

Susanna Blake: There you go. So yeah, my name is Susanna Blake. I am a contractor for NOAA for the University of Miami. Today is December 3<sup>rd</sup> and we're here with...

Eddie Barnhill: Eddie Barnhill, the owner of Barnhill Fisheries and also stone crab fisherman, mullet fishermen.

Susanna Blake: Okay. Thank you very much. I will make sure the reorder stays right, all right. And it's recording, yes. All right. So if you can start by telling us the years.

Eddie Barnhill: [indiscernible] [00:00:38] I can see this interview last time. I'm not going to say anything but I know him.

Susanna Blake: Yeah. Please feel free. So we're going to start by asking you, what were the years where you notice red tide event since you...

Eddie Barnhill: Probably, I mean, we've had red tide. You know, we've seen red tide pretty much every year. But it comes and goes pretty quick. You know, it's a probably, I would assume I would say it's kind of like a normal red tide. But in the past three to four years, we've been noticing that starting up and it will last a little longer, then a little longer, then a little longer and then obviously in the past year, we've had red tide for – well, it's been 12, 13 months now it's never went away.

Susanna Blake: So, you said you've noticed red tide event every year pretty since you've been in businesses, when did you started fishing?

Eddie Barnhill: I mean, some sign somewhere maybe not right in our area, but somewhere here up and down the coast, they just had a little shot of red tide, you know, when it pops up, goes away and that's that.

Susanna Blake: It's like the length of a few weeks.

Eddie Barnhill: Yeah, right. Maybe even a week here or there but give or take, yes.

Susanna Blake: When did you start fishing?

Eddie Barnhill: I've been fishing my whole life. I'm third generation here on Pine Island.

Susanna Blake: Any events in particular that stood out in the past like a little bit more than usual?

Eddie Barnhill: Well, like I said the last three years for me and my business, you know, the stone crab [00:02:00], I've been in a wholesale business for 10 years and we moved back here and started stone crab and probably 12 to 13 years ago and crabbing was fairly decent. I mean, we did well. And in the last three to four years, it seems like it's been a steady decline for us and we – the red tide usually shows up about November it seemed

like you know, October, November and that's right when our seasons usually start and then it seemed like it would last a little while then it starts last and on in February or January, February, and this keeps on going longer and longer.

And a lot of our, the areas where we're seeing the concentration of the red tide is a lot of where a lot of our – the females with eggs, a lot of juvenile perhaps have been, that's where they usually pop up that time of the year. So, we would always get amped up thinking okay, next year is going to be better. You know, we got a good crop coming. Well, then the next year comes around, we never see them.

Susanna Blake: Yeah.

Eddie Barnhill: They're not there and we're like what's the hack going on? Well, then this year, this past year, when the red tide showed up, and I think it was about November, 1<sup>st</sup> of November, showed up just north of us a little bit and as it pushed down, it's just been laying here and we had a bad season last year, nothing was good. And then coming up coming all through the summer, you know, whenever this stuff got bad, everything started dying out here. You know, the turtles, the manatees, the porpoises, I mean, everything was dying, we couldn't catch anything.

And that's at the point where I was trying to get the state to come and do some testing out here, you know, with some crab traps, because they do – they have a testing sites all up and down the state of Florida. And they do 20 trap tests, you know, they'll have you know, 5, 5, 5, 5, you know, scattered amounts around an area and I begged and begged and begged them to come. I said, we have to check this out. Something's going on out here. And finally, you know, there was a big funding issue is what I kept was being told we had no funding to move. We had no funding to do this. I said, look, I'll do it on my own. I don't care come down, bring some traps. Make it legal for me to be out there with some traps and let's see what's happening [00:04:00].

We took them out there and I want to say I think it was end of July maybe first August, I'm not don't quote me on that I'm not 100% but right in that area and we finally took the 20 traps out and I don't get affected by red tide a lot really easily like some people. We took those traps out that they went out red fish pass. We scattered around and that different areas where I know we catch crabs at the beginning of every season. And we came back around Sanibel, the lighthouse to come in, it was so bad, my nose, it felt like my nose hairs are burning, by the time I got back to doctor screaming headache. And I stayed sick and I, kid you not I feel like that I'm raspy now from it. You know what I mean, that's it's kind of almost, you know, it's almost changed my voice at all, you know, it feels like how like man, that should put...

Susanna Blake: So, I want to stop you for a second and kind of like, go back a little bit.

Eddie Barnhill: Okay.

Susanna Blake: First of all, your business's crabber right. So you are?

Eddie Barnhill: Stone Crabber.

Susanna Blake: Stone crabber, okay. So that's the only and you do that commercially, that's the only fishery?

Eddie Barnhill: Yes, ma'am. We also model fish.

Susanna Blake: So, it's model.

Eddie Barnhill: We model fish, we model fish out, we will stone crab from October to May.

Susanna Blake: Okay.

Eddie Barnhill: And then we and then right now is the time of the year that that when model row season comes in the wintertime when we catch them for the rope and that starting right now. And we do that too, and I have the fishery at my fish house, I buy from everyone, not everyone but I've got...

Susanna Blake: So, you are a dealer too?

Eddie Barnhill: I am a dealer, you know, wholesale dealer. So, I buy from one of them in wholesale. And it's honestly, I don't stone crab anymore, I had to sell out. I mean, that's how bad it is.

Susanna Blake: Wow, wow.

Eddie Barnhill: There are no crabs out here. That's what I was going to say we went tested those traps. There were crabs in – five of the traps, had a couple live crabs on them. And the other 15, there was one string of five had a couple of traps with three or four they were all dead. And the other 10, there was not living nothing in them [00:06:00]. This was in like 30 foot and 40 foot. I mean, there was nothing alive period. And we went back and every two weeks, dead, dead, dead. I asked the guy, I said, have you ever seen this before? There are like, never seen it, nothing, I mean there was no fish, so.

Susanna Blake: So let's try to see this difference between the spirit that started roughly around 2015 with more intensified red tides and the period before that. So let's think about the period before 2015. Where did you notice these red tide events? You said you noticed them throughout the years, but what stood out like, is there an area before 2015 before these intensified events that you said you can say oh, I've noticed quite often here or this is what stood out for like we can look on the map and...

Eddie Barnhill: I don't think it's been anywhere in particular that it's been more and more intense than any, you know, it seems like in my mind that we would have two different areas the same life, you know, seemed like always up around gas Perilla.

Susanna Blake: Can you draw for me?

Eddie Barnhill: I mean.

Susanna Blake: For like, like rough, it doesn't have to be like so, like I like you just said, just barely rough.

Eddie Barnhill: Well, you know, first thing on the news you'd hear, you know, somewhere else, you know, we had a stop pass or gastric bypass, this be stopped pass, yeah. So we would hear you know, somewhere you know in these areas, you know here and then it would come down through here and that's what we would notice and then it would drift into the Charlotte harbor and around bocce Graham, whatever, but it would seem like in the previous years, it would pop up, up here and we'd hear about it for a couple weeks and be a little bit of a fish kill and then it'll be going away. And then down here, probably I'm going to say this, you know, probably in this area like this.

Susanna Blake: Okay.

Eddie Barnhill: We'd be stone crabbing and certain times of year [00:08:00], which I know what it was, because whenever there's dumping the river, because it would be just black, I mean, there would be a black, that would just be water will have normal and you'd get down in here and it would just be black water.

Susanna Blake: Okay. Let's mark...

Eddie Barnhill: You know, dark red, black water whatever you want to call it, but and now don't get me wrong. It wasn't – I never seen fish kills, you know, in that water, but I do know that it was – it couldn't have been good.

Susanna Blake: Okay, so you saw the blackwater coming from here, you said from this pass?

Eddie Barnhill: Yeah, eventually come out of the river.

Susanna Blake: Oh, so you saw the blackwater?

Eddie Barnhill: Yeah.

Susanna Blake: Mark that.

Eddie Barnhill: Yeah, it come out of it and come around throughout the lighthouse. You know, I'm sorry. I didn't mean to mark there but eventually come out.

Susanna Blake: Please mark that.

Female Speaker: Yeah, mark it black.

Eddie Barnhill: So, we are, I don't know where the channel is. But anyway, like this and it was foot pushing into the bay a little bit, you know probably in here like this depending on the tide coming and going, you know obviously when the tide comes in that line was a visibly seen line pushing in and when the top of fall, it will push way out.

Susanna Blake: So, this was – and there was a certain kind of period of the year you know this?

Eddie Barnhill: That's every time they dumped the river.

Susanna Blake: Every time they've dumped it?

Eddie Barnhill: Yeah. When they don't the river, it turned black. I mean that's just kind of what it was. But like I said the red tide, I've never really seen that event caused just right here dead fish floating more than seems like in case you can seem like the red tie with a lot of times that we're starting up in this area.

Male Speaker: Yeah.

Eddie Barnhill: It popped up, yeah and then also drift down into the harbor and then you know, I'm talking in the past four or five years ago you know, it popped up there be a little pop of red tide and go away seemed like, but at least we thought it was going away.

Susanna Blake: So how many – more or or less how many days or weeks [00:10:00] would be this be?

Eddie Barnhill: I don't know, a week, two weeks maybe.

Susanna Blake: A week?

Eddie Barnhill: I'm guessing. I mean, I am...

Male Speaker: Yeah, 7-14 days, the red tide. I am not trying to hijack you.

Eddie Barnhill: No, no. I need a little bit of help because I'm trying to think about it myself. But then like I said, and I would say the last – I'm thinking that I can clearly, clearly understand the last three years probably it would pop up here and then it would start say October, November and it would last now it's a month then it last two three months, then it last three, four, five months.

Susanna Blake: Well, then progressively, so it started like so like a medium event. This – how this affect your fishing? How these pre-2015 red tides affect your business and your fishing?

Eddie Barnhill: Whenever it would just be here for short period of time when it would start up. You know if it was anywhere around the November, December timeframe, like I said right now is when we start mullet season and all our mullet, when they come out here, when we get a cold front, we got coming tomorrow next day, all these mullets pull from here, they pulled out here and I pulled out here they come across to the outside, but swim right out here.

And normally these early fronts the fish would pull out. Then when the wind turns around, they come right back in and we catch them again. But in the past few years, they pull out and hit red tide, that's the end up, they all die. And we don't – they don't go up from a spawn, they don't come back, we don't see them anymore. It's like – because normally after this happened two or three times, the fish will all leave, go offshore and spawn and then at the end of the season, all them fish come back all spotted out. And we haven't seen that in the last couple years because they're not making it.

Susanna Blake: So you are saying that before 2016, the mullet was able to escape this event to happen?

Eddie Barnhill: Absolutely. Yes, yes. And they would they would go out and we would actually fish these fish from here all the way up all through this in the coastal all the way to Tampa. And in the last few years, they come here they die and there's fish, there's another fish this time in Tampa too and they catch the fish up there but [00:12:00] our fish never got there no more. It would – I remember it might have been last year, the year before Punta Gorda, a lot of fish come out over here and they came out and there's I'm talking when I mean fish, I mean big schools like millions of pounds and they dropped out into the harbor. And all the fishermen like, look what happened, our fish are gone, they disappeared and it was cold.

Susanna Blake: When was it?

Eddie Barnhill: It was either last year or the year before, it happened in the last two years, but one in particular that I remember they this was a lot of fish. And they disappeared and everybody's like, where did these things go and only then we could think after thinking about it, well, they swamped with that red tide and they sank instead of floated and that was the only thing we could and then they just got up off the bottom by crash or whatever. And I mean, it was just like they vanished on us and that was it, the end of it.

And so, our season for the mullet the last few years instead of last in two months, it's been less than a week, two weeks, I mean, it's completely putting us out of business, honestly.

Susanna Blake: So, your fishing area usually is this whole area?

Eddie Barnhill: From here to here.

Male Speaker: There is a different staging times...

Susanna Blake: Right. Depending on like mullet, I understand this...

Eddie Barnhill: Well, the mullet – we got mullet right here right now. We got mullet right here right now, we got mullet over here, I mean mullet are this time of the year it's different like these mullets here will be the first ones to like this front come on these will be the first ones to really start doing their thing and move. And then these mullet, the further south that takes a little longer and these over here to be a little, you know, different...

Male Speaker: Different staging point.

Eddie Barnhill: Yeah, different. It's just kind of – I guess, it's when they're ready and when they're not, you know they – it's whenever they – so it's not they don't all leave it once.

Susanna Blake: So, what I am trying to understand [*overlapping conversation*] [13:39], so, what I am trying to make sure I understand correctly is before 2015, before this red tide intensify, you were like the mullet, you would fish the mullet in the cold season in this area. If there was a red tide that corresponded with your fishing season and with a cold front, you are still able to catch mullet [00:14:00] by what? Like coming here or still in this area?

Eddie Barnhill: Oh yeah, what they do is they come out here, and then they come back.

Susanna Blake: They come back?

Eddie Barnhill: Right.

Susanna Blake: And they are not affected really by the red tide they can avoid it?

Eddie Barnhill: No. They are done. If that's in their track, they're going in and they just and I've watched them. I've watched them there's it was I don't know how many years ago it was, but it was a lot a lot of years ago, we had a pretty good bad red tide right in the wintertime. And we'd literally watch the fish swimming up the inner coastal and they would literally just swim into it. I'm talking bunches is like 50, 60, 100,000 pound bunches of fish and swimming and we'd watch this actually watching this swimming and they just start sink to the bottom. I mean, the whole bunch of them, all off them.

Susanna Blake: Immediately.

Eddie Barnhill: Yeah, immediately. You know, it's – I don't know how that can overcome it. I mean, over year after year after year.

Susanna Blake: So but when the red tide is not as intense in this area, you still got some mullet?

Eddie Barnhill: Oh, absolutely. I mean right now, these fish – we got a little bit of red tide right now over here. That's what I'm hearing I haven't been able to remind myself.

Male Speaker: *[Overlapping conversation]* [00:15:01] was dead fish last Friday *[overlapping conversation]* [00:15:04]?

Susanna Blake: Can you draw? Here's one other color.

Male Speaker: I picked them up maybe about – there are a lot of smaller fish but maybe about four miles outside the [indiscernible] [15:21] would be like right here, so maybe I don't know, four to six miles outside the [indiscernible] [15:28], I started seeing dead fish, that was on Friday.

Eddie Barnhill: Last week, there was a lot of dead fish all inside.

Susanna Blake: What last week?

Eddie Barnhill: Last week, we saw a lot of dead fish all inside Acosta and then up here at NorthCap and Safety Harbor, it was a lot of dead fish last week.

Susanna Blake: So, let's move them back to – let's see for 2015, this is kind of like pre-2015 event and small and are in these areas. What I want to ask you about that period [00:16:00] is what species a fish you noticed being effective first?

Eddie Barnhill: For my – for me and my business, mullet.

Susanna Blake: Mullet was the fish.

Eddie Barnhill: Yes.

Susanna Blake: Okay.

Eddie Barnhill: You know, but it killed all the pinfish, it killed, I mean it killed everything, all inshore fish. I mean, I think a lot of those fish are smarter and a lot of the you know, they'll swim away from it sometimes but when it gets so bad then it's just nothing escapes, trap on my things somehow maybe they'll you know, comes in an area and it just kind of traps them in their area and that they all die. But and you know, in the years past, they are on a route to go somewhere, they're on a dead route and they're going there no matter what's in their way and if they die, they die. Other fish I think will you know, kind of veer away and kind of try to stay out.



Male Speaker: The predatory fish?

Eddie Barnhill: Yeah.

Male Speaker: I mean, it's just – from the fish that I've seen dying, you know, the precursor to be like, the beginning will be your big fish. And you know, around this area, we got to realize how important mullets are, know the basis for the food chain whether this big, this big – besides pinfish, the one of the only big fish is here year round. And they do support this entire ecosystem, like they said whether the fry, big fish, I mean, it's across the board with what they support in this ecosystem.

So they are very important and from doing, you know, I didn't grow up seeing these mullet runs and watching these fish stage and going groups and its groups of productive readiness where they are you know, they're the most road up, you know, and they're coming out and meeting it in waves. It's like a salmon run over and you see these fish coming from these different areas at different times. Like Eddie was saying with these fronts when they see these Northwest fronts coming or the fume, we're traveling to that wind, they go no matter what because their biology tells them. They go into the wind, that's what they are, their body tells them. Okay.

Eddie Barnhill: So, whatever stands on our way they're going?

Susanna Blake: So the mullet is affected because of the way they work, the way they travel.

Male Speaker: The most [00:18:00] intense red tides during that time coincides with their spawn. So they normally would be in here and they can hide in these mangos and do whatever. So, it's bad timing for the mullets because they are driven offshore.

Eddie Barnhill: All summer, we have this red tide and we've had red tide out here. It's been out here on the outer banks and all the all the during the summertime, you're all up in these estuaries all in here and we've been catching and they've been fine. It's not affecting them. I mean, don't get me wrong when it comes in here, there is mullet lives all in here too and would kill pockets of them. But for the most part, they stay away from it. They're in here. They're not coming out here for no reason. But this time of the year now from now till January, February as the weather increases and the fronts come, they're all ganging up and they're like, like you said, getting the middle stage and areas, they all good. They do the same thing.

They come, they all go down here, they go off in front of all these canals. They just fill all that up for whatever reason. That's one of their place as they go, they get up here in the keys, we call it like they just get in there and big groups and they come from down here, they come out of the river out here. But whenever the front comes, all these fish in these canals, they just come out here and getting this main Rhonda canal, they just get one big monster group and when they get ready to come out, it looks like something I

never seen before. There's hundreds and thousands of them jump into the time and it's just got the whole sea bottom boiling not off the bottom and they just pull out and they pull right out here in the harbor. And it'll be out here in this 15, 20 feet of water just literally with the shells coming to the top. There's so many just boiling. I mean it's unbelievable.

Male Speaker: It's unbelievable.

Eddie Barnhill: And they come out and they'll and if it depends on the weather depends on the tides, if they come out when the tides low, you know, they come out they come over these banks. When it comes to these banks, it'll be places as big as from here to Marcellus. Just the water rise that high just coming up on it just shaken and going in a drop down into deep again, the mud start boils and they'll just track right down through that in the coastal one and if it it's everything's right, what they want to do [00:20:00] they'll come right out here and I'll go right up on the grand pass and they'll get right out here and we've caught them in 30 foot of water, 40 foot of water, literally just boiling mud.

And if it's time for if it's their time, and they're ready, they don't stop, they'll come out here and they'll be doing five, six miles an hour, and just headed off shore and you can't keep up with and they just go and then that's the end of them. And when you see them again, they're all spotted out done. But all these early fronts that bunch will come out and they'll come right out here and then in two days, when the weather changes and it starts blowing out of the East, they'll come right back into the wind, and then we catch them on a hit the beaches.

And then now their next staging point is say, say here and they'll and they'll circle literally fish come in and they'll circle this island will go in cap table come around and go above ground and they'll just circle and circle and circle until the next front comes and when the next round comes, they will gang right back up and they'll start bowling again and they'll head right back out again. Might be Captiva might be buzzing grand might be red fish, or if they might trigger through the inter coast when they come down here and they sometimes they come out here and they come through all these islands and they gang up and they just boil and go right down to that inner coastal but and they work their way to the north.

Susanna Blake: So, you're saying that a lot of the pre 2015 events corresponded with the spawning season?

Eddie Barnhill: Everyone.

Susanna Blake: Everyone?

Eddie Barnhill: Just about I mean, they seem like seemed like we I don't know why it's that time of the year when it starts when it fires up. It seems like that's just when the red tide fires up. For the most part, I've seen it, I've seen it pop up randomly anytime of the

year you know mean, but like I said, there's little oh, I got a little, it looks like a little sign of red tide. They would say you know, a little bit of fish kill maybe it wasn't red tide. Maybe it was something else to cause a little bit of a fish kill but the majority of the red tide flare ups I've seen it right now. Seems like October November, December seemed like.

So, I think what I think I know what you're asking me on the mullet is basically what's happening now that what's affecting us [00:22:00] is, in these last few years, our fish hasn't been able to leave and go out here to spawn, to reproduce and to come back. They're making it to the beaches to the red tide, and they're all dying, you know.

Susanna Blake: It's a double one on one hand they die here, on the other hand, they can't reproduce.

Eddie Barnhill: They can't reproduce. So, every year I mean, we're seeing it. We're seeing this year, we don't have the fish we had last year. We don't I mean, normally this time that you'll end up in the previous month or so here before now, I mean, the fish my life, man, we got a lot of fish. Well, we can't wait till the fall. You know, everybody's rubbing her hand that's whenever they make a little money that's basically there, it's Christmas for everybody.

I mean, it's Christmas for the kids and Christmas for us fishermen because that's when we make our money. And this year is like, wow, we ain't got the mullet we've had in the past, you know, and it's but I don't see how we can because in the last three years, probably 80% of our fish hasn't been to go over to those spawn, they died in red tide. So I don't know where they would come from. It's just year after year, when they keep killing them and they can't reproduce.

Male Speaker: These are resident fish.

Eddie Barnhill: It just going to go away, you know.

Male Speaker: These are resident fish and that you know the stories of them coming up coming, you know, packs of fish coming up coming in through, they migrate up like Eddie said, fish myself come on just like our fish go towards camp and stuff like this, but our resident fish have taken a hit on several families. That's a pretty devastating thing.

Susanna Blake: So if you have to characterize the impact of red tide, pre 2015 on your business, what would you say in terms of economic impact like how?

Eddie Barnhill: Pre 2015 like.

Susanna Blake: Pre, yeah, let's just think about that and then we move on to.

Eddie Barnhill: Let me catch us on my dad's called now my mom's calling make sure.

Susanna Blake: Yeah, take up. Here I can pause it.

Eddie Barnhill: I am at the chamber comment. So, I am sorry.

Susanna Blake: No, that's fine.

Eddie Barnhill: So pre 2015, I mean, like I said, it's not been, it hasn't been as devastating to me [00:24:00] that I've really seen as I've seen in the past three or four years. It's really hit home in the last year for year. I mean, it's literally what that was just the mullet side of it. For me, my big moneymaker stone crabs, that's where I make my that's where I'm at my bread and butter.

Susanna Blake: Okay. And that wasn't really affected by.

Eddie Barnhill: And every year what I was saying, well, these fish are these crabs, they would, you know, we would see a lot of pop up a baby crab and stuff in this area, and then around here, and every year you would start out it'd be slow and season with progress and when you catch a little bit of crab, everything would go, we see that little bit of crab. But red tide was there at the same time when they would pop up and then we never catch that crab later. We'd never see him later. Like what the heck's going on? Why would not catch these crabs because we always was told her red tide didn't kill stone crabs. That was, you know, I don't know. That was what I was told. So it's like well, red tide don't kill them, so what's going on? Leaving, are they leaving here or what's going on here? And then this past year, when this thing got real bad and last crap season, like a year ago, October, we had a terrible season last year and it just we didn't have. I mean, we hardly had any crabs. You know, I don't know. I'm assuming my philosophy is now that I know what I know now, if I did would have known then I would have said, well, I know what the problem is. We are dying. That that's what it is. It's stone crabs far as I know, and I don't know stone crab guru, but I don't think stone crab migrate from Tampa to Pine Island to the Florida Keys. I mean, I think you got crabs here. You got crabs here. You got crap. I mean, they might travel a little bit, but I don't think they migrate no 100 of miles and come and go, and.

Susanna Blake: So before 2016, the crab was basically effectively just didn't understand that.

Eddie Barnhill: We are catching crab, but it does seem like a slow decline. It's a slow decline and we're talking from [00:26:00] Marco Naples to Tampa Bay is the area that's been hit that I've been seeing for the stone north of Tampa Bay up there and they're catching the heck out of it. Downtown in the keys they were doing good till this year. This year is no good down there either. I don't know if that's due to you know the hurricanes and so on coming forth from messing up the bottom or what I don't know you know, like I said, I'm not a scientist by no means, but here in my area this past year was no crabs I mean we literally, literally I sold out, I sold all my traps sold my boats I'm not going to do anymore it costs us we have big boats you know 45 footer we did not thousand traps. And it costs a lot of money to do.

Male Speaker: I mean you are the biggest guy around here?

Eddie Barnhill: I mean, it costs \$1,000, \$1200 a day to leave the dock, so you're going out there catching 5075 pounds of crabs, 500, 600 bucks, you're going \$100, \$1000 here, \$1000 just everyday going backwards. So as far as like, whoa, whoa, whoa, we can't do this anymore. And then on the second side of it now I'm the wholesale guy too. So now my wholesale business is just slowly slipping through the grips area that we're going backwards, we don't know what to do. But I'm that optimistic guy, next year we're going to get next year we're going to get we fought we fought through from here 16, 17, 18 and now it's like whoa, we can't do this anymore. So little bit my dad, he was he was right behind me. He just sold out. He can't do it anymore. So now he's trying to do something different. And now this year after I finally begged the state to come down, I said we'll do it on my time my dollar by everything I don't care. We brought them out here and they've seen it and they were like, oh, there's a problem. I'm like, oh, my God. I've been trying to tell you guys this. They doing the samples on the bottom there was no option on the bottom you know this that the other their coffin gagging out there. You know, the dead that the traps are literally there ain't a living nothing. I mean, we're baiting them with mullet and then in two weeks the mullet was still hold on the trap [00:28:00]. There's no bait fish. There's no pinfisher, usually mullet what 89 degree water temperature on the bottom has gone overnight fishery. The same was two weeks and then there and there was still fishing.

Susanna Blake: So before we discussed more than 2018, I want to do to draw the extent of the red tide. In fact, I don't know if you want to think about like, ideally for me if you can kind of like marked out 2016, 2017, and 2018. Well, 2017 and 2018 is kind of the same.

Eddie Barnhill: Well, you can just start here and you can just go all the way down here.

Susanna Blake: I love to do that. So that's where for all these three years since 2015, like the impact was so overall?

Eddie Barnhill: I think it, it seemed like to me probably 2015, 2016 that become it would seem like it would come around and here. You know what I mean.

Susanna Blake: So all the way now.

Eddie Barnhill: Yep. But it come inside in the harbor in the bay and then this past year, it's been all the way Naples Marco.

Susanna Blake: So let's see, so we start.

Eddie Barnhill: It's everywhere.

Susanna Blake: So is this line a good guiding line for what like?

Eddie Barnhill: Yeah. That's what is that the three mile line probably that is? Yeah.

Susanna Blake: Yeah.

Eddie Barnhill: So that's fine. It was out, I know all the way out the 50 feet, so I mean.

Susanna Blake: So you said cable kind of like all the way here all the way also.

FM: 2015.

Eddie Barnhill: 2015, so let's say that's good 15, 16, yep.

Susanna Blake: And like the all the way here?

Eddie Barnhill: I don't know that got up in the river, but I know it was a pace here for sure. So that's a good point. I would say that's good, that's good.

Susanna Blake: Like that?

Eddie Barnhill: And then this whole Charlie harbor, yeah.

Susanna Blake: I feel confident we should do, because I don't want to mess it up.

Eddie Barnhill: Pretty much, I mean, we had red tide all, you would all come up in the keys to come up in the bay here and blind patch right here, this blind patch right here, it comes you know it would come in here. Come in here lot. This is all very stuff in here man and coming here to wipe this stuff out. I mean, this right here was probably [00:30:00] millions, I don't know but I know 1000 and 1000 of snip died and they're just over and over and over again.

Susanna Blake: Okay.

Male Speaker: This will be you're doing darling preserved.

Eddie Barnhill: Yeah. This is the Ding Darling preserved. You know this stuff comes down dribbles in behind these keys and so on and so forth but I mean it just this whole you can just say this whole town this whole harbor all up into this inner coastal is where it all and bull by a Turtle Bay and all this is just, I mean this is millions of little islands and I mean it's the home and the life of everything.

Susanna Blake: So, it's like yeah, so we could say this is 2015, 2016, right?

Eddie Barnhill: Sure.

Susanna Blake: And then you said that the 2017.

Eddie Barnhill: And what happened is this would be this would, this would start and say three years ago, I would start here and we've seen it for a month and it would impact you know a lot of this area and then the next year it would impact all this area for now it's doing it for two three months and then all of a sudden now it's starting to get even worse and it just starts spanning on down and now it's lasted for six months and now it's a year and now it ain't going away. Now just here it's been here for 13 months now and now.

Male Speaker: I would make sure you circle in this right here. This is you just you area.

Eddie Barnhill: Yeah. This whole that's what I say the whole thing, yeah, I am talking about all.

Male Speaker: I mean, just so it's incorporated in your thing. I mean, that's a very important.

Eddie Barnhill: And like I said, it's all, I am just inside these lines.

Susanna Blake: Yeah. Inside the line and you said it also crosses here too, right?

Eddie Barnhill: Yep.

Susanna Blake: And here no? It doesn't going through marching.

Eddie Barnhill: You know, honestly I can't, I don't know. Casey, I don't know that I've ever really see.

Male Speaker: When they come out here at a PGI, two years ago whatever and they died right there.

Eddie Barnhill: Yeah. Right on the harbor.

Male Speaker: So whatever the reason, it's held back to those areas [00:32:00].

Eddie Barnhill: Right.

Susanna Blake: And this is like mostly mullet?

Eddie Barnhill: Yeah. That's mullet.

Male Speaker: For everything. I mean, there's a huge tool to draw.

Eddie Barnhill: You're just asking me what affected me.

Susanna Blake: Yeah, no I whatever you know including what effect.

Eddie Barnhill: Okay.

Susanna Blake: Like you know, I assume you know more than your business.

Eddie Barnhill: Yeah. Well, when this when this thing fires up out here There ain't nothing living.

Male Speaker: Like when I came through the summer through both Grand.

Susanna Blake: 2015, 2016.

Female Speaker: The mullet died off right there?

Eddie Barnhill: A lot of times when it because the reason is because this is where they stage it seems like this is and these all these canals is where they're in their stage up and whenever they pull out to leave they come right out here and then that's the end of them.

Male Speaker: Their sparring aggregations, the aggregate in productive readiness and they break out at different times and that's like I seen it's pretty incredible.

Eddie Barnhill: The sad part is you know if they would do this any other time of the year but once again though any other time of the year now is never. It's all the time. We don't know where it's at. It's hotter places and other places right now.

Susanna Blake: Okay. So let's draw the now the red tide 2017, 2018. So you said it starts kind of like the same?

Eddie Barnhill: The whole all this you got circled here except that it is I've seen it now it's reached all the way to Marco, and it's a lot farther offshore that we're seeing a lot, you know, I mean we're seeing it out. We've seen 90 feet 100 feet of water.

Male Speaker: 40 miles plus.

Susanna Blake: 40 miles offshore?

Eddie Barnhill: Yeah. So it seems like and like I said, I think this stuff's been happening. But I don't think it's been to the devastating point that it is now. And we just never really realized it.

Susanna Blake: And is it going in here too? Everywhere?

Eddie Barnhill: Yep. All of that. I mean.

Susanna Blake: You want to draw?



Eddie Barnhill: Yeah. Like I said it stops around the mouth of the river. So I think the river flow coming all the time just keeps it stopped about here and I didn't never I don't think I've never seen it getting mouth of shape past but it would you know all this you know [00:34:00], pretty much as far as you want to go and out here you know 90, 100 feet of water and all the way back this whole, I mean it.

Male Speaker: Even the satellites had it for Fort Myers Beach is right here 50 plus miles offshore that was during the peak of this year.

Susanna Blake: What was the peak?

Male Speaker: What's that?

Susanna Blake: What when was the peak of the year?

Male Speaker: August maybe I guess.

Eddie Barnhill: Yeah, I'm trying to think.

Male Speaker: I would say August. They are both together so.

Eddie Barnhill: We had traps, the test traps that we put out, we put five traps here and I'm just give me, I'm not might exact but I am pretty close. And we had I want to say was right here on this little break. I got five tracks here. I had some somewhere right around in this area here give or take something, you know, 39 foot, foot 40 foot five traps here and then we had five traps right down in here. And we kind of just put them around and about these traps right here, this is what made no sense to me. We throw these traps out, we would here, here, and here that first day. Everything was fine and dandy coming out all this way. Everything was good and we got about here, we got down here, [indiscernible] [00:35:18], man, that's when it got bad. And we started running through this yuck here at that point. It was awful, awful. I mean, we were all you know.

Susanna Blake: So you are saying that progressive like these weren't as bad as this one basically?

Eddie Barnhill: No. But what I am saying is what I'm getting at is when we came out and check these tracks and when I did the water sampling, he said, man some there's no option on the bottom here. We came back to the these were the only tracks that had a couple of crabs. That's what we were all kind of bumped with this. This right here had two of the traps had three crabs that were dead. These 10 traps not a living nothing zero [00:36:00] every time we pull. The las time we pulled, none of them had anything, they were all dead, everything was dead. So and there was and every time we tested the water.

Susanna Blake: You said you found how many?

Eddie Barnhill: There was two or three tracks where the you know, they you know, they've got all the I've got actually got someone on my phone of the recordings of what they did and seen and so on so forth. But it was, it was I've seen enough to know there was no crabs out here, put that way that we know we should have seen crabs and all these tracks. And this is just where I love to know I mean we I know guys throw traps at the beginning of season, anywhere from up here, all through this area all through this area here, all down here, out here and it's guys sell crabs to me and they are pulling three 400 traps and they come up and said we got 10 claws.

Susanna Blake: Wow.

Eddie Barnhill: I mean, there is none there is none. It wiped them out.

Male Speaker: When I was on the cruise was with Chris October 12, through the 19, whatever it was, we were close to shore, I had called this to see how they're going to grab him. And I talked to them Jeff, they pull four tracks, and they had pull [overlapping conversation] [00:37:26] north, they had 0400 tracks and then the next day I think they had 20 claws on another four trips and then they suck on.

Eddie Barnhill: That's what people don't understand whenever they have called me up and say hey, how's crabs? And I said there are no and they think when I say there are not on being kind of sarcastic like we're not catching tons that we're catching a few. Well, I mean we can catch a no, we're catting none, I mean, I am literally, I am that close from closing the door out of business because my whole bread and butter is from right now [00:38:00]. And I usually will do on a on a fairly good season. Whenever I was crabbing my dad was crabbing and we had five or six other books crabbing I would be bringing in into my wholesale place. I'll be bringing anywhere from 1000 to 3000 pounds a month and now I don't even get it any. Now the guys are catching on and they're like I got six pounds with me doing them I'm like, I'm not even firing my cooker up for that. It ain't worth it. It's and it's just it is it is devastated this area and not just me. I mean these poor guys luckily for me, unfortunately, I mean fortunately I should say, you know when I sold out all my crab and stuff, you know, I'm trying to open up another business right now just to survive, because I'm not because I was.

Susanna Blake: Not fishing.

Eddie Barnhill: Not fishing.

Susanna Blake: Not fishing. Oh no, not fishing. I mean, not that we can't make it in fishing.

Male Speaker: With these guys that so if you are a fisherman, typically not many people just do one fish because the way fisheries work. So you know, it's so you make two thirds of your year income on stone crab or maybe you make two thirds of your yearly income mullet, and then that third floater is maybe whatever year was better on the other side. Okay. So I mean, when you talk about wiping people out economically, I mean,

literally, it's almost 100% of the yearly income comes in just a short period of time. And those muscles were there so crucial, like we've done a small run where it's four to six to eight weeks long, typically in years past. I mean, you make all your money for the entire year with that four to six, eight weeks' period. I mean, what do you do when you take that out of the equation?

Eddie Barnhill: And it's not just I mean, commercial fishermen. I mean, we got the charter got on the island. I mean, it's hard, everybody. I mean, it's.

Male Speaker: Sean McQuaid, he is going to come and meet with you today. You know, usually the month of November, he is a fireman. He is done really good job. He's 15 to 18 charters in the month of November, he had three this month in the last month.

Eddie Barnhill: Nobody is coming for that, no, for their side [00:40:00]. It's not it's not because of there are no fish. And in an aspect of it there is but on the other aspect for them is the people aren't coming now because of the media, you know, this is -- I mean whenever you're on a new saying the water's toxic and the air is toxic and why are all these dolphins floating up on the beach? That's perfectly healthy, who knows? I don't come, I don't want to drive down here and fly down here from Ohio to come down here on vacation. We're going to go somewhere else.

And it's putting a hurt on me and I know Casey, he's in St. Vincent, man, and it's not a -- it ain't no game no more. I mean we, in the past years, and it's sad to say but in the past years we would disrupt a little bit of red tide off. You know I mean, that's red tide again, you know, we'll work around it because I've seen it come in and we've seen it come in and kill every mullet and the next year there'll be pile of mullet again. And but -- it's not as its repetitious now and it's getting worse and it's getting worse and it's getting more and it's getting stronger. And I don't think -- I think there's something else here than red tide. This ain't red because we've had red tide and we never seen dead stone crabs on an average red tide.

Male Speaker: [indiscernible] [00:41:11] just called me and I think it's someone from the Sanibel Captiva Conservation has called him today and they got blue crabs come ashore dead on Sanibel and they were wanting to talk to them at island crab [indiscernible] [00:41:21] blue crab processor. What they do about it?

Eddie Barnhill: If they're coming up on the beach, just what them guys told me before they're looking for oxygen.

Susanna Blake: But you did mention though that in the past you didn't think the red tide effect the blue crab but you did see the...

Eddie Barnhill: The blue crab...

Female Speaker: I mean the crab.

Eddie Barnhill: The stone crab.

Susanna Blake: Oh, stone crab...

Eddie Barnhill: The stone crab. I didn't think it affected them. I mean...

Susanna Blake: But it – oh I see.

Eddie Barnhill: But it – but now all of a sudden, we got them down here and we got them and seeing this. Now the moat they've done studies and it kills and if they put – I forget how hot they were putting the red tide whatever the cell count was, but in four days never die [00:42:00] in red tide. So, I think what we got here is way worse to, you know, I mean what I'm saying is this out here, I don't know that it's red tide exactly because it's enhanced. Red tide has began the stage of whatever is causing this problem but there's zero oxygen out here for anything. So, nothing [overlapping conversation] [00:42:23] Nothing can live in this.

Susanna Blake: So when you say out here, are you saying...

Eddie Barnhill: I'm not talking about from this whole offshore we were checking where he was on the boat but now. And they're out here in 50-60 feet of water that's as far as they went and it was none there. I mean no telling how far away but we're talking probably from Marco to Tampa out from the shorter who knows because nobody's even checked it there's nobody out here studying the stuff

Susanna Blake: Um-hum.

Eddie Barnhill: And we're talking about here and we could talk all day long.

Male Speaker: And now that I'm part of this conversation so sorry I didn't.

Eddie Barnhill: No, you're fine.

Male Speaker: But these areas are here to be talking about as well because that group of fish, you know, we can come up here in this 50-feet of water and then the passes redfish, Captiva both green red grouper you catch to, you know, we get a little spinner on so you can catch 12-inch a group or 10-inch a group or 15-inch a group or until you decide one of those fisher boat anymore. I mean, you know, it just is very productive habitat for right grouper broken bottom while you see the contours, hard bottoms and things like that.

There's not a lot of bigger fish pressure in here with gag grouper and stuff in here but red grouper eat gag groupers. So, you know, these are productive areas for those juvenile red grouper. When I recently talked with Mandy, juvenile, I said that, you are not, you know, I said that, hey, you want to know where red grouper we're going? I think that a lot of the juvenile area over the last several years has been getting annihilated and then along

with it. And these production areas of these red grouper or I mean, this is, you know, like I say you can't even imagine how many because they...

Eddie Barnhill: When you're saying this, he's talking about this whole *[overlapping conversation]* [00:43:58] [00:44:00] not just here. We're talking about this whole area. And as I'm saying that when this stuff sitting out here it's not, it's not – well, I mean I referred back to when I see him when he was on that boat, you know, they're up there off Tampa and they've showed him on them graph. This was red tide. And you see the little squiggly lines and there were kind of disrupted a little bit but they're out here and they're out here in these grounds.

And when I say these grounds I mean offshore out here. This graph is – I mean this, it's in the bottom down is dead. No oxygen, zero. So, there's nothing down there, no. There are no – there's no coral, there's no sea fans with no sponges, there's no – the starfish were dying. I mean, the shrimp from – we have shrimp or buddies are the shrimp out out here in this area and they're catching net full of dead sandbox. So, I mean, it literally zero oxygen and killed whatever was in his way.

Male Speaker: You know, I get – we get our shrimp at Erica Genesis, which is the big ship that the Fort Myers enjoying the fleet are out here. And I was talking with them and I think this is – there's usually like in the summertime fall time, you know, there's 6, 7, 8 boats out here. I mean, I'm talking big boats and big boats, and they're big production boats free to boats. And so, there is no boats out here this year. I mean, there's no reason for being there and catching nothing. The [indiscernible] [00:45:24] they were at that center [indiscernible] [45:26] I mean, they were didn't get any bycatch.

Eddie Barnhill: Yeah, I'm talking about ties up *[overlapping conversation]* [00:45:34] it was zero.

Susanna Blake: So, in comparison to the 2015-2016 red tide, which was not as extensive to these. Like what did you do then in terms of to adapt to this red tide that was not as expensive how *[overlapping conversation]* [00:45:53]

Eddie Barnhill: We did switch away from it. I mean, there was a little patch over here so we're just fished down here. You know, and that's what you do as a fisherman, you go to work, you got to. I mean, you got to – you try to adapt the best you can. And unfortunately, what's happened here in the last year, for me to adapt, would be take my family and leave, and go somewhere else.

Male Speaker: I mean, when your fishing...

Eddie Barnhill: Bottom line.

Male Speaker: You just kind of are like the ecosystem, you describe it all the way for the break, make the best you can make with it. But it's come to the tipping point to where, you know, how long you hang on for, how long can you hang on for? What's going to be

left? I mean, you know, knowing what I know now from being exposed to these things, I'm like, well, you know, these recovery times get pushed up further and further and more intensified that happened, longer duration that happened and I mean, you know, are we going to get fish recruitment if there's nothing for them to come back to and so on so forth?

Eddie Barnhill: Yeah, the habitat but it killed – it actually ruined their habitat, when it was that bad out there. So, why do they want to come back? You know, that's the other part you look at I mean, and that mean fish will come – that means fish will swamp back in here but if there's nothing for them to come in here too, why they got to come here? They're going to stop at this point, they're going to keep on swimming and though they got tails, but they're breeding ground there. I don't know if it's a breeding ground up on group of fish like he has, but their habitat they live in, and these rocks in these ledges. The pictures and the stuff I seen, it was like that phone, it was just a black blanket over everything. And I don't know what causes that or what did it but it ain't good.

Susanna Blake: So, talking about recovery times, if you think about – let's say, for what I understand before 2015 the red tide events there really needed a recovery time because we're able to really move around and fish continue business more or less, as usual.

Eddie Barnhill: I think in the early, like, years ago, whatever when I'm saying even before, you know, 2014 but like maybe you whatever, I don't most looked at red tide as kind of like a, you know, it's coming a little area [00:48:00] and they'd kill some fish and be gone and it was kind of like a mother nature.

Susanna Blake: Part of the...

Eddie Barnhill: Mother Nature just doing her job, I guess. You know what I mean? But she's getting a little power right now. She's got taken advantage and she's still on everything. So...

Susanna Blake: So, could you...

Eddie Barnhill: Why? Now I think there's more to the mother nature, I think that us as humans has really screwed up the system.

Susanna Blake: Okay.

Eddie Barnhill: And I think there's just too many of us on a little area to really break it down. I mean, we got a bunch of crab running into these. You know, just wiping us out. And like I said...

Susanna Blake: So, you think the red tide is tied to the development like...

Eddie Barnhill: I think it's *[overlapping conversation]* [00:48:41] whatever's in red tide, the algae bloom, I think whatever comes all the rivers and I think whatever is coming off

the grass and the whole nine yards, and it's banking together, and it's creating a monster that I don't think nobody knows what it is. And until they get out here and they start checking it and studying it and put some time and then I don't think I think we're going to be sitting here just going back with more and more and more and if we continue to let go with them, we can just go ahead and push our boats off sale father without us and be done because that's what it's come to I mean, unfortunately.

Female Speaker 2: Can I speak?

Susanna Blake: Sure.

Female Speaker 2: When you said, you know, like the smaller events and just thinking about the recovery time, like, would you be able to go back to those places that had red tide like that same year or?

Eddie Barnhill: Absolutely.

Female Speaker 2: Or the next year?

Eddie Barnhill: No, I would say the next year usually easy enough. I mean there -- but like I said it's not -- it wasn't a red tide event that when it come in or it just wiped it all out dead. I mean like I said, you'd coming out and maybe red tide coming only kill the pinfish. You'd see places red tide, and you'd only see the small the baby the pinfish, and I guess there maybe they're the first to go, I guess you could say, and you would be every everything else would still be living in. You know, it's maybe not as powerful maybe not as strong as red tide. You know, that's probably the case is what we're seeing now. Now we're seeing very powerful like I said, like I said, I don't I think we [00:50:00] what we're talking about red tide, but I don't think we're talking about red tide, if you know what I'm saying.

Female Speaker 2: Okay, yeah, that's...

Eddie Barnhill: That's what I'm trying to say. We're not talking -- back down, back when we got a little bloom on red tide and kill some fish, kill a few mile a couple trout, this that and the other. We're talking about red tide. We're not talking about red tide, I don't think. And like I said, I'm not a scientist, but I'm just a fisherman, dumbo fishermen, but this is serious in all aspects.

Susanna Blake: Well, are you thinking that is not red tide because of the extent or the duration, both duration and extent of it?

Eddie Barnhill: Exactly.

Male Speaker: And intensity.

Susanna Blake: And intensity...

Eddie Barnhill: Yes, the intensity of it, number one is...

Susanna Blake: But the intensity, do you think it was caused by the extent of it, the temporal extent or was caused by...

Eddie Barnhill: I think it began as red tide. But I think there's a lot more going on here now, that's way over my head and in terms of what I know about ecosystems. Like I said, I'm a fisherman. I just come here and try to catch your stuff. And now we got – now this thing's out here and it's like a vicious monster that's...

Male Speaker: So, we've had red tide offshore throughout the summer. I've seen rust colored water offshore here. I've seen tan water offshore here. I've seen like green water. I'll show you the video from last week. I know it's been floating around.

Susanna Blake: Yes, I...

Male Speaker: Some people will double it.

Eddie Barnhill: Yes, yellow.

Male Speaker: This yellow water, it started about [indiscernible] [00:51:26] on the other side of it and [overlapping conversation] [00:51:29]. This water here...

Eddie Barnhill: You know, I've had in years ago, years ago, you know, I talked to my dad about it, and my dad, his dad are some third generation [overlapping conversation] [00:51:38].

Male Speaker: This is like 27 miles of this [overlapping conversation] [00:51:39].

Eddie Barnhill: And he's told my dad, you know, he's seen red tide coming here before, he would kill everything in the bay. And they'd be like, oh my gosh, we're out of business. He said the next year, it would be more painful than it was in before. And I think that's what I'm saying to you is [00:52:00] when the little red tide pack has come, I think it's mother nature just coming in and it's like they do in the fourth [overlapping conversation] [00:52:05] that's comes back green and [overlapping conversation] [00:52:10] and starts out. And I think that's kind of may be the way it's supposed to be. It's supposed to work. But I think we have a whole lot more going on now that just mother nature trying to do our job. It's a whole lot of [overlapping conversation] [00:52:23] thousands of people are living on...

Susanna Blake: This, we're recording and there is two people talking.

Male Speaker: Oh, sorry. I'm sorry.

Susanna Blake: It's okay.



Eddie Barnhill: I just started another conversation.

Susanna Blake: I know. I just want to make sure that...

Female Speaker: Yeah, you should ask to repeat that.

Susanna Blake: Then both of your stories that it's very important, but if we're talking the same time, it's not going to record, right. So...

Eddie Barnhill: We're just full of knowledge right here. And we're trying to spit it out.

Susanna Blake: I know, and we're very happy to...

Eddie Barnhill: Because we're very frustrated right now.

Susanna Blake: But yeah, well...

Female Speaker: Well, I have that's what we were talking about, so I'll remind him what it was, so, if you guys want to go first?

Susanna Blake: Okay.

Male Speaker: I'm just talking about the mustard yellow water. It was coming on a local grand, coming at 300 variant, so Northwest.

Susanna Blake: Something like that?

Male Speaker: Yeah, started about 68 miles offshore started and went about 26 miles offshore.

Susanna Blake: I know, you said that November 2018, right?

Male Speaker: Oh, yeah. Yeah, I mean, it's in the beginning...

Susanna Blake: So, I'm curious about the color?

Male Speaker: November 25th.

Susanna Blake: November 25th, I mean, yeah. So, I'm curious about the color. So, in previous years, let's say before 2000, before I started to intensify in 2015, what were the color, water color? Did you notice changes in water color?

Male Speaker: Oh, pretty. I mean...

Susanna Blake: Where do you saw the red tide I mean, like the red tide area?

Male Speaker: Did you physically see red was the water, truly red? Burgundy?

Susanna Blake: Or [overlapping conversation] [00:53:55].

Eddie Barnhill: You'd see a little, I think you'd see a little – [00:54:00] see because this what happens I think too. Sometimes certain time of the year whenever these pine trees pollinate and all that yellowness blows out there, a lot of people say...

Male Speaker: That's not pollen, just so you know...

Eddie Barnhill: Okay. Well, whatever...

Male Speaker: [Indiscernible] [00:54:12].

Eddie Barnhill: Okay. Well, see that's what I'm saying, it's over my head.

Male Speaker: These are things that I had learned as well. Offshore, we'd see those swirls on service, that's ineligious. That's a trick right here in bloom, so that nitrogen fixer?

Eddie Barnhill: That is.

Male Speaker: Putting nitrogen into the water, and that's what I learned on the trip. But what I always started calling from east to west when going offshore, we would see it way offshore in my mind, you see those surface, you know, swirls and things like that. And I said, well, this is falling, but it's an algae, it's an algae, it's a nitrogen fixing algae, something that pulls nitrogen out of the air puts into the water and it's excess of them that helps intensify these booms.

Eddie Barnhill: That's what I'm getting at. There's more to what's going on now. You know, I don't know what I was saying to her while ago is what I was trying say about the red tide and mother nature doing it. Like I said, I'm third generation. My grandfather was one of the first five families on the island. He's been commercial fishing his whole life. And years and years here, I'm talking. I don't know how many years ago but a long time ago, he died five years ago. He's 80 something but he'd been – he's told my dad stories about red tide coming in the bay and killing everything just completely, and they'd be like, oh, Lord, what are we going to do? We're going to starve now.

Susanna Blake: So, you are saying that something similar to what's happening this year has happened?

Eddie Barnhill: No.

Susanna Blake: No? Like...

Eddie Barnhill: This is totally different.

Susanna Blake: Okay. This is just like in the South, say in the bay.

Susanna Blake: Oh, I see.

Eddie Barnhill: And they would be coming here and kill the trout and kill the mullet and kill everything they were trying to catch over a short period of time, and then it would go away. And they would think, what are we going to do now? And the following year, he said it'd be like it rejuvenated itself. And it was just like I said, I think it's just – it's almost like a cleansing process like when you burn the forest and you burn it off the bed and that [00:56:00] it's all green and vibrant comes back. But I think now, mother nature maybe try to do her thing, but now we're, you know, humans are doing a whole lot more against her and it's when it's hitting – it's just exploding and it's causing something way worse than just average or red tide.

Male Speaker: Have you noticed like the roll off the gumbo, does anyone told you how bad it was this year?

Eddie Barnhill: They are telling me it's real bad, but I honestly...

Male Speaker: Well, that's the type of algae as well from what I was aware of. We called it rolling moss.

Eddie Barnhill: Fortunate – unfortunately I'm not able to go out there as much as I would like anymore. So, I don't get to go see it firsthand other than I did take the state out here and see that firsthand. And in the years past, I stone crab, I ram a boat, did that and dah, dah, dah, but in the last few months, you know, I don't get now. I'm struggling and trying to get what I wanted to do, almost revive this whole mess. That's...

Susanna Blake: What is the or like – are you the only breadwinner in the family or?

Eddie Barnhill: Pretty much, my wife's a schoolteacher.

Susanna Blake: Okay.

Eddie Barnhill: So, yeah. So yeah, she's not, she just loves kids. That's all. She ain't doing it for the money.

Susanna Blake: How is the family co-paying with?

Eddie Barnhill: I mean, like I said, we're fortunate, because we, you know, I'm not the type to lay down for anything or anybody or whatever, you know, when it tough, gets tough, but I get going little harder. And I've taken, you know, I had a big operation. I don't have a 45 foot boat, I have 9000 crab traps. I had 11,000 certificates, you know, so I got 5000 square foot buildings, the fish house in there, and I said it's all cooler freezers,

you know, I mean, I was, I had a pretty big operation. And now with what's happened in the last couple of years with the decline of the stone crabs, and just gotten down so bad that we can't do it.

You know, I told my wife we had to make a decision. You know, and the decision is, are we going to stay in the stone crab [00:58:00] business. And if we are, we're going to pack up and move. And we're going to move the North Florida up around, you know, Fernando beach Cedar Key Area. Because it seems like the last few years it's been consistently good up there. And I said, well, because I'm not going to the Keys, I was born in Marathon and the Keys and I just, I don't want to go down there. It's overpopulated now. I want to go north, where it's a little more laid back on, you know, that's what part I'm used to be.

And I said, we're going to do that and we're going to figure out something else to do. And I had some friends been in the business before and I've tried, and I've talked to him about it. And we decided this day and now I'm open up an ice plan. I'm going to start selling ice, you know, doing bag ice, I'm going to start this manufacturing bag and it's on ice. And like I said, fortunate for me, I could sell and sold all of my stuff, my stone crab stuff, and if this don't work, now, I'm screwed. You know, then we're going to -- then we got a really, you know, and we're getting down now, we're getting down right now, where it's every things kind of, we got this thing to get going, we got to get this going because all this ain't looking good and now the mullet.

Right now, you know, this red tide still out here, we're fighting in our hands and nails trying to pray and that they [indiscernible] [00:59:11] we have a little bit of a season because, you know, I bought a lot of boat but [indiscernible] [00:59:16] and I don't get no money to buy.

Susanna Blake: So, in the, in 2015, 2016 like you were talking about recovery times that are becoming increasingly longer, like waiting for the next. So, can you talk a little bit about the corporation?

Eddie Barnhill: Let me explain to you like this. Probably, I don't know how many years ago. How many years ago was it? How many years ago was when we had that run season it was just, was it about five years ago? There's something, that was just...

Male Speaker: It was about five years ago, [indiscernible] [00:59:48].

Eddie Barnhill: There was no ret tied.

Susanna Blake: Okay.

Eddie Barnhill: And the fish did exactly what, they just did their everything right for us. The weather, more or less the weather was good for us [01:00:00]. We had frost come in but it wasn't real bad. And they had fish got out here and they stayed for two weeks. And they It was like clockwork, we leave a dock, we come right to the same spot, they'd

be laying here, they come out here, they lay, we fill our most full, we go in every day, every day, every day to where it got to the point that the buyers that was buying from us, that's the wholesaler.

They were so backed up. They had to say y'all got to stop for a minute, because we can't process them all. My little place, which was a Mantashe time, we put over 300,000 pounds of female ballot through there that year, and probably not over a long period of time. The next year is whenever we started getting this red tide, that seemed like right at the fall. The next year I did a 150,000. The next year I did 100,000. Last year I did 59. And that pretty much sums it up. This year, I don't know what's going to happen. And that just and maybe the number might not be exact, but it's really close. I mean, round them up or down, you know, but it was just like that. It just went cool. And now...

Male Speaker: That was 513.

Eddie Barnhill: Yep.

Male Speaker: Really.

Eddie Barnhill: Yeah, I mean it was, it almost late right in line for what we're talking about. And that's what we're, that's kind of what we're doing is it just a steady decline, decline until something's figured out, and something changes. Like I don't know, I mean heading next year might be record year. This year, this hell this called might be records falling for the moth, I don't know but I don't think laid out to be.

Susanna Blake: Can you talk a little bit about the health impacts you mentioned something that you notice some healthy back, I mean like when did you first or what caused that and was like trip up that?

Eddie Barnhill: When I state, I would put those traps out and I can't remember the...

Susanna Blake: All the test track?

Eddie Barnhill: Yeah, we took them out the first time and throw them out there.

Susanna Blake: When was that?

Eddie Barnhill: That's what I was going to try to see if I can figure out.

Susanna Blake: More [01:02:00] like even the month you seeing that?

Eddie Barnhill: I want to say it was the end of August, the 1st September because it was in the August, maybe the first August. I'm trying to think we pulled them one, two, August because we pulled them four times, five times in the season, stone crab season was just getting started we brought them in and we pull them four time, I was pulling every couple of weeks, three weeks.

Susanna Blake: And that's when you start to notice?

Eddie Barnhill: Well, that's when I say the first time, I've ever had it really affect me like on our red tides out there and I don't get coughing or nothing but we went through that stuff down here that day. And it was like, I mean my nose hairs were tangling, my throat was and by the time we got from here to here, I had a splitting headache and for a week to 10 days after that, I had a nose drip that would not quit sinus pressure, headache, it wouldn't go away. Finally, I was like, oh my god, you got to go the doctor of course because I discuss, you know, [indiscernible] [01:03:05].

Susanna Blake: That was within a one-day trip?

Eddie Barnhill: That was in a within a 30-minute boat ride right there.

Susanna Blake: 30 minutes?

Eddie Barnhill: I mean it was all good out here, but we got here when it hit me between here and here, it was game over.

Susanna Blake: How long did that impact last, like how long did you feel or?

Eddie Barnhill: For at least a week to 10 days, I had a nose drip and a headache. And I swear to this day I feel like my throat even raspy. Like it's changed my voice almost.

Susanna Blake: Even though you haven't been exposed since then.

Eddie Barnhill: No, no, I mean, but...

Male Speaker: Maybe we are because when – I mean if it's out there and I mean, what is this, three miles, four miles? So, right wind pattern brings to the sore, [indiscernible] [01:03:49] so I'm sick, but for me personally run charters from mid-June through August or so.

Eddie Barnhill: As soon as it come around this corner here.

Male Speaker: Ice water [01:04:00], I mean that's right here, coming around about this channel marker right here, coming around this month.

Eddie Barnhill: He's coming.

Male Speaker: Coming from here?

Eddie Barnhill: Yeah.

Male Speaker: Going up through both green passes, go to offshore. So, we would be coming from here to the offshore.

Susanna Blake: And when you're around here, you said?

Male Speaker: Oh, I'd pick it up right here and then it would be so intense till about 14 miles offshore, 12 miles offshore. I mean to where I close it all my eyes and glass windows downstairs for my customers down that really helped but I mean, like Eddie said, sinuses, eyes, chest, I mean like you had respiratory infection. And then when you get offshore, you feel for a while, you know, rather that you feel better than when you come pick it up 12, 14 miles offshore, then you're back through it. And I mean this Summer these fish kill that we would see through here. I mean when I say schools the black drum 60, 70 pounds.

Eddie Barnhill: You know, this summer there was, it not every single pass, every everyone. I mean this summer the fish kills where weren't like that I'm saying it's not, It wasn't like an average old red tide. This this summer was a old breed of its own. This was killing like you said, three, four or 500 pounds jewfish, the sea turtles, the manatees, the dolphins, whatever was, whatever lived out there will die, everything.

Male Speaker: Tens of thousands that you spot of deals, flounder, turtle...

Eddie Barnhill: Video on the bottom and that's where I've seen. I've seen guys, I heard video and on the bottom swimming around in. These artificial reefs where you showed before picture and after picture of just dead, stone crabs on the bottom dead, the starfish – the big long-legged starfish [overlapping conversation] [01:05:54].

Male Speaker: Spider crab, right?

Eddie Barnhill: Not the spider crab but the...

Male Speaker: Oh, the brittle starfish?

Eddie Barnhill: The long – yeah. In the bottom, they would do like that and everything down there, that was dead. Whenever they touches the video, it just turned to dust. It was weird. It wasn't like it was a dead crab when a crab die, the shells still show. He just empties but these things, they would touch it like that and that just go puff, just dust. The sand out of the starfish, the crabs that everything, that was weird.

Eddie Barnhill: See the tarpon that were usually here all summer – all summer long, I mean, schools just you see 2-300 of them are all that time, I would see little packs offshore about 14 miles, let's say like 60-feet of water, five feet of water, little packs and talking about four or five six fish coming up rolled together, little isolated packs. Not many past grabs I saw all summer and that's a huge part have died but they did not come into the pads and whenever they did come in the pads, we would see dead, you know, but let's say that is their biology or for whatever reason make them want to stay here. It was

like I'll come back to charters and just be angry, you know, it's like watching an oil spill or something. It's just like watching just destruction of something that you really truly love and just...

Female Speaker: Pardon me for button in, the first time you get a headache like that, eat cheese and lay down for about five minutes and your headache will go away.

Eddie Barnhill: Perfect. I'll remember that. I'll try.

Female Speaker: That's the best medicine I've ever heard.

Eddie Barnhill: Me too.

Female Speaker: Eat sugar for that.

Susanna Blake: [Overlapping conversation] [01:07:28].

Male Speaker: That I give you so [01:08:00]?

Susanna Blake: I think you gave – yeah, I think you gave Mandy that doctors you put that...

Male Speaker: Oh, he came in my shop and I told him, it was when I asked if anyone contacted him and he said, no. But [indiscernible] [01:08:11] fish poisonings and he seen a huge spike in water functions to just general people, respiratory, major respiratory issues with just general people and he came in the shop last and I talked to him so, you would see...

Susanna Blake: Well, we love to talk, yeah.

Eddie Barnhill: It's bad whenever you live in this area and you won't let your kids swamp.

Susanna Blake: Yeah, yeah, right.

Eddie Barnhill: I mean that's the bottom line. My kids, dad, I want to go to the beach, sorry about went all day.

Susanna Blake: When did you?

Eddie Barnhill: All summer.

Male Speaker: My daughter is 15 months old...

Eddie Barnhill: All summer long and I mean it's like I'm scared to death. Yeah.



Male Speaker: My kids getting in to the water.

Susanna Blake: Right.

Male Speaker: You want them. And my kids are water kids. Both my sons have fish.

Eddie Barnhill: That's what same as mine. I'm, it's so sad.

Susanna Blake: Right.

Eddie Barnhill: You know, it's...

Susanna Blake: I have one more question about the – so like how it affects the fish? Did you notice in the past species and currently that kind of farewell all the time with the red tide that it wasn't affected ever?

Eddie Barnhill: In the past?

Susanna Blake: They were, I understand but...

Eddie Barnhill: It seems, yeah, in the past it seemed like there was a lot of species spared from it. You know, they – like I said they kind of stay away from, but this year nothing. There was not one species – there was stuff going on that will blow your mind. I was up here around the co-op, Denver key right here between here and here. There was a school of sharks got in here. I'm talking and water this the – there was probably 200 head, eight nine-foot bull sharks hammerheads that would be in that little potholes, you'd ride through and they just come out of potholes like crazy.

Susanna Blake: That's amazing.

Eddie Barnhill: It was the weirdest thing I ever seen.

Susanna Blake: So, they're like seeking risk refusing the thing?

Eddie Barnhill: The next week, [01:10:00] they were all belly up dead in there, fill them all.

Susanna Blake: Oh wow.

Eddie Barnhill: Yeah. So, I think that was their last resort. They were pushing and trying and doing wherever they could. And then one of my fishermen, all those sharks, he said then he went back the next day was another fishermen and he went down through there and he said, seen up there on the woods and it looked like [indiscernible] [01:10:17] and then he got basically it was hundreds of little baby sharks. Like maybe the sharks were in there trying to have their babies or something, and then couple days later all them are dead. It was like this cycle of fish dying and it was incredible.

Male Speaker: And here, where do they live at?

Eddie Barnhill: From [indiscernible] [01:10:41] Bay.

Male Speaker: [indiscernible] [01:10:42] Bay, where's is that at? It's right in here somewhere I don't even know, I guess it'd be right in here probably. From [indiscernible] [01:10:49] they had sharks that pushed up into the canals. I'm talking six-eight footers that pushed themselves into the canal system?

Eddie Barnhill: Yeah, that was right there in that same area. That's from the death rate here and then it was [overlapping conversation] [01:11:03] it was crazy.

Male Speaker: But I mean, you know, they got tails, they can go anywhere. But that's, you know, they have known, Paul mentioned he has been there maybe all his life, I don't even know. He has never seen sharks in there like they were hiding out there. They were waiting for the water to get better so they can get out.

Susanna Blake: This was like also around August or when?

Eddie Barnhill: Yeah, this is summertime.

Male Speaker: Yeah, this is summer.

Eddie Barnhill: It was summer time so yeah, August.

Susanna Blake: Okay.

Eddie Barnhill: With the red fish passed here, we heard a report one day that some charter guys are out here and they was, said there was thousands of stone crabs and blue crabs crawling up on the beaches. I was like what? I want to go check this out. Red Fish pass right? Yeah, that's red fish right there. Yeah. And they were coming in the past, there's rocks there and they said it was all up on the rocks. He said they're literally in the trees. They said it was so bad. So, me and my dad [01:12:00] the next day, so we got to go out and check this out.

So, we ran out there and we didn't see it that bad, but there was blue crabs, past crab, queen crab, everything crawl down on the beaches dying. I mean, this is like, it's like stuff you just would never dream you would ever see. I mean its stuff, that's things that as a fisherman or I mean as a not just a fisherman, but I mean as anyone to ride by and see this stuff happening, there was timelines and rips of like the thread herring, it was just you can see very little like foam on the water, be pure white and you get to be all the bait fish and be this time of the blue crabs floating in, stone crab here in their foot. I mean, it was just all this area – all out of here. It was just the tide reps were just solid dead. Every – I mean it was, it was...

Male Speaker: My boats were fishing [overlapping conversation] [01:12:52] like outside of Port Jefferson, because there's just decimated up here. And they had Randy, you know, 24 I have run back Boca Grande and [indiscernible] [72:53] goes out, they ceased to float and they drove through like 45 miles and it just happened to be the one they were driving was actually the line of fish that it came out but it was like 40 something miles a fish just as far as you can see.

Eddie Barnhill: You know, probably the tide line of [overlapping conversation] [73:23].

Male Speaker: Well, they were driving right dead through, a rip of dead fish. But I mean it was just miles and miles and miles grouper, it's everything, lots of bait, you know, I mean, the thread fish and things like that have made it just. It was bad. It was really, really bad, you know.

Susanna Blake: So, I mean are bugs or old kind – all the developed – is there like a connection using between, you said increased development causes red tied?

Eddie Barnhill: I think is population for sure. I mean...

Susanna Blake: I mean population was like what there was on sudden increase in the last few years or?

Male Speaker: I think it's just a [indiscernible] [01:13:58] personally, you know, I mean, and I've been exposed [01:14:00] some of these other things now through whatever but, I think the river has a lot to do with it. I think both all the rivers had a lot to do with it. I mean, this is the end of the watershed and now it's a forced into the watershed for most of the work that comes up extending water shed. It got treatment plants put a green water in there, which I think is a real bad idea that really detrimental to our system.

Susanna Blake: What plans, sorry?

Eddie Barnhill: The water treatment plants.

Susanna Blake: Oh, the water treatment plants, yeah, yeah, yeah.

Male Speaker: And the drain water going in to our system, which is nutrient rich is bad. You know, got a lot of dairy to the north, got lot of egg culture in the center state. I mean, if you think about it when we're getting 100% of the discharge on our side, and that means anything wasted like 75 that's falling north of us is finding its way down these water systems. And then that means everything east of 75, it's finding its way to the lake, we're getting. So, I mean, we're literally getting all the water that falls on the state of Florida are good giant chunk of it. It's finding it's all – it's way down this way. And then being shot right here, right in our backyard.

Eddie Barnhill: And then I'll actually also the – in the last five years, we haven't had a winner either. And I think that's a lot to do because the cold weather and the dry weather

help the red tide if I'm not mistaken, more, the warmer the water and the more rain, I think it enhances it enhance is it correct. It will run off, obviously. So, we've been having.

Male Speaker: We've had a week cold further.

Eddie Barnhill: We've been having wet weather and hot winters. And I mean, this year, this little bit of cold weather we've had here, I mean, it's the first time we've got 40-degree weather and I can't tell you how long. And we got another one coming this week. So, I mean, hopefully, maybe we'll get some cold, cold winter and some dry, dry winter and...

Male Speaker: Something that I had brought up to look at historical maps of the red tide for the month – of the receipt, February, the last five years or so, February has been a hard red tide month for us. Typically, you know, our red tide had times where September through November you call it. And why would we be getting so much red tide in February month. I mean that doesn't really fit the model for what I've learned with these red ties and things like that. So, that was a concern to me is trying to figure out what plays into that. Why would we be getting February full of red tide now? You know, what do we get so much red tide on the north and I don't really feel like a ton of this water makes its way that far to the north.

Eddie Barnhill: That's been my always, my thinking. And I don't know if like I said, scientifically I don't know anything about it. I'm just by my thoughts. I don't understand why we always got a booming red tide here and it pushes down here, and everything come out of here is causing it and less somehow this stuff circulates around or, you know, what I mean? I don't know how this works.

Susanna Blake: So, you are saying that there's a connection between the Lake Okeechobee outfall area but in terms of location doesn't make a lot of sense of how it starts here?

Male Speaker: Well, I mean is it freshwater inundation, is it so much freshwater into the system that I mean I don't really know how he does the water come out of here and does has been flow all the way up and around back up the coast to the north and come back down? Probably not. I mean I really don't know. I mean is it too much fresh water coming into the salt water system and getting in that mass setting out here and being moved by Kurt tied and then what is maybe, I mean...

Eddie Barnhill: I guess I got a question for you guys. I mean I know you guys are out here asking us a lot of questions and what we think and what is going on and what do you guys think? I mean why obviously [01:18:00] you guys know that there's something bad out here. We know there's something bad out here. The state knows there's something bad here because I have all my boat showed him this few months ago. Why don't we have anyone out here checking this out? Why don't we have somebody out here testing this stuff? I mean if there were – if they think it's somehow the [indiscernible] [78:17],

why don't somebody testing the water coming out of here? Why is somebody testing this water and test this water and let's see if it's all kind of mixes. I mean why don't we not have that?

Susanna Blake: Yeah, well, I guess this is what we're trying to do now to kind of show – go back and show like the impact it has on?

Eddie Barnhill: Well, I understand that but the impact is here. We are having an impact. But why are – and I'm not saying that you to, but I'm saying NOAA or the government or the state or somebody, why aren't they jumping on the bed or why aren't they panicking right now going, hey, this area is fixing to be obsolete of anything. We have got to figure this out. But there's not. There's nobody even, I mean [overlapping conversation] [01:18:55] I mean you guys are here asking us questions and I agree. That's a good thing. You got to start somewhere, but when I call the State up and I say, look, guys, we need to get some test traps out here and they say to me, we don't have the funding.

Come on, man, really? We got the funding. I'm trying to get WC to come down or have a meeting with me in Tallahassee and they said the governor, we got him on travel restrictions. Really? I mean, something else is going on here. Somebody don't want to know what's going on here, I don't think. And you're talking about two fishermen here that are trying to – I mean, we're talking about the government. That's got all the power in the world.

Susanna Blake: We only realized that the massive impact it has and as I said, in Madeira Beach. That's my [overlapping conversation] [01:19:43].

Male Speaker: It was here, we were before we're here. And I'm grateful for the response.

Eddie Barnhill: No, I'm not saying that either, but I'm just.

Susanna Blake: No, no, I get what he is saying.

Male Speaker: It's a frustrating thing. You know, this was [overlapping conversation] [01:19:59] Does the [01:20:00] water go north from the river up the coast?

Female Speaker: So, it's NOAA fisheries like we do more offshore commercially.

Male Speaker: Right.

Female Speaker: So, like red tide, our understanding is back in 2005 when it really affected the grouper and so this actually evolved from more like an ecosystem trying to understand the ecosystem and just general, I research towards ecosystem, understanding ecosystem. And then we come and trying to come and learn about ecosystems and we're wow, there is a problem going on, we need more [overlapping conversation] [01:20:34].

Susanna Blake: That's exactly.

Male Speaker: Your right. NOAA response, you know, Chris, Mandy and you know you agreed it in and just – they've agreed to all of that. I mean, she was really – and I tell these guys, you know, the only people are vaccine care in here to help the area or problem our live events in this, the truth. This whole community...

Susanna Blake: And this is why we don't understand the red tide, you know, scientifically, and we think you guys have a better understanding right now of what could possibly happen? And I want to learn and take it further, but that's...

Male Speaker: But I would think that and a lot of people are going to say this, this is not to red tide.

Susanna Blake: Yeah, everyone is telling me.

Male Speaker: This is – and I'm sure that everyone's going to say that. I don't know what they're going to say. I mean, I'm just going to speak for me personally, this is not typically the red tied. Everything that I've seen or being told about it or whatever else, you know, 7, 10, 12 days, localized, burn yourself out, it's gone, fish killed, whatever. But this is something yet, from what I've seen this yellow water in these different color waters in these in these, why is or I think a lot of people want to know, why is their water susceptible to these allergies right now? Why – what is causing this ability to, you know, whether they're different allergies or whatever the case may be, what is making them so successful right now in the area? What are the contributing factors to that?

Because I mean, you know, we're doing our group. [01:22:00] We're going to do our own testing. And it's, you know, important to us, support and help you guys, you know, that because I understand funding dollar gap that goes with it like said, you guys shouldn't be here doing this because it's not really in your scope. But you want to know and understand it, understand the impacts, everything else. I mean, devastating as the impacts, you know, devastating. And I mean, to see what we've seen, it's an emotional thing. And I'm sure you guys have seen that.

Eddie Barnhill: Well, and that's what happens, and that's what happen a lot, but you just said, it's the emotions. Most fishermen if you get in here and said, I'll start talking about some other, the emotions overtake and they're going to start screaming at you. And that's just what it is. And it's not, it's not because they're mad. They're just frustrated and emotionally upset about the whole situation, you know, and it's like, what do you do? I mean...

Male Speaker: Fisherman, there is something about the fisherman, you just love it. I don't even know. I'm not, I'm first generation. And, you know.

Eddie Barnhill: It's a passion that you just don't, you are more or less, that's what it is.

Male Speaker: And you're willing to, so what did you do to survive those things, but whatever it took, because you want to keep doing it, you love doing it. I mean, it's just like you guys doing your science thing. There's something about it that draws you to it, it makes you just can't let it go. You can't let it go. And then...

Eddie Barnhill: This is taking it away from me.

Male Speaker: Right.

Eddie Barnhill: Well, [overlapping conversation] [01:23:24] I mean, it's there. So, that's happening right now. I'm trying to start another business out of the fishery, because I can't survive in the fish business right now.

Susanna Blake: Is that your business?

Eddie Barnhill: Yeah, that is, yeah.

Susanna Blake: So, I want to go back and, you know, I don't – I want to make sure that I get all the information that I can and I understand this is very emotional and hard to talk about, but as fisherman, you also, you have, your knowledge is often an experience based knowledge in, you learn to read nature, right. So, [01:24:00] is there anything out there that gives you a clue or there's a red tide that might come, that might happen? I have seen certain conditions that are like.

Male Speaker: What [indiscernible] [01:24:10]?

Susanna Blake: Yeah.

Eddie Barnhill: Like something to say hey, I think red tide is coming.

Susanna Blake: There might be a red tide.

Male Speaker: I mean no, [indiscernible] [01:24:16] when we get the discharges out of here, you know, it's like before few days later, I mean, you can almost tied it, you're going to have red tied probably on some place, I mean...

Susanna Blake: Some place, yeah.

Male Speaker: Yeah, I mean whether it's here or not, and then as it flows and grows up, you know, I don't really know how it gets over under her but from what I've seen, these charges are a good indicator. Hey, something coming. It's going to happen.

Susanna Blake: Like [indiscernible] [01:24:40].

Male Speaker: Oh, absolutely.

Susanna Blake: Yeah.

Male Speaker: I mean, and it's a...

Eddie Barnhill: Yeah. Sorry about to go but I don't...

Male Speaker: I don't know if everyone's going to say that.

Eddie Barnhill: Yep. [Overlapping conversation] [84:49].

Male Speaker: Like that how it makes where it appears to the south and things like that. I mean how the water really flows and brings it up and back around. I mean, does it come up here and go push off and get brought into offshore, north and south currents. And then push the shore. Maybe, you know, maybe that has something to do with it. I mean, you know, I...

Susanna Blake: What about elements that make the red tide less, less like extensive?

Male Speaker: Well, I have not seen them a long time, so it's hard to say.

Eddie Barnhill: I think what we understand for, I think we need cold weather and cold and dry, cold and dry.

Susanna Blake: Cold and dry.

Eddie Barnhill: Cold and dry. And they say the water but, I was told once like, you know, you hear a lot of things, but I was told the water temperature gets below what 60 or something that it kills red tide is that the temperature down right on that?

Male Speaker: I don't know.

Eddie Barnhill: It's supposed to be down once the temperature gets down so certain temperature that it supposedly will kill a red tide but we have not seen that either.

Male Speaker: [Overlapping conversation] [01:25:43] with this massive blooms of the yellow one that I saw up here and the tail winds and things like that, when they die and they come down [indiscernible] [01:25:49] and we're going to look at all the oxygen going down to the bottom again, from the back to your breakdown of it. I mean, is that so you know, I mean, we're battling so many different things here. Yeah, we wanted to drive [01:26:00] but any progress we've made in do on this bottom, we're going to be right back and work somewhere we were before.

So, any kind of recruitment that's come in, survived it. I mean, when you see these fish come in and we get a clear or breaks a little bit, you can just see them want to come out, come into these areas, coming into where they want to be ahead. And then when you



know we are here, tides are coming, you're just thinking to yourself, they are going to get wipe out again, you know, because like say a lot of the retreat, you know, for whatever reason, you know, I live here in Metal Shay, my shops here, you know, we were cleared in here to the power lines. No one hears huge software's population, lot acoustic fingers and things like that. We were really fortunate. Put a lot of fish in here. I mean, this is that. At one point, I would say all the fish in our area, we're in this area.

Eddie Barnhill: Every fisherman I knew had gone out there.

Susanna Blake: [Overlapping conversation] [86:52]

Male Speaker: Yeah, there's a set of power lines. You know, I know we got the blue green algae up in here till about the part power line. I think we're here. There's a power line.

Susanna Blake: Oh, I see. So, right here so I'm not.

Male Speaker: Yeah. So we were clear in here, you know, all year. And you'd see these fish start coming around the corner and stuff, you know, during these red tide changes or pauses or breaks whatever want to call, and it just like that we've have little green over back there.

Susanna Blake: Okay.

Eddie Barnhill: So, one of my other questions is obviously we don't know, we don't know but the blue green algae, you know, it's, you know, toxic I guess or whatever they're saying but, you know, you never seen in the river, you never seen dead fish, that what, that never made sense to me. You don't want to that thick on the surface than that but there's no fish dying in there, is it? I guess it wastes what gets out here and mixes with whatever's out here and then it causes the death, I don't know, it's the worst thing I ever seen.

Male Speaker: From what I learned from our record of engineers, it's suspension of algae, through the color. Obviously, which makes it really hard to tag. [01:28:00] And when it off gases, you know, there was something about how it off gases and then that becomes airborne.

Eddie Barnhill: Right. That's what they were talking about.

Male Speaker: And when Mandy originally came here, she said we guys never talked about the blue green algae and my response was when you guys came about the fish from what I know about this moving alga that's human machine. The blue green algae don't really affect the fish.

Eddie Barnhill: Right. That's what – that was my question.

Male Speaker: But it was a human, the human and those things are what we need to be worried about. And then it's in long term what I was told [overlapping conversation] [01:28:32].

Eddie Barnhill: I got a sore throat today, about your [overlapping conversation] [01:28:34] things that they say spiked that they've documented down the road, which, you know, I've got a one year old, 12 miles from these things. So, on a soft one should I be worried about my kids is someone in a six year old, should I be worried about them developing [overlapping conversation] [01:28:56] and nervous systems really developing and forming and happening at these times. I mean, you know, but that's a concern for me. Because if it's a 10 year out thing, we're going to see these things well, should I move a year years ago. You know, I mean, and then again, as a business as foot back, which is one of the impact, why would anyone want to come here to deal with those things?

Eddie Barnhill: That's, that's the biggest question.

Male Speaker: Why would anyone want to come to these areas not going in the water or putting rate, you know, I mean, if your local people don't go to your beaches, not that expect anyone else.

Susanna Blake: Right.

Male Speaker: You know, and it really truly is. And then I mean, it's confusing.

Eddie Barnhill: It's something that you don't want to think about. Unfortunately, you have to, but you don't, you know, I get up every day and I go to work and thank God. I try to just mentally block it out.

Male Speaker: You know, but I think is...

Eddie Barnhill: We try the government, we got to get through this. We got to get this somehow.

Male Speaker: [01:30:00] My biggest concern is something's going to change with the direction of the waterfall, maybe we'll do this project self, you know, help. What if we can keep continuing down this path with these things? Where it does, is the intensity or duration or how widespread these things are. And we've wasted a lot of energy and resources, which I, know this is a major issue. Don't get me wrong. It needs to be the system was set up for that. The system was connected to that lake and 46. So, everything that formed and made it to what it is now had nothing to do with that freshwater to come out of that lake. You know, so I mean, that's definitely an issue, but I never want to speculate but you hear a lot of positive minds of these reverts only 60 miles of that river right there.

Susanna Blake: Phosphate?

Male Speaker: Phosphate mines. There are these, you know, I know that mosaic had a discharge spill on October 23rd in Tampa Bay, Mosaic.

Susanna Blake: So, what is Mosaic?

Male Speaker: The phosphate.

Susanna Blake: Oh, that's the phosphate, okay. So, that's the name of it. I had already...

Male Speaker: Online here, I'm going to show you what it's exact dates are.

Susanna Blake: Thank you.

Male Speaker: Okay. Thank you.

Susanna Blake: I do have one more question for you. That's sort of like our role. Like if again think in the past or currently, did the ice cubes had any impact on your business while you were trying to deal with the red tide and then you have, do you have to work with, you know, how you manage your port as?

Eddie Barnhill: I honestly for me, I wasn't. I'm not and haven't been in the grouper side of it that much.

Susanna Blake: Much more of like that, okay.

Eddie Barnhill: Yeah, that'd be more [01:32:00] Casey, he's more on the group or side than me. I'm more of the smaller stone crab in the last year or so I did.

Susanna Blake: Any other kind of like regulations that might have affected you in any way?

Eddie Barnhill: Well, I mean, not a major impact on me, like I said because I wasn't in it that much. But, you know, I did buy in and get permits and so on so forth to a group of fish last year. And then all this happened, and it was like, whoa, so I sold everything. I sold everything right back within a year. I mean, I got bought all the permits and all that thousands of other stuffs and then quotas and everything, you know, and then it's just like, Well, you can't even, It was so frustrating and hard to deal with all of it. I just, you know, like I said I just sold it all to try to do something different because it was...

Male Speaker: It's an expensive business to be part of.

Eddie Barnhill: Yeah.

Male Speaker: Going offshore and fishing and things of that nature like [indiscernible] [01:32:56] it's just a \$1,000, absolutely deduct so that means you need to make a \$1,000, you need to make over \$1,000 for the boat but if you consider to pay crew?

Susanna Blake: Yeah.

Male Speaker: You know, so when we've been pushed to where our normal fishing grounds are here from 30 to 60 miles, but now we're running 150 miles one way to even get access to fish, but not like we're doing that well. But it was the ability to get fish in my shop, and to keep my guys making money because with the group of fishing and the reef fishing, that everybody just gets on a boat and goes. There was a huge learning curve, there's a lot of things you need to know about these fish and how they move and what they do and how to do it.

I mean, that's the thing, like, it's just like a farmer would be historical knowledge of land or things of that nature. Those are things that need to be protected because, you know, well, you're not going to have anyone new coming into these industries if there's no future in or first of all, but the learning curve would be successful to be able to sustain yourself or a family or being business is so great. I mean, and not to mention how expensive is, getting into this [01:34:00] fishery in general just would say take what when permits and allocation are buying into share or whatever. I mean, how do you do it?

Eddie Barnhill: A young man is not getting into fish business anymore. Unfortunately, you're not doing it. I mean, my kids just like, not a 12-year-old son, my 12-year-old loves commercial fishing. And I'm doing everything I can to steer him away from because, I don't know how you can afford to get into it. I mean, it's just every time you turn around there's another permit, there's another license, there's another quota, there's another person you got to call, there's another, it just, I mean it's everything.

In modern fishing, the state that they got you under this home, you can't even, I mean they're taking it to the extremes on these laws and stuff that basically the only way you can really go out there and do it 100% labels with a cast net. And I don't care who you are, I mean these guys can't go out with cash and make 11, 12 months all year. They just there, I mean, I know guys that want to finish it for me now. And his dad's been doing this all that he's done. He's teaching another day, so I can't do it no more is at home and he's fixing his own food stamps, because he doesn't know nothing else.

Male Speaker: My biggest thing is, if you really want to know what's truly affecting these fisheries, it has nothing to do with the fishermen involved in them, or the techniques or whatever. This is a water quality issue. This is an undermining of all the energy and efforts that you guys put in to protect these fisheries. I mean, in all honesty, I lost it as 100% of any group.

But 99% of fishermen were fishermen, people who make a living with this is their most important resource, and they respect it and they take care of it because it's tomorrow's paycheck, and then next month paycheck and everything and so on so forth. They

understand they love it, and no one really ever destroys something that they love. I mean, and again, it's not about getting rich. No one's getting rich on these things, but it's a hard life and a good living and something you might enjoy doing. I mean you don't love doing.

Eddie Barnhill: [01:36:00]You don't become a commercial fisherman because you're want to, you're going to be get rich over. A commercial fisherman does it because he loves the fish. There ain't no other reason. I mean, like I said, I'm third generation and if I was going to get rich out, I got rich, I think I mean, I've tried it all, I've done, I've been through a lot of it. And you just make a living, you make a good living, and that's it.

Male Speaker: But you only make a good living when it's good.

Susanna Blake: Right.

Male Speaker: You lose when it's bad. And I said these issues here and honestly, you know, I've heard the reports of red tied off of Marcos or Naples 65 miles, obviously had all the dolphins died down there. I mean, you know, our fishing areas historically had been out 60 miles of a grand pass in South 60 miles offshore in front of Naples, what we would call the Congress rose, and what the red tide events that they had down there this summer, red tied events that we've had up here this last summer, I mean, in, you know, on the edge of these bad waters in 95, 100 feet of water, there's fish that are showing that they want to come back.

I'm not saying they've been all wiped out, they've been displaced. And they've been there obviously their habitats have been changed and things like that. But, you know, when are they coming back to? And when can they come back? They're just like the fishermen. How long do they have to hang on? You know, before we get...

Eddie Barnhill: We can't wait that long.

Male Speaker: Yeah, [overlapping conversation] [01:37:31].

Eddie Barnhill: We got to figure out what to do and how to do it and that's what we're doing. You know, we got to.

Susanna Blake: I want to ask you about your – you said you're a third-generation fishermen, a grandfather passed away. But he mentioned that he went through a red tide event that he thought at that time, that was pretty devastating, you know, more or less when was that?

Eddie Barnhill: I don't know. We're talking back in probably 40s or something. I mean, I don't know. I couldn't even, you know, [01:38:00] my dad was just telling me about it. I don't know. I couldn't tell you how, but it's been a long, lots of years ago.

Susanna Blake: What about your father? Did he mention any red tides?

Eddie Barnhill: He's seen red tides but not this extent like we can, I mean it's hard to say because when we're talking about, what we're talking about what we're dealing with here. I don't think red tide. I mean, red tide. Yes, they've, we've seen red tide, we've had red tide. I think we've had red tide somewhere every year. We get a spot of red tide. I mean, but like I said, red tide I think come to shows up slow fish kill, couple of weeks it goes away and that's the end of it.

Male Speaker: Something that maybe I should look at is [indiscernible] [01:38:46] '07 or '08 to 12, there was no red tide in the state. I mean not really, and you look at those maps, there one goes around, I mean we didn't have anything and then of suddenly intensity has just jumped off the charts. The last five, seven years for whatever frequency intensity, whatever you want to call, it still that we're looking at. I mean, I've brought up a couple people's attention, but, you know, I think the big thing is what has really changed. I mean, I know the human impact is a lot, but could there be other thing, I mean...

Eddie Barnhill: The climate.

Male Speaker: The climate.

Eddie Barnhill: The climate has big change, it's definitely changed. No doubt about, 100%. I mean, are the crabbing industries in the wintertime and we catch crabs when the weather's bad? That's when we do our best. It's been summertime when and we [indiscernible] [01:39:38] I mean, these guys are loving our group fishing, you know, it's slick calm in winter time like when is that. Fishing generally good and [indiscernible] [01:39:45] and that is awesome. But for us ...

Male Speaker: We need the flex too even on the group of fishing.

Eddie Barnhill: Right, right.

Male Speaker: And then I say hey, it puts fish to make some angry, it just...

Eddie Barnhill: Makes the whole world go around fish business.

Male Speaker: It makes this system need those things [indiscernible] [01:39:58] climate change or whatever, it's goes into it [01:40:00] form changes, you know, those are things that I'm explaining to it, but you kind of have that with this devastating BC got here just, it makes it hard to be successful on and the business are, you know, I mean my biggest thing was we cannot raise fish in the trash can and that's what we've got here. I mean, it's just, it does not matter what you do on a conservation side, but you don't take a listing for having a house with a bad foundation, [overlapping conversation] [01:40:28] house. You know, and this is and that why I'm grateful you guys were involved in seeing this. You know, this needs to be managed.

Susanna Blake: Right.

Male Speaker: There needs to be addressed as we identify. And I'll tell you the truth. The majority of people that see this bad news and see this repetitively, they're under the impression that someone's out there trying to crack a case on this thing, because it's such a huge issue economically and just for everything, you care about ecosystems are. You want someone to come to your business or whatever, you know, you think if someone's got hands on this thing, someone's probably out there right now, collecting samples and processing something and doing whatever. You know, that's why I'm grateful to be able to do hopefully, we're going to do on our side for you guys, because it's important to get these things figured out, because I don't know what other people told you. But I can't imagine that they said, well, this is typically the way that it is. I just don't think it is, if they are, they are crazy because, you know.

Susanna Blake: Okay. Do you have any other questions? Because I think I...

Female Speaker: No.

Susanna Blake: Anything else you guys want to tell us?

Eddie Barnhill: No, thank you.

Male Speaker: Yeah, yeah.

Susanna Blake: No, thank you.

Female Speaker: I would suggest to start the effort to kind of consolidate that information and you know, get all the right people who are doing different things to kind of be sharing that information with each other, because with this one piece of information ain't trying to work out. We're talking to the State. We've reach out [01:42:00] a few, so let's start...

Eddie Barnhill: Because there are, you know, they're supposedly more into our people correct? Right? You guys are, you know, so they should be...

Male Speaker: But this is the thing and I said...

Susanna Blake: But it affects, it affects...

Male Speaker: Yeah, yeah, yeah, you know, I said it to some other people as well. This is inshore but this is awkward, but this is the only inshore, offshore because we said that this is the in shore and offshore. This has nothing to do with the way this water communicates with this water. Every drop of water comes here and goes out here, it goes back and forth and back and forth and back and forth on a regular basis on every day. The only water that's not part of the system is the one that comes from the rivers and then

they become part of the system. And then they're part of the same thing. So, these outsider force...

Susanna Blake: And not to mention the fish species like actually migrated, it's like all...

Male Speaker: That I got to tell, they are back and forth and everything else. So, and you know you're saving offshore fish that you would have in 200-feet of water rather than the red snappers are right here inshore, whether it's gags or red grouper in the past or mangrove snapper or the grunts and the pinfish and other things, I mean they are just as interchangeable with these waters and the systems. So, the only difference between the inshore and offshore is what we say is inshore what we say is offshore, this has nothing to do with it, so...

Susanna Blake: Thank you so much.

Eddie Barnhill: Yeah, I run, but I do, I do that run.

Susanna Blake: Thank you so much again.

Female Speaker: Thank you so much.

Eddie Barnhill: Yes, ma'am, thank you.

Female Speaker: We do need to get your signature before you go, if it's all right.

Eddie Barnhill: Oh, yeah, that's fine.

Female Speaker: Okay. And Cathy, if you're already have one, [indiscernible] [01:43:24].

Eddie Barnhill: And I don't know if you guys got my number, I mean you can call me anytime. I mean...

Female Speaker: I do believe, we...