the exact locations because I didn't noted any log books. I didn't noted in my information. But I can tell you that it was repeated and repetitively enough.

And in particular, the last few years, last year's one and the years – a few before that one and one in '14 or '15 maybe was it. I forgot when it was. That was one that was a really good hitter too. And it seems as if the pattern is there just after the oil spill, Deepwater

Horizon oil spill 2010, it was April 2010. There were some major kills after that. I don't know if the oil spill may have caused part of it because we had fish with lesions on them and et cetera. Again, kind of mixing things here I know, but it's just hard not to understand the dynamic of the oceans and water.

Male Interviewer: Well, given that so this last one, 2018 on a scale of 1 to 10, if you can kind of rank it with these others, the recent ones, what would you say that one rank on the scale of 1 to 10, 10 being the worst?

Interviewee: Well, it's one of the worst I've seen. I don't know if it was the absolute worst, but it's surely one of the worst, one of the top three worst I've ever seen.

Male Interviewer: Okay.

Female Interviewer: And so going back that you talked about this wall of death…

Interviewee: Because it continues. It was non – like it was non-stop wall of death. It was just prolific. People couldn't breathe, couldn't walk the beach, couldn't fish, couldn't swim, couldn't sell. [00:24:00] And then they think, well, it's going to be a few more weeks, just come back reset your, no, it's not going to be a few more weeks. It's going to be a few more months if you're lucky and then it come back. And that will be or be 5 miles south and be like, well, I just got lucky. I mean, this is crazy.

I've never had to go to a beach and have to worry about well, five years to the south, five miles to the south, I'm okay. From miles to the north, I'm not. I better stay here. I never thought – I can tell you I never did that in the 70s. I never did that in the 80s. I ran into it and I could get out of it. I can ran through it, I can get out of it. And I wouldn't have to dodge landmines like I was a prisoner to the coast.

Female Interviewer: Going back to that wall of death that you talked about, is there a specifics that are right there?

Interviewee: Well, I mean, that's a general generic area when you got to 30 to 50 feet. Anywhere to there, there were some areas were more concentrated. And then there were big hits and just brown, brown nasty water and that'd be really weird. There'd be areas this brown, almost coppery kind of tinted nastiness it's just, it's there. You're going through it and then you slowly get out of it. And you pick it up again and I wish I could have had coordinates for you. I hadn't been able to track and monitor this stuff like we really should have.

We should have done a better job. The industry should have taken the initiative to say look, we're going to keep track of this stuff so you guys can get – give you guys 10 years or 15 years and look what we found last 10 years, then you would have something.

Female Interviewer: Yeah. Well, we'll talk about that when we're finished. Yeah, we'll talk more about that but yeah…

Interviewee: Because it will be helpful. I mean really will help you a lot.

Female Interviewer: We're working on that.

Interviewee: I'm trying to get you there, I don't know how to get you there.

Male Interviewer: Can you go through the species again that were affected out there?

Interviewee: Out here, oh the offshore species, offshore line. So, you have red grouper, gag grouper, scamp grouper. Bear with me. I got vivid memories of, you know, vividly seen fish booking. So I got to close my eyes, let me think here a minute. [00:26:00]. Pois *(phonetics)*, grunts, hog fish and just a mix of interesting looking little reed fish let's just say. Like I wouldn't know how to identify them because some were blown up and but little smaller fish and stuff that, you know, might be tomtates or, you know, whatever.

Male Interviewer: Anything really surprised you?

Interviewee: I didn't see any dolphins but I heard people on the radio saying dolphins. But I didn't see any. No whales, oh soft corals.

Female Interviewer: *[indiscernible] [00:26:47]*

Interviewee: Buoyancy – some kind of substrates and down below looks like maybe sponge or something. Maybe just broke loose, so I don't know. But not a lot of that, maybe not just, that was hitting this. But the species, the fish I told you, yes. Oddly enough, not a lot of pelagic fish in that particular area of those kills. A few jacks, be it almaco or amber but not a lot. I think that covers it.

Female Interviewer: Okay.

Male Interviewer: Well and but now, you said there were other species but not…

Interviewee: Snappers. I didn't mentioned it, I mentioned red snappers, so could be snappers, mangrove snappers, you know, maybe red snappers those types of things as well.

Male Interviewer: But you said there were other species but not in that area. Were these other species in the different patches that you would run through?

Interviewee: Well, the coastal ones and the green I would say to you would be other, would be shore based species.

Male Interviewer: Okay.

Interviewee: I can elaborate on those if you want but I don't know if you want them or not.

Male Interviewer: You want the species, shore based species?

Female Interviewer: Yeah, that would be great, everything. [00:28:00]

Interviewee: Sea trout, redfish, catfish, pinfish, grunts, dolphins, turtles, manatee, ocean brought manatee although I don't know it's from the red tide or not. But I did see them when it occurred in red tide, all bloated up floating in the docks.

Female Interviewer: Yeah.

Interviewee: Some baitfish, some miscellaneous baitfish hard to – when I seen them, they've been pretty rotten but it looks to me to be thread herrings. Spanish sardines-ish or greenback manor-ish kind of thing. I mentioned catfish?

Female Interviewer: Yeah.

Male Interviewer: Yeah.

Interviewee: Both kinds of catfish, both regular and shell cat and what else? Sea bass offshore here, forgot about sea bass, I'm sorry. Black sea bass, yeah. Silver trout in the shore based areas as well or sand trout which we call silver sand trouts. Maybe occasional flounder but I didn't see a ton of them but I'd see some.

Male Interviewer: What about *[overlapping conversation] [00:29:13]*?

Interviewee: Snook, mullet, yes. Snook, I'm just going through my – fine I'll let you Mike, just give me a minute. We have mullet for sure. Snook for sure unfortunately. Beautiful snook and the turpon, shore based turpon, shore based snook not offshore.

Male Interviewer: Yeah.

Interviewee: Can qualify that. I think, I mean I may just remember something little from here but that's…

Male Interviewer: You don't have to mention…

Interviewee: Some crabs, crabs, you know crabs I've seen. You know your swimming crab, your blue crab, your stone crab, mix but not a lot of stone crab oddly enough, not a lot. I don't know what they're – maybe just I got lucky and didn't or maybe they got lucky, I hope they did. And not a lot of lobster did I see but I might have seen it floating one or two offshore but not much.

Female Interviewer: It's pretty thin, ecosystem composition of fish down there.

Male Interviewer: Yeah. So that was kind of the environmental impact. How were you impacted by this most recent one, health wise?

Interviewee: I've had a cough. I've had cough sniff and I've had respiratory cough from it. I've seen my doctor about it and it's not that easy to partake up. I have a friend who was hospitalized for it. He's a healthy triathlete. So he was healthy, I mean, and of course none of us in here could keep up with him in the draft and I promise you, and he's an incredible specimen. And he's not feeling good from it. He got water lesions, he's got nasty things that won't heal on the skin. Him and his wife partake and they compete. They've both had effects of it. She's a Zumba and fitness instructor and she's another one is very healthy.

And they had to stay away from the water. They've had to stay away from – the doctor instructed them to stay away from getting near the water breathing it. Or engaging until this all clears itself up and gets more solid. I mean I'm okay with it but I have noticed that I had a raspiness when I cough from it. And it irritated me and so I've had to, I've had to limit my activities as a consequence of that. I mean, that's absolutely certain. I am not on the water the last couple years as much as I had been in the years past.

Female Interviewer: Okay.

Male Interviewer: What about fishing activity? How's it…

Interviewee: I've limited that as well.

Male Interviewer: Okay.

Female Interviewer: Were you out of the business?

Interviewee: Well, not on the business but I'm still I mean, I spent a lot of time in the water in my spare time either. I serve as the vice president of Seafood Harvest of America, representing the seafood industry in this country in Washington, DC. So, I am directly out with clients [00:32:00] and guys that I work with and whatnot, either fishing or talking them about their businesses and whatnot. And I had to limit some of that when this crap was going on.

But there are some areas that, you know, it hasn't been. So, I've been able to go and pick my days, and but again, I've never had to pick my days in the past. I never sat and that never even came to my mind about, you know, I better think about this. Think about it, grab your bag and go. It's the least to do whatever, just think about. To my cough?

Male Interviewer: So, you're not only picking your days but picking where you're going to go.

Interviewee: Well, yeah, because if you can – I'm glad you brought that up. So you if get on these areas where it's concentrated. I mean, there's a real resound – have you guys ever been offshore to smell this stuff, where there's fish kills out offshore? Okay, and then it can be concentrations of it.

Female Interviewer: I haven't personal experienced it but...

Interviewee: I'm glad you have it. I mean, I have a healthy respiratory system, I do. I've been checked out here, but I'm just saying that it will affect your throat, your lungs, you'll start the weaze, you'll start to cough, you'll get irritations, swallowing, breathing when the concentrations are at that level, you know, that's a trigger for everybody. It's very individual. So maybe I shouldn't say it's universal. Okay, I had issues with it. But I'm not alone in that.

I know there's a lot of people on the beach that worked in this industry, tourism industry, fishing industry, whatnot. They felt the same thing because I've talked to them about it. And they're little upset about it because they don't think that should be a normal occurrence when they go to work, to entertain tourists or to catch seafood for people. It's not a, you know, a business however we should take.

Male Interviewer: What about the seafood business? Did it affect that?

Interviewee: Well, I know that – there's a, I don't know if it's a correlation or not, but I know where red grouper stock is, you know. And our red snapper stock for some reason seems to keep on coming. Thank God, thanks to the manager, thank you Noah. [00:34:00] And saying no to fisherman's instead of saying yes, go catch what you want. Because you're starting to get them back and it is some of the strongest levels I can remember in history being a fisherman, which is good news, although we have more room to go on and for sure.

But the group of fishery I – gag grouper Mike, and red grouper for the last 10 years, I don't know. I know gag groupers directly depended on seagrass beds. Like I mentioned to you again, going back to the northern gulf, those areas in the northern gulf, I'd love to see the recruitment analysis, and the indices of abundance for recruitment coming out of the big bend area and your seagrass samplings. And to see if those gags are really coming through or not because, you know, those areas were hit too and so…

Female Interviewer: After we write those in the survey, I can – do you have the seagrass papers beyond that?

Interviewee: Yeah, and so I sensed – my gut tells me after, while consideration talk with Louise Barbie area *(phonetics)* and everybody over there that there may be something there as a recruitment, as a consequence of red tide. Not just gag grouper but, you know, the snappers, anything that they can get from those samplings up there that are in relative abundance, use them for the relay life cycle, staging them for their offshore fishery. And

we got to be careful, that area is just, it's such a productive area man. It's such a life preference.

Male Interviewer: Let's go back now, so what you're seeing in red grouper and gag right now was from this most recent one? It was probably from previous red tide?

Interviewee: Yes, it would be – so we had some – in the early 2000, we've had some other really bad ones too. But, you know, the more recent was even worse. I would say top three of all time that I can remember in the history of me being a fisherman here. But I mean 14/15 and I think was Africa was between 13 and 15, there was one. And there was one recent one and those two are both pretty good hits. [00:36:00] So, if you go back to the one, the 14th one, it's 19th now. As we know, four-five years what group are recruiting right and you can tell me you're the scientist, is it right?

Female Interviewer: Yeah.

Interviewee: So we get four or five years for that recruitment to come into scale to be harvestable size. Here we are in 19, gag group are in trouble, gag grouper's on the way down. I think we cut about 61% or something or whatever it was, we needed to get a red grouper when we get them back on track.

Male Interviewer: So that one on '15 on that scale of 1 to 10, what would you say it was?

Interviewee: Well, it was at least an eight.

Male Interviewer: Eight?

Interviewee: At least an eight. Yeah, it was pretty bad. It was up there. I'd say seven or eight. I could say between seven and nine but I don't have no amount of data. So I'll pick up the number between seven and nine is an eight.

Male Interviewer: Okay.

Female Interviewer: OKay.

Interviewee: Yeah.

Female Interviewer: And then do you want as a…

Male Interviewer: No, go ahead.

Female Interviewer: Do you want to map, can we map that with you?

Interviewee: I can't map that one. I mean I can tell you that I'm giving you the 30,000 foot level of the risks. On a scale of taking in what I've seen, and the intel that I get from all the fishermen from all the West Coast because I get guys that I work with all, in other

words, the ocean itself and that would be there in my, you know, conclusion as to our consensus opinion.

And my opinion would be more specifically, the areas haven't shifted a ton. But there could be some shift in the actual latitude-longitude of it within 10 miles either way, let's say. 10 miles further west, 10 miles maybe further east in this case, no, because we're already 10 miles off, 83 degrees or 83 miles off. But, you know, within three or four miles of this, maybe four or five miles of this, maybe it's just northwest of *[indiscernible] [00:37:47]* up here. And or maybe it shifts down south off of Sarasota and down off with Naples a little bit. But that's that dynamic of currents and wind and…

Male Interviewer: Yeah. [00:38:00]

Interviewee: Your science.

Male Interviewer: Yeah.

Interviewee: Sorry. And you guys can figure out this social aspects of it, sorry, right?

Male Interviewer: Yeah. Did you notice any signs that it's going to – someone's coming or you, anything that may trigger this or you have any ideas that you have about that?

Interviewee: I can't say direct causation of it. But I do know that as I mentioned in the past, in years past, there, the trends or the basic, the baseline, let's say, the baseline for red tide was warmer water, warmer months, stagnation. And then also additionally, maybe heavy rains coincided with some of these blooms *(phonetics)* for some reason. Maybe after two months, I don't know but there was, those things seem to be somehow and I don't know the science. And they don't have questions, I wish I did. What does rain and runoff effect had?

But it does seem like there's some things to be correlated. And that even in the past years, bad rain cycles, we had some bad rains here in Florida. We might want to cross reference those real rainy seasons and see if there's anything related to that having any feeding effects of a normal bloom or not. In the recent – now let me take that to recent years.

In recent years, correlated with the St. Pete dumping the sewage waters and whatnot, there's also best in correlation there to a heavy rainy seasons as well to the red tide blooms. Not that they don't happened but they happened on a more prolific level. And their magnitude like on steroids if you will. Their magnitude on level, [00:40:00] that amplified the level that I hadn't seen in years past. And so I don't – I can't tell you scientifically my certain for this, but there's an awful heavy correlation. I mean, it's a heavy correlation not just, well, some years it does some years it doesn't. Almost every time it rains heavy and there's runoff issues. We have something going on that's amplifies the red tide.

Female Interviewer: So let me do intel further, so is it that when the red tide is already sort of present and patchy that the rains amplify it or do you see the rains is more of an initiation then?

Interviewee: I wish I knew. Anyway, that's a great question. That's a wonderful question. Yeah, I know, I know it right?

Female Interviewer: Yeah.

Interviewee: So, because here is the thing, I don't know about the microscopic levels of the organism. Are they there and you know, Karen Stibenger *(phonetics)* you guys know Karen?

Female Interviewer: Yeah. Okay.

Interviewee: Okay, well then she will be able to track the – it cause, I mean what did she say?

Female Interviewer: Yeah, it's complex, I mean, there's been some work to show that there's, you know, a lot of different potential, different sources from the HR. And if you're talking about rains, you know?

Interviewee: Yeah.

Female Interviewer: There'll be so many things.

Interviewee: Yes. The phenomenal as I understand is, it's an offshore phenomenon.

Female Interviewer: Yeah.

Interviewee: But then it comes shoreward.

Female Interviewer: Yeah.

Interviewee: But if there's this – the perfect, nor'easter is a colliding of events, right? So, if you have a natural phenomenon colliding with unnatural phenomena, and that's induced by men's runoff.

Female Interviewer: Yeah.

Interviewee: What is the effect? Well, I can tell you there's been worse red tides. I can't say absolutely certain how and why and when, and how it all works out to a tee. But I don't think it takes much of a leap of faith to say that they're related somehow.

Male Interviewer: Now, the organism itself does not like freshwater a lot. The organism does not like cold [00:42:00] temperatures a lot. But there could be some effects of the

runoff that it provides the mixing that it needs to get off the bottom or provide some nutrients that it needs…

Interviewee: Nitrogen.

Male Interviewer: So, you may see a lag effect where initially you may suppress it maybe but then, like you said a few tons of weeks dump, after an event like that, there's an explosion.

Interviewee: Right. And that's what we have seen, yeah explosion. And that's what we've seen and so there's almost no rhyme. I mean, I don't have an equation that I could draft out or a cause effect relationship that's correlated directly one for one. But I can tell you that there's a general pattern that when this happens, somewhere down the road, this is going to happen. And almost it's eventually, I mean, it happens.

Male Interviewer: Well 2018 was one of the warmest years ever and so and that correlates with the length of the red tide move also.

Interviewee: Well, there it is.

Male Interviewer: So, in terms of temperature, I'm comfortable thinking that there's a linkage there in terms of warmer temperature lingering longer.

Interviewee: Yeah. That's been my experience as well, just so you know, independent of yours, completely independent. Just my experience tells me that.

Male Interviewer: No that tells me a lot because you have a lot more decades…

Female Interviewer: Yeah. So a lot of the work that, you know, after the 2004 and 2005 booms, there's a lot of work put into trying to understand the mechanisms while funding went into those years was kind of a gap in these big booms before the '14. So the work that I've seen is, you know, it doesn't – not all the big major booms are around really understand the *[indiscernible] [00:43:38]* particularly three main years. So, I just yeah, I mean, and I'm not an expert on this, and I'm just trying to answer question about the work that's been done. And on iceberg but the work that I have seen, and it hasn't – it's been very sort of last of years but really have these big major events so. And it's also, you know, mentions a lot of inter [00:44:00] influences, but the literature doesn't seem to really pick apart the specific influences of the red or driving factor so. I'm just trying to answer question about this…

Interviewee: I mean there are also have been bad years outside of those more prolific development areas are challenges of runoff. So that kind of complicates it a bit.

Female Interviewer: Yeah.

Interviewee: But I mean, all that being said, that doesn't take away the trend, though. It doesn't take over the trend of hotter means more of it, means longer prolific durations of it and much more prolific amounts of it, having more adverse impacts on humans as well, which talk to anyone on Sarasota from Anna-Maria Island, down through Naples and ask them what happened to their economic data. You guys will be shocked.

Female Interviewer: Yeah, I have seen.

Interviewee: You'll be shocked. Not a surprised shocked.

Female Interviewer: I saw a couple of the staffs there in this job.

Interviewee: Yeah, 30 40% off that they're not making money.

Male Interviewer: No, we had a colleague that worked with that had a business down there and he was devastated.

Interviewee: Yeah. And so I mean, this can change Florida's economy for some time to be. I mean, we have $100 billion industry. I believe Mike, you probably have better data on this on the butcher but I think it was $100 billion tourism industry in the state of Florida. And a lot of that is shore based other than *[indiscernible] [00:45:36]* which is not Florida. It's fun. I love it. I must say I don't want to throw away but let's be honest the real experience. You get towards the coast, and inland there's some builders too, I get it. But a lot of people love the coast of Florida. And we are going to have that, and we're going to value that. We damn well better protect it. We got to get a handle on this.

Female Interviewer: Can I ask you one more question on your side of your access, the correlation. What are some of the scales [00:46:00] that you think are relevant? Is this like a localized like, you see a certain input in one area and a red bloom in area or do you think like it's a coast wide? Because part of the issue is a scale issue too, I'm just curious…

Interviewee: When you say, you mean is it, as I understood, in the localized or so that they make more regional?

Female Interviewer: When you say it was a correlation between rains and red tide, is it on a like a patchy scale, a scale of meters or do you see like hurricane come through and then the whole coast, you know, do you have any size out through the scales…

Interviewee: Well, hurricanes tend to break it up.

Female Interviewer: Yeah.

Interviewee: For but that's what *[indiscernible] [00:46:33]* hurricanes. I don't know what the long term effects, maybe it helps feed it too in other ways, I don't know. But I do know that hurricanes help to flush and help to break it up somehow by cooling the

waters maybe or I don't know what that had. So it's interesting dynamic of itself. But the feed – if you had an area of the Northern Bay, let's say old Tampa Bay. We had run off here. The bloom may occur here but the boom also may have legs and trickle down through the whole bay, because remember we have a flushing currents.

Female Interviewer: Yeah.

Interviewee: And that's a great question. I don't have the answer for you fully. I don't know if it's localized or regionalized. That's really where I look at that question right now.

Female Interviewer: Yeah, that was our matching, yeah.

Interviewee: So it is – you could have the feeders for the red tide and the North Bay and have the impacts here. I would venture a guess on because of the flushing of the bay and other activities or to your point. It could be there. I know that there are some places where there have been heavier runoff, and then you had fish kills there.

Good example is that Alafia river from mosaic, the mosaic spill. Mosaic spills and things of that sort major kills within the bay areas as a consequence of mosaic. There was birching over there and we sued for that wisely. And thankfully, the Florida Supreme Court found it our way because we sued them for that because they shouldn't have had those toxins, [00:48:00] toxic levels of things in the bay. And it was feeders information or feeders for all kinds of kills, so.

Female Interviewer: Okay.

Interviewee: Yeah.

Female Interviewer: Yeah, thanks. That adds the complexity of these regional scale events is localized kill events…

Interviewee: Yeah, I think so. Yeah. And I again this this is a big undertaking. I'm not saying it to take it lightly. I know you guys don't, but I'm just saying that…

Male Interviewer: I'm just going to ask is your father still alive?

Interviewee: No, unfortunately. My father's not with us anymore.

Male Interviewer: I was going to ask if he had seen – had experienced this one and what…

Male Interviewer: No, I wish, you know, I would love to have my dad still around for a lot of reasons. And this would be one of them because he would be such a wealth of information for you guys. You guys would have the 40s forward and had really good, because he would have – my venture I guess at this, my dad would have said, some

thing's going on, we've got to get a handle on this. Much like I'm saying he's probably chilling himself through me right now. I know it sounds gugugu. Anyway if it isn't, he much was concerned about red tide than with our development of the coast development run off. And he was here, you know, as the guy selling a pathway when they were swamps and they were this and that. My dad was, you know, he was a good old boy in that regard. And he has seen the development, the Swiss development, the coastal runoff and other things. It seems like water quality goes with red tide. So, I know this is about red tide.

Female Interviewer: Yeah.

Interviewee: But water quality is strongly correlated with red tide. So, that's bigger picture that we're talking about. Big, big picture right?

Female Interviewer: Yeah.

Male Interviewer: Is it gone?

Interviewee: Is what gone?

Male Interviewer: Red tide out there.

Interviewee: As far as I know, the last – I'm linked into the FWC weekly, more to this weekly. I know you guys have [00:50:00] *[indiscernible] [00:50:01]* I do. I mean, this is what I do. So, I monitored it every weekly and I'm in touch with FTBC on it monthly if not weekly, you know. And the word is that it's still popping its ugly head up here and there, but it's been controlled by the cold thankfully the winter we had. We did have some of the conference come through and knock it down a little bit to your point about our attempt but it does – the organism doesn't like cold water, doesn't seem to like it doesn't do well in it. Thank God. And I get another fearful conference come through. And really whack it good. And maybe it'll kind of just be at a lower level. We just peacefully coexist with the lower level, you know what I mean, peaceful coexistence. But we can't get to there and it keeps on – I mean, the wholesome adult guys and we're like, we have our fingers here.

Male Interviewer: I mean, kind of that convince with my next question, so what do you think the future is going to hold? What do fishermen talk about this coming up summer and do they have any idea? Are they making a preparation?

Interviewee: Fishermen are hopeful people. They're independent, hopeful Mavericks, you're looking at one. But I fear for them because I have another income now as an attorney, I can do these things. But I just love this industry. I love everything about the water, and its lifestyle and its traditions. So it's just, I'm worried about it. I am. It's been ratcheted up over the last 10 years that I'm beginning to get not just concerned but worried now. I'm at a worried point. And the Canaries have already been in the coal

mine, the Canaries have already died. We're now moving on to humans getting sick. Dolphins, mammals, invertebrates, fish, ecosystems. Not good.

Male Interviewer: Anything else? [00:52:00]

Female Interviewer: Yeah, just so we went through the 2018 and the 2014 event, were there any other specific events…

Interviewee: I remember one in the 90s was pretty bad. But I remember at least one maybe more but at least one event and I refer you to Tampa Bay Times, St. Petersburg Times, it changed names so look back and you do sort of cross reference. And the Evening Independent was this afternoon paper. It's called the Evening Independent, for Tampa area, if you're looking at this very specifically.

Female Interviewer: Yeah.

Interviewee: Okay?

Female Interviewer: Yeah.

Interviewee: They'll be you, know, good broad Pinellas County, Hillsborough, Pinellas maybe a little Sarasota. And look at the surface of the Herald and the brain – I'm sorry, the Bradenton Herald Sarasota, Tribune it was called, they will also have more prolific time date stamped, testimonials as to dates, duration, geographic distribution, etc.

Female Interviewer: It's a really good idea...

Interviewee: Well, for one thing these worth a cup of coffee. I'm glad it was only 10 minutes. Sorry I was late but it was worth the 10 minutes.

Female Interviewer: I know. Your number good right then.

Interviewee: Because I'll give you a little time and test guys you won't have to worry about, you know, memory lapse or you can zone us in. People like me to bring anecdote. Remember as it was the 90s and I've had job *[indiscernible] [00:53:12]* think and fish,. If you guys do that I will probably start thinking about 10 or 15 other things I didn't even tell you today. It just come through refresh me and I'll go, I forgot about that. Oh, yeah. Remember when me and Johnny blah, blah, blah and I'll probably be on one of the boats in Clear Water. Yeah, I was running the boat. It was an overnight trip. I remember we went to Clear Water and we're 40 miles offshore, and I saw blank. And you'll go how do you know that? Because you just do. You just right now it's not it's here, but it's not coming out.

Female Interviewer: *[indiscernible] [00:53:42]* So, now we want to get some of the – guys opinions here and there.

Interviewee: Yeah and I mean, it's, I think water quality is related to it. Overall water quality is related to it. And I think habitat loss is overall related to it. And I think the natural ecosystem has the capacity to [00:54:00] do quite a bit of good on its own filtration, decomposition, et cetera, keeping things in check and the checks and balances, if you will. But they're probably the strap – they're stressed and they're probably at their maximum capacity to do what they can do naturally right now. And so what are we going to do? It's not what they're going to do, it's what we're going to do, because they don't have the answer for it. We can only solve this. Well, I think I think nature can help it help us. But I think we've got to get a handle on some of things like what you mentioned, nitrogen is – water quality of the same thing in general. And encompasses nitrogen, temperature all of those things, habitat, et cetera, that kind of comes with hand in hand.

Female Interviewer: Okay. I'm sorry, one of the things I want to go back to, you mentioned earlier, the linkages with the seagrass beds further or so do you think red tide has impacted the seagrass beds? Is that…

Interviewee: Well, I mean I did see and have seen in some of the shore based within five – in state waters I'll say. So going out to *[indiscernible] [00:55:06]* but I did see some floating seagrasses, turtle grass, and other where there's turtle grass and…

Female Interviewer: Caladenia and the…

Male Interviewer: Thalassia grasses.

Interviewee: Thalassia grasses, I've seen them. Those are major grasses we have in our seagrass beds.

Female Interviewer: Yeah.

Interviewee: And I've seen them floating along with them in some of the areas. So, I don't know the seagrass beds were maybe an artifact of this, the red tide or the red tide was causing some of the seagrass beds.

Female Interviewer: See some with the fish kills you mean?

Interviewee: Yes. Floating with some of them.

Female Interviewer: Okay.

Interviewee: And so I don't know if that's cause and effect relationship. Could it have been storms that churn them up and stirred them up. Could have been the red tide itself, but I have seen some of that in there. But knowing how important seagrass beds are in the juvenile life cycles of all those species, of shore species and offshore species as well. That's something that's worth considering looking into. Especially when you get North [00:56:00] of Tarpon Springs, the seagrass beds for *[indiscernible] [00:56:03]* and mega

stepper and all that stuff Tarpon Springs just *[indiscernible] [00:56:06]* There's a lot of seagrass beds in there, shore base fishery that is a driver for all of our offshore fisheries. And that's not to say South Florida isn't as well. I'm just saying that look at all those areas, don't be so concerned about population, be concerned about where the habitat effects are.

Female Interviewer: Okay. Do you guys want any questions?

Male Interviewer: Okay. Well, that's it.

Female Interviewer: Great.

Male Interviewer: We do have that form…