

LAKE OKEECHOBEE OPERATION NEPA MEETING

2400 S.E. Salerno Road
Stuart, Florida 34997

February 19, 2019
1:12 p.m. - 5:10 p.m.

IN ATTENDANCE:

E. Timothy Gysan
Colonel Andrew Kelly

Jason Engle Job No. 529029 Proceedings

COLONEL KELLY: Good afternoon again everyone. So I just looked outside and it looks like people are making their way up to the room. So in the interest of time, we'll go ahead and get started.

I get the distinct honor and pleasure to do -- at least lead off the introduction. My name is Colonel Drew Kelly. I am the Jacksonville District Commander where our headquarters is up in Jacksonville. I'm with the Corps of Engineers, obviously, Jacksonville District. And I really appreciate seeing everyone out here today.

It's a great opportunity. We will do this now; and then at 1800 or 6:00 p.m. we've got a follow-on meeting to catch additional folks that were unable to make it this afternoon.

So I thank you for coming out today to be able to talk about the issues. And having talked to some folks in the crowd, as people were making their way in, I know there's a lot of passion and a lot of interest to figure out exactly what we're doing. So we came out here today, I brought a team out. I've got a couple of folks in the room with me here. I separated some people, so there's -- so some of my team is also in the two overflow rooms to try to give everybody an opportunity. I am tracking about 95 comment cards. So it looks like about 95 speakers so far today. So we're going to try to move out pretty quick.

The bottom line is we are here to listen. All right. We're here to talk about priorities and to listen and we want to hear about what's important to you. We take your comments today. You know, this is part of an eight public meeting forum. We've done, I think, four so far already, five and six today. We'll do a couple more. And we'll do those public forums and it's about hearing and listening to the priorities that are important to everyone as we go through.

I've seen Congressman Mast. Sir, thank you for coming. I know Secretary Valenstein is here and I know there's also a bunch of additional elected officials; and we'll call you up and have a -- get a first crack at this speaking when we turn it over for the comment period. I apologize for not having that whole list. It's a little crazy out there today. So anyway, if you do -- if you're a public official and want to make sure your name's on the list and come up, I know Erica, out at the table out there, got your information; and I know Jason will ask prior to the comment period. I know we've got additional staff from additional agencies and I really appreciate you coming out and listening and hearing firsthand from the public exactly what's important and why we do what we do and why we're here to serve.

So why are we here and what's this LOSOM thing?

So LOSOM is the Lake Okeechobee Operation System Operating Manual. Okay. Many of you are familiar with the 2008 LORS, okay, the Lake Okeechobee Regulation Schedule. So this is a name. Intentionally changed the name and did it for two reasons: The first number one reason is because it identifies more of a system approach. Lake Okeechobee doesn't live on itself, an island. It's part of a bigger system. So we absolutely wanted to capture that as we forward. LORS has been operating for about a decade, okay.

And the second reason that I wanted to make sure that we changed the name was because this is not simply an update of the status quo. We are not just going through the motions, going to churn out something and just updating what we've got. We are really trying to make an effort to identify the priorities. And, over the course of a decade, perhaps the priorities have changed. I've heard from many

of you and my team has heard from many of you at different public events across the state where perhaps there are different concepts and ideas that we intend to put into place. And my team will outline how we're going to do that and how that's going to come going forward.

I would like to say that we are -- You know, so I think one of the things you're going to hear today is this effort is going to conclude in 2022. And so there's -- Usually when I say that, I get a big sigh and there's a lot about why can't you move faster. My team will explain that. But, at the end, the dike repairs for Lake Okeechobee are going to be completed in 2022.

So rather than wait and try to do the public meetings and do what we need to do to change the system manual, rather than wait to do that closer to 2022 period, we're going to start now. But that does not mean we're not adapting currently. We're doing things a little bit different and we're continuing to try to continue that motion.

We moved more water south this year than we ever have in LORS. We've moved more water to the west coast during the dry season than we have in the past. We're looking for opportunities -- currently looking for opportunities to potentially move water both west and east during the dry season, in order to what I call buying down risk for potential releases later. We're working through that in order to be able to potentially kind of change the way we think. We're figuring out how to provide better benefits to the estuaries right now and trying to leverage those opportunities as we go forward. So that's what we're doing now.

And the reality is we are listening and we've heard a lot of the issues that have come, especially over the past couple of years, in some pretty high water years. And we're trying to manage that over time, because we know that by 2022, we'll have a new operating manual that we anticipate will likely pass through for about a decade.

We're hoping to get into some of the other issues and things that are coming on line, like C44 and C43 reservoir. We're trying to capture those so that we can make this a fully more systematic operating manual.

The last thing I'll say before I turn it over to my project manager is we'll be back. So this is not a one-time thing. Okay. We are coming back. We've got a schedule and I'll outline it. After the initial public meetings where we listen and get the priorities and hear what's important to you, we come back with additional scoping meetings. What that really means is now we've put pen to paper, we've laid out those priorities and we come back to work issues and we do that back around the state in all the affected areas. And then we come back again, after we've done that, when we have what we think is the right answer. So we come back with what we think the tentatively selected plan is and we get input with that and then we go final when it's all said and done.

The last thing I'll promise you, too, is I know there's a lot of different things that happen at these public meetings; and some of the things I'm sure that will be discussed here today might be related to, but not directly related to the System Operating Manual. So we can't build new structure or new infrastructure when we're updating the manual, but we know those things are important.

So what my team and I will commit to you is as those other things become important and you want to hear 'em, I will commit that our team can come back and perhaps do a separate meeting that is separate from the LOSOM manual that we're trying to get done by 2022. So that's what I'll commit to you today.

I really appreciate everyone's turnout and it's great to see passionate people out here today. And I hope that this is informative and clear and we have the opportunity for everyone who needs to make their comments.

Tim.

MR. GYSAN: Great. Thank you, sir. My name is Tim Gysan. I'm the project manager for this LOSOM effort. I'll be your guide and liaison over the next four years as we all work together through this process.

(Thereupon, the slide show is presented and Mr. Gysan instructed it not be taken by the court reporter.)

MR. GYSAN: Now, I want to go ahead and turn this over to Jason Engle, our Water Resources Branch Chief in our Engineering Division. He's going to facilitate the public comment period. So, again, thank you for coming out. It's great to see such a large number of people out here interested in this effort. Thank you.

MR. ENGLE: Good afternoon everyone. I just wanted to say a couple of opening comments before we get started on the public comment period. I want to say, first of all, we have over a hundred people that want to speak this afternoon. We're going to ask for people to keep their comments to two minutes or less, if possible. Remember that if you have lengthier comments, we want to get all of them, but you can submit them in writing, either by an email or on the form that's out in the lobby. So if you don't get a chance to get all of your thoughts out tonight, we want to hear them, send them to us. It's important that your voice is heard.

We have a court reporter here tonight. What we have is a capacity -- overcapacity crowd. So what we'd like to be able to do is once you've come up and made your comment, if possible, if you were to leave the room, that would allow someone else to come in and make their comment on the record in this room. So for those of you that want to be considerate and allow others that opportunity, please consider, after you've made your comment, if you exit the room, you can still hear us from the other overflow room, but this would allow people to come up to the podium and say their comments.

Most of the people that came in first, we're taking you in the order that you signed your card. So the folks in this room will come up first. But then after a while we're going to get on to the people that are actually out in the lobby and other places in the building.

So there's also an issue with the audio in the other room. We're going to try to fix that. So the people in the room are not able to hear right now.

One important aspect of this public comment period is that it's not a question and answer. We're here to solicit everyone's feedback. When we come back for the workshops in May, we're going to be able to have a two-way conversation. We will have taken all the comments. We'll come back with answers to those questions. There's also an official method that we answer the questions through the NEPA process. So today we'll be taking comments, but we're not going to be responding to all the questions, because we couldn't possibly do that in the time that we have allotted.

Any individual that submitted a card will be called to the microphone. I'll ask that you state your name and any group that you're affiliated with when you come up. And I'm going to make an announcement

to the elected officials that are here and then we have a handful of those that would like to speak and we're going to ask them to come up first.

Stuart City Commissioner Merritt Matheson. City of Pahokee Commissioner Tasha Mervin. Kelly Burke, on behalf of Melissa McKinley, Palm Beach County Commissioner. Mayor of the City of Stuart, Becky Bruner. Here for U.S. Senator Marco Rubio, Greg Langowski. City of Stuart Commissioner, Kelli Glass Leighton. City of Stuart Commissioner, Mike Meier. Martin County Tax Collector, Ruth Pietruszewski. Martin County Commissioner, Sarah Heard. From Florida Departmental Environmental Protection, Noah Valenstein. And finally, Congressman Brian Mast.

So with that, I would offer Congressman Mast the first comment at the microphone.

CONGRESSMAN MAST: Thank you.

MR. ENGLE: Thank you, sir.

CONGRESSMAN MAST: I try generally not to speak in absolutes, but I think it is absolutely true to say there's not one of us that aren't connected to Lake Okeechobee in some form or fashion; we don't have a piece of history that's related to Lake Okeechobee; there's not one of us that doesn't care about Lake Okeechobee. What I think our community is pining for is that everybody around Lake Okeechobee also care about us. It is something that is central to this conversation, the Lake Okeechobee Regulation Schedule or the Lake Okeechobee System Operation Manual, where things are written into law like they will look at what goes with recreation and irrigation and navigation and flood control and preventing saltwater intrusion and making sure that there are not floods that are south of the Herbert Hoover Dike. These are all important concerns to every person in here. But what we're asking is that, in this entire process, we not be left out in the way that we were left out before; that when people say -- When people say we'll do what the science on Lake Okeechobee suggests, that that not end with a period, as though they're not going to look at what the science on the Indian River Lagoon or St. Lucie River or Caloosahatchee or other places supports, because we're communities, as well. We have our economies. We have our own environments. We have our own endangered species. We have our own human health and safety needs that need to be met.

And that's my expectation from the Corps of Engineers. That's my idea of success from the Corps of Engineers. This is what I want to see out of this process. I want to see that when the Corps of Engineers says they're going to take human health and safety into consideration, that it not be a subheading under flood control, because that's not necessarily the biggest concern for this community. It's an important concern, flood control and human health and human safety in that respect, but we have our own human health and human safety concerns in our community related to cyanobacteria, microcystin algae, blue-green algae, things like that are coming out of a completely separate water body into our body of water.

This is important to us. We need to be taken into consideration. Our recreation needs to be taken into consideration. Our environment, our economy, everything about this community and the communities to the west coast, as well. If there's a community anywhere around the lake that's asking to be looked at, that's asking that we be sympathetic and empathetic to what goes on with their concerns, I ask that you also be sympathetic and empathetic to what goes on with our concerns and the damage that has occurred year after year after year to our community, as well.

So it's in that, that I would just say, in summation to the Corps, you will expect about thirty pages from me of public comment in writing and questions. But that is my expectation, that is my idea of success that you acknowledge what amount of cyanobacteria is good or not good for our community, what amount of freshwater discharges are good or not good for our community; and you make that a part of your calculus as you think about who shares in prosperity, who shares in adversity, what is it that's benefiting this community, what is it that's hurting this community? And my hope would be that our community no longer receive these harmful discharges into our waterways due to the change in management from Lake Okeechobee. Thank you for taking the comments from everyone.

MR. ENGLE: Thank you, sir. Noah Valenstein, Florida Department of Environmental Protection.

MR. VALENSTEIN: Thank you. First, I want to start by thanking the Colonel for commitment to involving the public. We're incredibly passionate about our natural resources here in Florida, rightfully so. It's the foundation for our economy and way of life. This is something that has to be done in a public manner. So I appreciate you having public hearings on the coast, around the lake. This is an important issue for the State of Florida in a whole.

I want to -- Before I mention, I also appreciate that the Colonel mentioned that, as you work in a public manner to update the regulation schedule, that you keep in mind the reality that we have today in updating it. I think that's incredibly important, certainly at the Department. Unfortunately, during the last several years, our reality has been that one of our roles in the technical calls over lake releases has been to give an update on algal blooms; and that is certainly a reality that has to be taken into consideration as the Corps goes through this process. So thank you for talking about keeping today's reality in mind.

So I would just briefly paraphrase -- And certainly we provided this to the Corps -- but I want to briefly paraphrase from a letter the Governor sent on this issue saying that "I understand the management of the Lake involves a host of considerations ranging from water supply to lake ecology. I hope that the health, safety and well-being of our coastal communities can be one such consideration and that aggressive yet responsible action can be taken."

He also highlighted the commitment that the State has and certainly under the Governor's Executive Order more than \$2.5 billion commitment to doing more now for key Everglades restoration and water quality protection projects and reservoirs as one of those key issues. So thank you for your commitment to the public and thank you for your initiative.

MR. ENGLE: Thank you. Next, Becky Bruner, Mayor of City of Stuart.

MS. BRUNER: Good afternoon everyone and thank you for this opportunity to speak today. My name is Becky Bruner. I am the Mayor of the beautiful City of Stuart. I'd like to spend my time speaking today by reading part of a letter; and this letter is from American Custom Yachts, one of our -- is our biggest multi-million dollar boat builder here in Martin County and employees many.

MR. LACOMBE: My name is Dominick LaCombe, Jr. and I am currently the General Manager of American Custom Yachts in Stuart, Florida. My father, Dominick LaCombe, Sr., along with his business partners from a Louisiana family, decided that Martin County was the perfect place to start their boat building venture in 1991. Seventy-five percent of American Custom Yachts core customer base comes from outside of Martin County and that's 40 percent come from out of state. There are many factors as to why we have been able to sustain this successful business for 28 years in the marine industry private

sector. It starts with our dedication to quality work, combined with fair business practices, but we believe there's another attraction: Our location. And that location is now threatened by the current state of the waterway. As an employer, we must set environmentally responsible examples in our industry, as well as provide a fairly mandated, safe work environment for all of our employees. The Okeechobee Waterway is a lifeline for our business and when it suffers, ACY" -- that's American Custom Yachts -- "and its employees suffer. The absolute neglect and disregard for an updated discharge schedule is unacceptable. Our employees and subcontractors deserve better than the decision our State and federal government made in the past.

We also witnessed the decline of east/west transient boat traffic over the last few years. There are many factors contributed to this trend, but all signs lead to poor management of water flow. And because many of our boat haul-out operations require an employee get in potentially dangerous waters, we have had to eliminate this operation internally. Instead, we hire professional divers who are more equipped to face the risks associated with our poor water conditions. American Custom Yachts and my family and my sons and grandchildren we support Governor Ron DeSantis and Brian Mast in their efforts to stop the discharges with manageable short-term and long-term goals for cleaner waterways. Thank you.

MR. ENGLE: Thank you, Mayor. Next, we have City of Stuart Commissioner, Kelli Glass Leighton.

MS. GLASS LEIGHTON: Thank you. My name is Kelli Glass Leighton. I was born and raised in Stuart. In fact, my family settled on the St. Lucie River in 1897. I am also a Stuart City Commissioner and a mother of a six-year-old boy.

For decades we have witnessed the damage of the discharges. For decades we held out hope that this project or that project would make a major difference for the better to no avail.

At the City we have embraced responsibility for what we can directly affect: Passing fertilizer ordinances, converting septic tanks, expanding stormwater treatment areas and even testing innovative new technologies to clean the water. Yet the discharges continue.

In addition to damaged habitat and marine life, diminished property values and struggling small businesses that depend on water conditions, we have reports of deadly toxins in the water that were implicated in the death of a local family's dog and even potential health conditions in our residents.

So here are my questions: How much more should we, as a city, do; and how can we make a sustainable difference, if the discharges continue?

Will the science of what amount of freshwater discharges out of Lake Okeechobee is good for or harmful to each estuary on the east and west coast be taken into consideration?

What amount of freshwater discharge out of Lake of Okeechobee benefits the ecology of the St. Lucie River?

What amount of discharges is optimum to end the damage to our community?

Is the St. Lucie River a separate body of water from Lake Okeechobee that is connected by a US Army Corps built canal?

Is cyanobacteria a toxin?

How closely have you studied cyanobacteria?

What level of toxicity of cyanobacteria exceeds the toxicity level that the US Army Corps of Engineers would discharge to the populations on the east and west coast?

What steps are you taking right now to minimize this harm?

What scientific sources are you relying on that determine what levels to keep the lake at during a dry season?

How much weight do you give to those sources and how accurate are these sources?

Are you considering the science showing the level of damage being done to our waterways and how much weight are you giving those sources?

And finally, my last question is, is the human health and safety of the people living on the east and west coast as important as the human health and safety of those living south of Lake Okeechobee who are threatened by a potential failure of the Hubert Hoover Dike? Thank you very much.

MR. ENGLE: Thank you. Next, Stacey Hetherington, Martin County Commission.

MS. HETHERINGTON: I waive my comments.

MR. ENGLE: Thank you. I want to make a couple more announcements. Several more elected officials have signed in. For Senator Gayle Harrell, Darlene VanRiper. For Representative Delores Hogan Johnson, Jake Sanders. And City Commission of West Palm Beach, Paula Ryan.

Are there any other elected officials who've arrived today and we didn't announce?

MS. MERVIN: You called my name but --

MR. ENGLE: Stuart City Commissioner, Merritt Matheson.

MR. MATHESON: Good afternoon. My name is Merritt Matheson. I'm a Martin County native and I serve the City of Stuart as a commissioner.

I want to thank the Corps and all the public for getting involved in this event. I stand here before you today as a fishing guide, businessman, an environmentalist, dog lover, retail store manager, Stuart City Commissioner and father.

I'm urging you to do everything possible to stop forcing unwanted discharges from Lake Okeechobee on my city. My residents deserve better than to spend their summers living in fear of toxic cyanobacteria that ruins our economy and destroys our human health and public safety.

The 2008 Operations Manual states a base flow of 200 cubic feet per second to the St. Lucie Estuary. We would like a base flow of zero, please. That same operations manual states a base flow of 450 cubic feet per second to the Caloosahatchee. Their science shows a more natural base flow would be 700 to 1,000. I recommend, in this upcoming process, you give them our 200 base flow, please.

Simply put, water's being boarded on the lake for irrigation purposes to the detriment of our human health and public safety. Had the lake been kept at the lowest level of your operational band prior to the major rain events last spring, my city would have been spared billions of gallons of polluted water being dumped upon us.

Rather than risk irrigation water restrictions if a drought occurs, excessive water is being stored on the lake. With that storage space already taken up entering the rain season, my city bears the brunt of other's prosperity.

Please lower the bottom end of your operational band during the dry season. Send all water south as capacity is created during the dry season. Ban the practice of back pumping into the lake. Use new projects, like the Caulkins Water Farm, to adjust the level of the C44 canal, rather than dumping the water into our estuary. Moving forward, please consider Stuart residents and their human health and safety as you do all of South Florida's. Please give us zero discharges. Thank you.

MR. ENGLE: Thank you, Commissioner. Next, Tasha Mervin, City of Pahokee Commissioner.

MS. MERVIN: Good afternoon. My name is Clara Tasha Mervin, one of the commissioners from the City of Pahokee where we choose to live, we're not forced to live there, as many of you chose to live where you live.

When we talk about discharges from Lake Okeechobee, we talk about protection of our communities. Everyone deserves access to water, including the residents of the Glades communities. What Congressman Mast has proposed will create droughts year after year and especially harm our community. Our right to freshwater isn't just something government leaders should protect, it is a right envisioned by our creator.

Isaiah 44:3 says, "For I will pour water on the thirsty land, and streams on the dry ground..."

We must remember this as we consider what the future holds for the Lake Okeechobee. I encourage you to please develop a plan that the lake does not unnecessarily harm the Glades residents. Remember before you make your decision, Moore Haven residents lives matter; Belle Glade residents lives matter; Pahokee residents lives matter; Clewiston residents lives matter; South Bay residents lives matter. And we are not selfish about your lives, 'cause all human lives matter. So as you stated, Congressman Mast, that the Glades community be not left out of your decisions. Thank you. MR. ENGLE: Thank you. Next, Kelley Burke, on behalf of Melissa McKinlay, Palm Beach County Commissioner.

MS. BURKE: On behalf of Palm Beach County Commissioner, Melissa McKinlay, whose district includes South Bay, Belle Glade and Pahokee, I thank you for the opportunity to comment on proposed Lake Okeechobee Regulation Schedule. The operation of Lake Okeechobee is a very complex issue and affects the entire South Florida. The lake is a resource that is essentially interconnected to many communities in Palm Beach County. Any proposed operational changes should be thoroughly evaluated and include all appropriate technical information to ensure impacts to all communities are well understood. Palm Beach County is in the process of preparing comments, which they will formally submit to the Army Corps next week. Thank you.

MR. ENGLE: Thank you. Next, I would offer US Senator Marco Rubio's representative, Greg Langowski.

MR. LANGOWSKI: I'll pass.

MR. ENGLE: Thank you, sir. Next, City of Stuart Commissioner, Mike Meier.

MR. MEIER: Good afternoon. Thank you. My name is Mike Meier. I grew up on the St. Lucie River here in Stuart, as did my mother and grandmother. I'm a local business owner and a Commissioner of the City of Stuart.

I took an oath to protect and serve my community; and I'm here today because I am desperately concerned about the health and safety of my citizens and my family. I believe that the United States, the government does not knowingly build infrastructure that harms people. However, the current management of Lake Okeechobee is harming people. It is harming our health and safety here on the Treasure Coast.

The harmful effects of freshwater discharges on the seagrass and oyster populations in the St. Lucie are well documented. Discharges in recent years have also brought cyanobacteria blooming on the lake to our local waterways where it releases harmful toxins like the carcinogenic hepatotoxin microcystin and the carcinogenic neurotoxin BMAA to name just two.

Research has shown these toxins are harmful to human and animal health. Research has shown these toxins are being found in local fish flesh. Research has shown that microcystin is being found in our noses, evidence that it is aerosolized. Research has shown that local pets have been made sick and died from exposure to these toxins.

Lake discharges harm our local ecology and bring cyanobacteria toxins to our local waterways. These toxins are in our water, aerosolized into our air. They're in our local fish. They're in our pets and they're in our bodies. The harmful effects of these toxins are documented. The evidence is clear: Discharges harm our health.

I demand the Army Corps consider the health and safety of the Treasure Coast community in the management of the lake. We do not need discharges to the St. Lucie Canal, which offer only harm and no benefit. We want zero discharge.

MR. ENGLE: Thank you, Commissioner. Next, Ruth Pietruszewski, Martin County Tax Collector.

MS. PIETRUSZEWSKI: Waive comment.

MR. ENGLE: Thank you, ma'am. Next, Sarah Heard, Martin County Commissioner.

MS. HEARD: My name is Sarah Heard. I'm a Martin County Commissioner. I've been a Martin County Commissioner since 2002. I ran for office here because I was concerned and discouraged by the rapidly deteriorating conditions in the St. Lucie River and the Indian River Lagoon. The Indian River Lagoon is widely considered the most bio-diverse estuary in North America, home to 4300 plant and animal species. Because of its unique temperatures, ideal estuary salinity and critical habitats, it serves as a bible nursery for species all along the Atlantic seaboard of the United States, at least it was.

As a public official, we take public safety and human safety very seriously. Nearly 60 cents of every dollar of Martin tax collected dollars are spent on protecting human safety. Now you must do your duty to protect our human safety and health.

Imagine you were an elected official in this idyllic coastal county in South Florida and throughout the summers of 2013, 2015, 2016, 2017, 2018 your residents are prohibited from any contact with all of our water bodies, often including our closed public beaches, because water is toxic. No swimming. No boating. No kayaking. No sailing. No rowing. No fishing. No surfing. No paddleboarding. The resource our residents love the most is untouchable now for most of the year, every year, because of Lake Okeechobee discharges of polluted water.

You must stop the discharges from Lake Okeechobee. You must acknowledge harmful algal blooms in Lake Okeechobee. You must test for toxins. You must establish toxic levels in which discharges are prohibited from the lake, in order to protect the health and human safety of the residents and resources downstream of the discharges. Thank you.

MR. ENGLE: Thank you. Next, Eula Clarke, Vice Mayor, City of Stuart.

MS. CLARKE: Good afternoon. I'm Eula Clarke, Vice Mayor. And I started my life in these United States as an immigrant from Jamaica in the City of Belle Glade, Florida.

One second. My glasses.

So I'm used to people fishing along the canal banks of the Lake Okeechobee Waterway and I've enjoyed many trips coming from Belle Glade to Stuart. Now I live here and work here for the past 35 years. And I've missed seeing people in the past seven or eight years fishing along the banks of the St. Lucie River, Okeechobee Waterway.

City of Stuart, along the St. Lucie River, is a vibrant community which we want to maintain free of any pollution caused by excessive water releases from Lake Okeechobee. My major concern is to help maintain a way of life where persons who fish along the St. Lucie Waterway, both inside and outside the city limits, can be assured that there will be healthy fish to catch and eat and they can enjoy the water safely and breathe the air without grave concerns for their health and safety.

I will read from my questions as time allows and I will submit them. These are very basic questions of the Corps. My questions to the Corps are as follows: What measures has the Corps specifically taken during the time when there are releases to put warning signs along the Okeechobee Waterway to warn persons who may be fishing from banks that the waters contain toxic algae; is this solely left up to the Health Department and the local communities?

Question: Does the Corps take regular sampling of waters along the various locations of the Okeechobee Waterways as it enters into Stuart, Florida?

What is the nutrient saturation level of the water when there is a release and is it being tested and looked at, at all times, during that period of release -- release period?

What studies has the Corps done regarding reducing and also removing the algal bloom and any bacteria from the lake and the associated streams and estuaries?

When will you fully implement a plan to send water south into Florida Bay and maintain the lake levels between 10 and 12 feet to avoid excessive releases within a short duration, in order to reduce the lake level and to accommodate rainfall during an impending hurricane or any rainy weather?

We want to live in a safe environment. Stop the harm. Stop the excessive releases and remember the health and safety of everyone in this entire Everglades region.

MR. ENGLE: Thank you. Next, Darlene VanRiper, legislative assistant to Senator Gayle Harrell.

MS. VANRIPER: I waive my comment. Thank you.

MR. ENGLE: Thank you. Jake Sanders, adviser to Representative Delores Hogan Johnson. Hearing none.

Paula Ryan, City Commissioner of West Palm Beach.

MS. RYAN: Thank you. Good afternoon and thank you for allowing me a few minutes to speak. There will be one of these events held in my city, but I'm not going to be able to be available at that time. So I'm here today to tell you that I am a City Commissioner of West Palm Beach. I'm also on the Water Resource Task Force for Palm Beach County and I'm on the Treasure Coast Regional Planning Council.

I understand that we are a regional system, but what I would like to also share with you is that we have spent millions of dollars to protect Grassy Waters, the last remnants of the Everglades that is in our city district. That is our water supply. We have been impacted by the algal blooms, but we have also been impacted by droughts. We are right in the middle of this problem. It is a health and safety issue.

But if you don't have water for your community, you don't have a community on your riverways, on your boats, in your businesses.

We have to look at what is going on and solve it through science and admit that we have people on both sides that are going to be negatively or positively impacted. And, at the end of the day, health and safety includes fresh drinking water. So we have to find a way, with the science, to allow our systems to work for the betterment of our community.

Thank you for the opportunity to speak today. And I appreciate everybody's passion on this issue, because it is important that we come together as a community and demand solutions that benefit all Florida residents. MR. ENGLE: Thank you. That concludes the comments by elected officials. We'll now start the comment period for the public. I'm going to call the names out on a rolling basis to try to keep people flowing through and making their comments. I'd ask that you state your name, any group affiliation that you want to state. Please keep your comments to two minutes or less. Like I said, we want to get all of your comments. So if you have more lengthy comments, you're able to submit them by email or on the forms that we have in the lobby.

First name, H.B. Warren. Next, John Gonzalez. Third, Jackie Trancynger.

MR. WARREN: Thank you. My name's H.B. Warren. I'm the District Vice President of the Florida Realtors, serving this district, Martin County, Indian River County, Okeechobee County and the Island of Palm Beach. Florida Realtors is the largest trade organization in the State of Florida. We have over 187,000 members.

It's difficult to put a price on the damage caused to our area by the onslaught of Lake Okeechobee discharges. Certainly you can't put a price on those who've lost pets or suffered injuries that some experts associate with these releases. But we can calculate the impact on property values and Florida Realtors have done just that.

A couple years ago Florida Realtors performed a study that examined the losses in real estate values associated with the lost summer of 2013. In a six-month period of that year, Martin County absorbed a reduction in aggregate property values totaling nearly half a billion dollars, 488 million to be exact. That was 2013.

We received billions of gallons of toxic releases from the lake since then, particularly 2016, 2017 and last summer 2018. We want and need to see the number of releases reduced to zero. That's what we're here for. Thank you.

MR. ENGLE: Thank you.

MR. GONZALEZ: Good morning -- or good evening -- or afternoon. Thank you. My name's John Gonzalez. I'm the President of Martin County Realtors of the Treasure Coast. I want to thank all of you; and I will be brief.

As a lifelong Floridian whose family goes back seven generations -- My family came here in the 1700s -- I'm intimately familiar with the complexities of these issues. There are many factors involved, densely populated communities in Orlando, agriculture, fertilizer from my residential lawn, septic tanks and on and on and on that are causing the problems that you guys are addressing.

So I'm not here to point fingers. I'm here, like all of us, to ask questions. My one question is, 'cause we're trying to be brief, what is NOAA's accuracy rate of predicting weather patterns over Lake Okeechobee?

Lake levels are tied to NOAA's projections on how rainy the coming wet season will be. How accurate over a period of say five, ten, fifteen, twenty years have those predictions been?

I personally think meteorology is a scientific guess. The key is because the sampling pattern for moderate accuracy or minimal accuracy perhaps shouldn't be given so much credence when setting the standards for lake levels.

Moreover, we know that we're going to hear a lot of numbers today. There's one number that I think we can all agree on is the number of discharges from Lake Okeechobee that would be most beneficial to the ecosystems of the St. Lucie River, the Indian River and the Caloosahatchee -- well, not the Caloosahatchee. They need some of our water. That number is zero, zero. Army Corps representatives, please implement actions today to get us to zero discharges in our waterways. Thank you.

I'd like to submit my comments, the Florida Realtors Water Report and the Economic Impact of Florida Realtors to the record, please. Thank you.

MS. TRANCYNGER: Good morning. Army Corps, your mission statement is threefold: To deliver vital engineering services in order to strengthen our national security; to energize the economy; to reduce risks from disasters. These disasters can be calamitous events that seriously disrupt a community's ability to cope with the latter. Disasters can be natural or man-made.

My questions for you today are: How can you justify your mission to energize the economy when, in fact, your discharge schedule for Lake Okeechobee is ruining Martin County's economy for the benefit of -- and I'm not going to let the elephant in the room not be spoken -- sugar corporations and other agricultural businesses?

You will hear about our economic impacts and problems from many of us who I see in the room who'll be taking later. In my opinion, you're not living up to that economic mission. You have always done well in achieving your first mission statement, because you thought mainly in terms of flood control, dams and dikes. You are, after all, mainly engineering experts. You're not healthcare, nor chemistry, nor medical experts.

But you must now deal with your third mission, which is reducing risks from disasters. You have not taken into account the health risks that you, yourselves, are creating by not recognizing the man-made disaster of the toxins in the water, in the lake and the rivers which we now know have long-term, serious health risks to humans, animals, birds and fish.

These sessions should be about your future, your evaluating all the impacts that we all mention here today to you, especially -- And I want to congratulate Mike Meier because he said all that I wanted to say about the health issue. He did a wonderful job. Thank you, Mike. I don't need to say anything about that.

By the way, you also managed to ruin my retirement. I moved here in the year 2000 after living in New York all my life and being a water person. You know, Brooklyn is surrounded by water. And my realtor who sold me my house happens to be sitting here. Had I read the newspapers, had I come down here in 2015 or '18, she would not have made the sale. I bought a cute little house in Jensen Beach; and from 2000 to 2008 I spent every day, parts of every day in the water, fishing or at the beach at Jensen. That's gone and I'm very sad about it, but I'm mostly worried about our children's future and our health and safety.

MR. ENGLE: Thank you. Please remember when you come up to the microphone, state your name, so that we have it in the record. And the next three names: Paul Daly, Ramon Iglesias and Christina Maldonado.

MR. DALY: Good afternoon. My name is Paul Daly. I'm a native Floridian. My wife and I have been Stuart restaurant business owners for the last 22 years. We are the current business owners of the Pelican Cafe, located on the St. Lucie River underneath the Roosevelt Bridge.

I'm speaking on behalf of two groups: 240 members of the Ballantrae Anglers Club of Port St. Lucie and the very small business -- and every small business in Martin County and St. Lucie County.

The effect of the algae bloom on our customer base choosing not to dine on the water's edge because of perceived and real algae problems has reduced our sales by tens of thousands of dollars every summer, year after year. It not only costs me money, but it affects the City of Stuart, who's my lessor. Every small business, of which there are thousands in our area, are negatively affected financially due to the algae bloom in our waterways.

The handout we all got, facts and information you provided for this meeting scares me because of what it does not address. It is so blinded by engineers feat and thought that it does not address or respond to the negative economic impact on civilian business. Here's what really scares me: The key milestones in the handout information starts in January of 2019 and concludes in 2022. I am sure it will begin all over again at the same point.

I will end with this relevant quote: "In a bureaucracy, there is a natural tendency to let the system become an excuse for inaction."

MR. IGLESIAS: Ramon Iglesias. I'm the General Manager of Old Martin Marina on the southern shores of Lake Okeechobee. Ninety-five percent of the water that enters Lake Okeechobee comes from the Kissimmee River, the northern watershed. LOSOM should be based on science, not politics. There's a lot of discussion by the Governor and Brian Mast that are based on blame and their own agenda. Before we dictate the level of Lake Okeechobee, the liquid part of Florida, you must look at your own backyard and ask why your beaches have been closed due to fecal matter that have nothing to do with Lake Okeechobee and wonder why someone will continue to push for a clean water agenda, yet never agree that they're part of the problem.

This world has many water issues. I'm sorry to tell you that Lake Okeechobee is not responsible for all of 'em. A ten-and-a-half-foot lake due to a drought from time to time is healthy for a lake. Yet, creating a drought by forcing it to ten-and-a-half feet, when Mother Nature did not intend it, may be a risk worth gambling, but it must be temporary. You must back it up with burning and allowing the natural filter of vegetation to grow.

The people south of the lake are sick and tired of being blamed for all the coastal problems. A permanent ten-and-a-half foot lake should not even be an option. Ecologically it would be catastrophic and navigation on Lake Okeechobee would be nonexistent, from the recreational fishermen and tourists from all of over the country.

The false claim that Lake Okeechobee is toxic has hurt the perception of the lake. The plan by Congressman Mast will actually hurt the lake. If this moves forward, you will kill the second largest freshwater lake in the country to appease population growth to the east and west coast and the hidden agenda of a few.

Congressman Mast, here's my card. I invite you to Lake Okeechobee. Let me tour you Lake Okeechobee and show you what you don't know.

MR. ENGLE: Thank you.

MS. MALDANADO: My name is Christina Maldonado. As a resident of Stuart, Florida since 1975, a veterinarian since 1994, and river activist since 2010, when I heard about a dog that was sick after eating a fish out of the St. Lucie River, I knew we were in trouble. Until the test were finished, I had no scientific proof of the connection between the water and acute liver failure in two-year-old Pandora Harris, but I knew.

I did my best to alert the public immediately and withstood criticism from colleagues for not having all the facts. Five more dogs became critically ill with the same symptoms in the weeks that followed. The death of the fourth sick dog, Finn Aydelotte, gave us conclusive autopsy results. Microcystin toxicity had caused acute liver failure, complete destruction of platelets, hemorrhage, shock and death, a horrific and unnecessary death.

I had been right from the beginning, our water was poisoning our dogs. Would my outcry have been taken more seriously if local, state or federal agencies had issued warnings that microcystin might be present in the St. Lucie River? We can't know. But I would guess that dog owners would have been on alert if they had heard sooner about the risks.

I understand controlling water quality is not your responsibility, controlling volume of the water is. The more polluted water you send our way, the higher the chances become of another toxic bloom full of microcystin. So in a sense you do control quality.

As you make your revisions, think about Finn. Finn weighed 55 pounds, about the size of a seven or eight-year-old child. Think about it. It could have been a child. Send us less polluted water, protect not just our human health, but the health of our pets.

MR. ENGLE: Thank you. Next, Jo Neeson, Kevin McInerney and Alex Gillen.

MS. NEESON: Good afternoon. Jo Neeson, I'm a citizen of the world and a very proud river warrior. I'm here today to talk about our lack of ability to recreate whenever we have problems with the water. Unfortunately, over the last several decades, we've become kinda used to the bad quality of water and we get a little ticked off and we just don't go; and we find something else to do, because we know it's going to clear up and ordinarily it does.

Unfortunately, since 2013 that hasn't been the case and it's been getting progressively worse. Then in 2016 on the 4th of July, a time that we all go near the water and celebrate, our beaches and our rivers were closed completely, from one end to the other. Martin County had no access to swimmable recreation water, period.

Now, if you think that that's just an inconvenience, try living here when it's 95 degrees and you can't go swimming and you got a bunch of kids with nothing to do. Then you want to go ahead and you want to walk through Martin County. From Hobe Sound, Port Salerno, Jensen Beach, Stuart all through Martin County people were like zombies. Everybody was depressed. Tempers were raging. It was ridiculous the way we talked to each other. We're kind, loving people and we didn't like it. We were having fights with other people on the other coast because we were being killed. When it ramped up to the point where we were not only just inconvenienced, people were getting sick and dying, then you better believe we're pissed off and it's our time. Sharing adversity has never been shared our way. We need zero discharges.

MR. ENGLE: Thank you.

MR. McINERNEY: Hi. My name's Kevin McInerney. I live in Jensen Beach. And I'd like to acknowledge the incredible complexity of the algorithm that the Army Corps of Engineers is required to use as far as maintaining the level of Lake Okeechobee. The problem is despite its incredible complexity it's incomplete. The impact that this community has or has felt from those discharges is not part of that algorithm. And I just urge that City of Stuart and Jensen Beach that our interests be included in that algorithm.

The effects that the discharges have had on this community have been felt in the lack of oyster beds and the disappearance of our seagrasses. Seagrasses are dead. If this were a coal mine, our canary died. And our interest now being represented in the algorithm is the canary has died, yet there's a cover on the cage so we can't see it. So I just urge that all the interested parties stay involved and include all of our interests in that algorithm as you move forward. Thank you very much.

MR. ENGLE: Thank you.

MR. GILLEN: Alex Gillen, Bullsugar Alliance. I'm an attorney for them. First, as an administrative matter, I would request, on the behalf of our colleagues and neighbors in the City of Marathon and/or Fort Myers and Sanibel, that they get another NEPA scoping meeting. I've heard they're very interested in that.

Additionally, I would request that the Corps identify if the language in WRDA 2018 is a floor or a ceiling for the implementation of LOSOM. I think it is good government if you, Colonel Kelly, oversaw the entire implementation of LOSOM, so that a new colonel doesn't come on in his first few months or her first few months and then try to pick up where you were leaving off. I think it's just a good government thing to do.

As far as the discharges, please use zero discharges to the St. Lucie River as a performance measurement. Please consider threatened and endangered species on this list, which I will submit for the record, including Johnson seagrass and critical habitat listed therein. When you consider state laws broken, pursuant to NEPA, that is on the list. I also have a copy of Toxic Puzzle that I will be submitting for the record and I would suggest that you all watch it. It is very alarming.

Please confirm that when there is a water shortage between humans and commercial interests, that humans have first priority; and if we did run into a severe water shortage, that humans would indeed remain getting water. I think one thing that both our communities agree on is that when the lake gets too high, it's dangerous for both of us. We get discharges; you all have a fear of breach of the dike.

Cyanobacteria is real. The problems in our community are probably not as bad as the problems south of the lake. The warning signs, the testing are insufficient for both of our communities. We have to do a better job to warn our people, 'cause if you're a subsistence fisherman, there's a real chance that there's a real problem there. So I think we could all agree on that.

In Section 7-3, Deviation from the Normal Regulation Schedules, Section A, under the emergency section, we'd like you to consider cyanobacteria discharges as an emergency. Thank you. MR. ENGLE: Thank you. Next, Janet Taylor, Allie Biggs, James Snedeker.

MS. TAYLOR: First, I would like to say thanks to the Corps for this opportunity to speak to you. My name is Janet Taylor. I'm a former Hendry County Commissioner for 22 years, presently President of Glades Lives Matter. We know that all lives matter, but our focus is to be a voice for the communities around the lake, so that you could hear from us and not from people who think they know what's best for us.

If we are not at the table, we are most definitely on the menu. So we offer an olive branch to Martin County -- and I came to your County Commission meeting last -- the last meeting -- and to Lee County to meet with us and let's talk about the problem. We got to work together to solve this problem.

Congressman, your plan is dangerous. For the sake of everyone living south of Lake Okeechobee and including West Palm Beach, Fort Lauderdale and Miami, please do not punish our communities south of the lake. We shouldn't be considering a plan like the Congressman has that will only lead to more discharges. If you want to get Lake Okeechobee down to 10.5 feet, how do you think that's going to happen? It will happen only by doing more discharges. This plan makes about as much sense as thinking that the water south of Lake Okeechobee flows uphill, that it causes discharges, blue-green algae and red tide. It does not, because we do not back pump into Lake Okeechobee. But the water coming from Orlando and other areas north of the lake do contribute to the problem.

We need a solution that will stop discharges. Contrary to what you may have heard, the people living south of the lake want the discharges to end, as well, which is why we oppose Congressman Mast plain and simple. Lowering the lake to the dangerous level is not the way to accomplish this goal. So thank you. And, at the end of the process, we pray that the outcome does not harm anybody's community.

MR. ENGLE: Thank you. After Allie Biggs and James Snedeker, we have Regina Bohlen.

MS. BIGGS: Good afternoon. Thank you to the Corps of Engineers for the opportunity to speak today so that I can voice my little opinion. I'm Allie Biggs, City of Pahokee. I was elected for 15 years as a commissioner there, but yeah, I'm still an activist in my area. I stand because -- My commissioner has done great, as well as Mrs. Taylor -- but I heard a statement few minutes ago about the elephant in the room. Number one was Big Sugar. Number two was agriculture. That relates to our livelihood. But there's number three: Septic tanks. No one addressed that.

We're not zombies south of the lake. We're not robots, but we are human beings, same as you all are. We're not here to fight, but we came to come together in peace that we will be able to help the Army Corps come up with a suitable solution that will help all of us. And I heard in the words say, "My people -- and I know people don't want to hear about the bible, but we got to go back to the bible -- "who are called by my name, will humble themselves and pray and seek my face, turn from their wicked ways, then will I hear from heaven..." And he will do what? Heal the lake.

This is a test maybe man can't do, but if we all come together and consider what God has said in his word. Congressman, I don't agree with you, but you're my brother and we are our brother's keeper. And like you want to do good in your district and want your people happy, you know we want the same over there. So what we want to do today is come together. She extended an olive branch. I extend peace. We can do it, but we need to work together.

Zero for everybody. You all said zero for everybody. And when we do that, I promise you we won't have to worry about health issues. We didn't make it. We don't want it coming back, but somewhere along the line it happened. My time is up. God bless all of you.

MR. ENGLE: Thank you.

MR. SNEDEKER: My name is Jim Snedeker, resident of Stuart. My background was in law enforcement. Thank you for providing our community with the opportunity to comment on Lake Okeechobee System Operating Manual.

Having worked under NEPA's guidelines for more than 45 years, I wish to submit the following comments to the record: As will be evidenced by the specific factual evidence examples from others who are providing testimony, the current version of LOSOM does not consider the significant impact that the releases from Lake Okeechobee have on the east and west rivers, specifically the health of the residents, the health of the visitors, the impact on the economies, the impact on pets, the direct impact on fish, waterfowl, manatee and all other domesticated species, the impact on seagrass and the degradation of this critical food and habitat for fish. Due to the foregoing, the current version of LOSOM is not in compliance with NEPA.

It must be highlighted that there are prudent and feasible alternatives to the current LOSOM. In addition to the issues noted above, these prudent and feasible alternatives will enhance the social, economic and environmental well-being of all citizens impacted by the releases. It will greatly enhance

the lives of the minority and low-income communities south of Lake Okeechobee. The extraordinary magnitude of the problems inherent in the current version of the LOSOM require that it be brought into compliance with both the spirit and intent of NEPA. Thank you.

MR. ENGLE: Thank you.

MS. BOHLEN: Regina Bohlen from Pahokee. I just want to say that families in the Glades have been there for generations, since the 1920s and no one cares more about Lake Okeechobee than us. If the lake level drops to ten-and-a-half feet, it will negatively affect the citizens of our area. It will keep fishermen from being able to fish, boaters from being able to get into our marina that we just spent \$1.2 million renovating.

If a drought occurred at ten-and-a-half feet, we will all suffer because there won't be enough water in an emergency. Our farmers depend on the water level to water their crops so that everyone in this room is able to have fresh vegetables, such as sweet corn, green beans, celery, lettuce, radishes, et cetera.

As the Pahokee Chamber of Commerce, I invite you to come to Pahokee to see the very best view of Lake Okeechobee and to meet the most wonderful people in the world. Keep our lake level at twelve-and-a-half to 14 feet please. Come out to Pahokee and let's talk about a solution that is fair to all. Thank you.

MR. ENGLE: Thank you. Stef Hughes, Jeff Clark and Adam Schaefer.

MS. HUGHES: Good afternoon. Thank you for taking your time to listen, but more importantly thank you for hearing my story. I'm just a minute, little factor in this, but I do want to let you know I'm Stephanie Hughes. I'm essentially a native of Martin County, Florida, having lived here since age six. I grew up in Palm City and we lived on a canal, which was our resource of recreation on a daily basis, cannonballs off the dock and digging clams in the river.

Upon graduating from Martin County High School at age 18, I obtained my real estate license. Jackie was one of my clients, as she mentioned earlier, as some of the others in this room are also. And I've had my license practicing for 32 years. I'm a wife, a mother, an angler and a boater.

I have sadly witnessed the deterioration of our waterways for many years. Although the past five years, my testimony goes from general deterioration to personal and professional detriment. Personal loss of income directly affected by the abuse of our rivers came to me in the summer of 2016. After eight months of marketing a home in Downtown Stuart on Frazier Creek, we finally had a ready, willing and able buyer. They looked at the property twice before and were coming back for a third viewing and intending to write an offer on the property. The property they looked at was overlooking the downtown harbor right in front of Shepard's Park, beautiful area. As I prepared the house for the third and suspected last viewing, before they put their offer in, I stared out at the view. It was just breathtaking. I couldn't help but get more of it and I meandered out onto the dock. As the sun warmed my face, my closed eyes experienced brightness and the warm summer winds touched my face, I was just simply excited for the new owners of this home to experience the same thing. After a cleansing inhale and exhale, I opened my eyes and, to my dismay, saw a green plume of water heading my way. That green plume was putrid, odorous and caused the buyers to walk in the front door and out the front door. They did not purchase.

I thank you for your time and willingness to hear about what is happening to us and thank you for doing what it takes to make changes to preserve our good nature.

MR. ENGLE: Thank you.

MR. CLARK: My name is Jeff Clark and I'm a longtime Martin County resident. I'm also the President Elect of the Martin County Realtors Association. Not long ago we celebrated beginning of a new year. There's an important reason why we celebrate such occasions: New starts, new beginnings give us hope. We know we need a new start for how our water is managed. We are still relying on policies that grew out of the old methods that were developed decades ago. Governor DeSantis clearly committed to a new beginning.

For those of us who have seen our waters foul, our national habitat harmed and our businesses and property values decrease, this process fills us with hope, but it can't be just another meeting, just another session that upset members and the public are dismissed. So what is the realistic timetable for the public to see some real progress?

Second question: What is the timetable for stopping the discharges entirely? We need realistic numbers. We need measurable results. We need to do everything possible to stop the number, lower the number and go to zero releases. Thank you.

MR. ENGLE: Thank you.

MR. SCHAEFER: Good afternoon. I'm Adam Schaefer. I'm a researcher and an epidemiologist at FAU Harbor Branch. I'm really here to urge the Corps to prioritize human health due to the multiple harmful algal blooms that we've experienced here in South Florida. We know the toxins produced in these blooms have documented impacts on both animal and human health and some of those effects might need to continue to research, particularly concerns with the long-term effects of chronic exposure.

Today we know that microcystin, the toxin from these blue-green blooms has caused at least 33 poisoning events in 11 countries and that can result from dermal, respiratory and even oral exposure to the toxins. We've already seen mortalities and morbidity from dogs due to acute liver failure. Hepatotoxicity to humans is a real concern. Based on the World Health Organization daily tolerable oral dose, we know that a 150 pound adult has a limit of about 2.7 micrograms of microcystin per day.

I'd like the Army Corps to work with researchers and public health officials, because mitigating some of the factors that fuel these blooms will obviously protect the public health of Floridians on both coasts of Florida. Thank you.

MR. ENGLE: Thank you. Next we have John Maehl, Martin Baum and Mike Krause.

MS. OKIYE: John and I are switching spots because I have an appointment. I'm sorry.

Good afternoon. I'm Nerissa Okiye. I'm the Tourism and Marketing Manager here for Martin County. I represent the Martin County Tourist Development Council. I also serve on the 12 state Board of the Southeast Tourism Society and the Florida Board.

The Council Chambers of Martin County asked me to speak to you from both a local and extended tourism perspective on the Lake Okeechobee System Operating Manual and the necessity of working towards a system that is beneficial not just to Martin County, but from a holistic tourism perspective.

In 2016, the Martin County Tourist Development wanted a better understanding of the impacts of freshwater discharges from Lake Okeechobee and the algal bloom that occurred that year. We commissioned Tourism Economics, part of Oxford Economics and a world leader in tourism research, to help us better understand the impacts of these water quality issues.

What we've come to understand, from the research provided, is that environmental crisis have a long-term impact on health not only of our citizens, but the health of the industry which I represent. To state this simply, environmental crises have a longer impact on the tourism sector than political turmoil, terrorism, manmade disasters such as oil spills or health crises such as Zika. Even after a destination rebounds to its pre-crisis level, the crisis can hamper the industry for years. Even after the destination has reached the pre-crisis level, the spending can be below where it should have been. The larger indirect and induced loss of revenue have a lasting and multiplying impact. With no visitors to bring an influx of non-local spending, the impacts are felt not just by hotels or restaurants or outfitters, but by everyone from food distributors to dry cleaners and so on.

Additionally, the loss of small tourism-based businesses change the entire ecosystem. When we lose our paddleboards, kayakers, surf shops, outfitters, as well fishing captains, any marine-based business, they can't sustain themselves during this and they close shop. When we do have a bounce-back year and visitors come, what's there for them to do?

Data shows that Martin County underperformed the state as a whole in occupancy with a room revenue in 2016. We knew it was bad, but we wanted to know how bad it was. What we have learned when we looked at the ongoing impacts, it's not just 2013. The algae explosion of 2016, releases in '17 and then not just blue-green algae, but red tide in 2018, the multiple crisis can lengthen the time required to sustain a baseline growth. Basically where the rest of the industry goes up, we continue to try to rebound over and over again.

There's a shared adversity when it comes to environmental crisis. From a larger tourism perspective, during last year, the red tide event, Florida saw more than \$22 million worth of negative coverage from June to December. We saw more than \$2 million of negative coverage from blue-green algae. That's more than double our tourism budget. So there's a shared adversity when it comes to environmental crisis and we want to do everything we can to help sustain the businesses that are dependent upon us. Thank you.

MR. ENGLE: Thank you. Next we have Martin Baum, Mike Krause and then Keith Pearce.

MR. BAUM: Marty Baum, your Indian River Keeper. My family and I live inside the aerosol shadow of the BMAA being conveyed into the St. Lucie River by Army Corps. We live inside this aerosol shadow that contains hepatotoxins and neurotoxins. The peril is real. Not only do we live in a liver cancer cluster, seventy citizens from all walks of life were tested for microcystin. All were infected, a hundred percent.

If you were tested, raise your hand. There you go.

Six children live on our street in Rio, five under age ten. My two granddaughters who visit are under ten. Every one of them is in peril every time the winds blow from the south. When the wind blows, my granddaughters are hurried out of the truck and brought inside the house where I hope and pray the exposure is mitigated.

Let's go outside and looking for paterpillars (sic) in grandma's garden, grandpa. We can't, darlin'. The air is bad. No driveway chalk art those days.

You, our Army Corps of Engineers, have conveyed these toxins into our communities and homes for years. The 1948 operational mandate's putting ag commerce in Okeechobee lake as top priority forces you to commit this health crime against our communities. It is time that changed. Operational priorities need to have human health and human safety at the top, not the inner profits.

Millions of people now live in areas directly impacted by this ancient, out-of-date water management edict. We need to be protected. We complain. We cry. We sue. We threaten. We beg. Yet, the poison continues to be delivered to our doorsteps. The days where my federal government hides behind the State of Florida, who is responsible for water quality, need to be over. We only convey water is not good enough anymore. You are conveying poison. Please, join us in our fight to clean and make safe Florida's waters once again. Forcing you to poison the citizens you are serving is morally corrupt. Please fight back. If you too demand clean water, we can achieve zero unnatural discharges. With us, demand clean water. It is our right.

MR. ENGLE: Thank you.

MR. KRAUSE: I'm Mike Krause, Okeechobee Fishing Headquarters on the north shore of Lake Okeechobee. I'm coming to you as a business owner on Lake Okeechobee. I see a lot of business owners in here and none of you guys want anything more than what we want. We want clean water. Our water originates -- 95 percent of the water that comes into Lake Okeechobee originates from Orlando, Mickey Mouse. Not one person has brought up Mickey Mouse where all of this originates.

It makes a whole lot more sense to try to clean our issues and our problems to the north, than it does once it's already in the lake. When the water has to -- The water has to go somewhere, whether it be east, west or south. I think it needs to go some -- I think some of it needs to go south. I think some of it needs to go west. I'm not sure about east. I think there is a need to send water east, as well, to give a little water in high water times. There's a lot of people that disagree with that.

There's a lot of people that -- Our business depends solely on the tourism industry. We have to be able to move around on the lake. If people don't come to the lake, we don't have businesses. You guys on the coast, the way I explained it a little bit, there's a hundred-mile path down the center of the state; there's a thirty-mile path down each coast. There's about two million people that live down the center of the state and about 12 million people that divide east and west coast from Interstate 4 South. When you divide those up, we have a very limited group of people that we can deal with.

We understand the issues. We're not here saying that there are not issues. What we are saying is, like everybody says, our lives matter, as well. We need to come -- I think operating the lake at twelve-and-a-half to 15 -- or 12 -- excuse me -- fifteen-and-a-half, I think it could be adjusted a little bit. I think it could go down to eleven and a half, but I think once it goes to eleven and a half, I think maybe you start -- And this is based on what we see. This is not what's on the news. This is not what's in the politics. This is not what's in different people's agendas. This is what we physically see.

I run and own a business on Lake Okeechobee. I invite any one of you to come out at anytime to see what we see. Thank you.

MR. ENGLE: Thank you. After Keith Pearce, Derek Palmer and Norman Jones.

MR. PEARCE: Hi. I'm Keith Pearce. My family's been on the northwest shores of Lake Okeechobee for over a hundred years. When I was a boy, when was a young man, there was no dike on Lake Okeechobee on the north side. There was a limited dike on the south side. When we had major rain events, hurricanes, whatever, water would come up to around 15, maybe sometimes higher, feet elevation. Within about a week, that water would be back down to 12. The natural history of Lake Okeechobee, without interference from Corps of Engineers, Water Management all because of politics, was 12 to 15 feet.

Politics entered the picture. Disney World wanted to come to Florida. My dad, as well as numerous other farmers and ranchers around Lake Okeechobee and community leaders begged the Corps not to mess with the Kissimmee River, they would be making a mistake. They did it anyway. I am here today to ask the Corps to base this decision on scientific levels of Lake Okeechobee. Get the politics out of this picture. That's why we're where we are today: Politics. Get the politics out, look at the historic data, and make your decision based upon that.

I realize there's issues all around the lake. But I have water that leaves my property that is cleaner than is in South Florida Water Management District canals. I've got water testing that will prove it. But yet, I'm a problem. I'm on the verge of losing my property to a reservoir. My family's been there over a hundred years. I just ask the Corps to please base their decision on historic data, not on politics. Thank you.

MR. ENGLE: Thank you. After Derek Palmer, Norman Jones and Ben Hogarth.

MR. JONES: My name's Norman Jones. I'm a retired engineer and I reside in Hobe Sound. August of last year I submitted a recommendation to Congressman Mast suggesting that filter screens be installed at gates at Port Mayaca and Moore Haven to prevent the algae from flowing into the St. Lucie and the Caloosahatchee waterways. The Army Corps of Engineers reviewed using the filter screens and replied that they could be used on small bodies of water, but a study would be required to upscale the technology for the screens to be able to withstand the enormous flow of water passing through the gates. Consequently, Congressman Mast attached an amendment to the Water Resources Development Act bill authorizing a five-year program for the Army Corps of Engineers Research and Development Center to develop technology for the large-scale filtration of water. The amendment also funds the program with \$3 million per year.

I would like to clarify a possible misunderstanding that the screens were not intended to be placed directly in front of the gates, but placed in arcs approximately 200 feet out in the lake. This would allow the stoppage of the flow of the algae well away from the gates and lessen any concerns for the structural integrity of the screens. I prepared sketches showing the construction of the filter screens and their placement relative to the gates.

Construction of the screens could easily be done by teams of volunteers organized from our local communities. This whole project could be done in less than two weeks. I would welcome the opportunity to meet with members of the Corps of Engineers to share my sketches and discuss the details of my filter screen proposal. Thank you.

MR. ENGLE: Thank you. Derek Palmer. Ben Hogarth, Cara Capp.

MR. HOGARTH: Good afternoon everyone and thank you for the opportunity to speak; and also thank you everybody for your comments, as well.

My name is Ben Hogarth and I'm the Public Information Officer and Community Affairs Liaison for the City of Stuart. As a member of City staff, I'm here in part representing the interests and concerns of a community more than 16,000 people. It is in this capacity that I humbly request the US Army Corps of Engineers to consider, in its future regulations schedule, the many grievances and health, welfare and safety concerns of the people in and around our coastal community. In short, as we move forward, the health and safety concerns of all must be paramount to the considerations of any one interest or interests.

Having previous experience working on Capitol Hill in Washington, I will say that, without question, Congress has placed the US Army Corps of Engineers in a very delicate position, balancing multi-faceted engineering challenges with highly complex environmental demands. This is a task in which no singular agency is best suited. Yet, Congress compelled the Army Corps to pick winners and losers, lives and livelihoods of one group of people, one community over another. No institution or department thereof should be constrained to make policy decisions in this capacity and under this pretense; and it is a policy tragedy.

But the silver lining here is that we together have an opportunity to succeed where Congress has not. Present company excluded. You have heard concerns about algae-borne toxins and their impacts to both animal and human health, and grievance from business owners who have either lost everything or struggle to stay afloat. In the future, I fear you will even hear about the dangers of long-term impacts to drinking water, an issue of concern I hope the Corps will address.

Each of these serious problems are independently destructive to quality of life and, when combined, present an existential threat to the communities in this area. Our hope is that through constructive dialogue in the coming weeks and months, we may be able to collaborate a new course for water management in and around the lake. We can do better. We must do better. The only way forward is together and we all look forward to being part of the solution this time around. Thank you.

MR. ENGLE: Thank you. Next, Cara Capp, Scott Watson and Mike Glynn.

MS. CAPP: Hi, my name is Cara Capp. I'm with the National Parks Conservation Association. I also serve on the Board of Directors of the Everglades Coalition. I advocate for getting clean water into Everglades National Park and Florida Bay. We need a holistic solution, an operations plan that prioritizes the flow of water that we know is right for the Everglades and the estuaries. Our coalition has been saying it for years: Send the water south.

This effort is personal for me, too. I live in Palm Beach County, but I grew up in Cape Coral. My folks still live on canal there that flows to the Caloosahatchee River; and my two little girls weren't allowed to play in the backyard at nana's house this summer when the water turned green. It's not an easy thing to explain to a two and a four-year-old. This water crisis not only spans the state, but it's threatening the future for our children and I think that's why we're all here.

Specifically to the scoping of this operations plan, first NPCA asks that water quantity and quality both be considered. Operations of the lake can't only focus on the body of water and where it flows, but

also the nutrient levels because we know, for the Everglades, the two are intrinsically linked. So specifically for this plan we ask that the Corps ensure that water quality is included within the project scope.

Next, we want to understand and ensure a clear path forward for the future of lake operations as additional phases are restoration come online. The time frame for this plan is 2022. As later phases of restoration, like the Central Everglades Plan south features, the reservoir, the full bridging and elevation of Tamiami Trail, an entire suite of restoration projects in Miami are complete, will the operations of the lake be adjusted to ensure that we are continually meeting the system's increased capacity to send water south? We must ensure that's the case.

We also want a clear understanding of truly what are the system constraints of getting water south right now, as stakeholders from Stuart to the Keys are calling for? Are the STAs truly the limiting factor? The operating plan should set out a path forward to send the most water south as these projects come online. We want a clear vision for a healthy future for the Everglades and the estuaries and a plan that gives the public assurances about the flow and quality of water coming from the lake.

We appreciate the Corps' engagement. I would just add -- Is that my two-minute time? There should be a meeting like this in the Keys. Florida Bay is a recipient of everything that happens upstream. While there have been many meetings scheduled here, we would encourage you to engage with those people, as well. Thank you.

MR. ENGLE: Thank you.

MR. WATSON: My name is Scott Watson, for the record. I'm the owner and operator of the Indiantown Marina, which is located in the Okeechobee Waterway in Martin County.

Taking a lead from the young ladies from Belle Glade and from Pahokee -- I struck through some of my comments. First, let me say first, I would like to thank the Army Corps of Engineers for the opportunity to speak today and thank you for all the hard work you do trying to keep everyone happy. I truly mean that because it is -- If you've ever seen the matrix they have to deal with, it's unbelievable.

I know we face challenges for the lake and lake discharges. We are all in this together and I believe we all find solutions together, reasonable solutions, thought-out solutions, which leads me to the following comments on the non-solution which is being floated out there to lower lake elevations in the dry season.

Any lake elevation below eleven feet becomes problematic for everyone and everything connected to the lake. As far as navigation, problems start at lake elevation of eleven feet and get exponentially worse as the water drops. In 2008 during the drought, they dropped the lake to 8.82 feet. Navigation was almost impossible on the waterway. I'm telling you the truth, because I was there. We cannot create another scenario that lets this happen again. Holding the lake level low in the dry season is just asking for a disaster.

My hope is that the Corps will use common sense, best management practices and good science that protects the lake and all the stakeholders, including our estuary, going forward and not fall prey to political stunts of the day. I thank you for your time and consideration. Thank you.

COLONEL KELLY: I'm going to take one quick second to try to do something here that's a little unorthodox. So I think we have an opportunity, just looking at the seats, to bring the folks that are in the outside rooms into this space. But I'd ask that some of the folks on this side move over to this side, so we can kinda flow in and keep going and try to accommodate everybody.

For those in the outstations, hopefully you can hear me. Please come on down and we'll get right back afterwards. Thank you very much.

We're going to get started again and, as the people move in, we'll just keep talking. Appreciate it. Thank you very much.

MR. ENGLE: Thank you everyone. Next we have Mike Glynn.

MR. GLYNN: Good afternoon everybody. Thank you for coming in to listen to me. I feel honored. Army Corps, thank you very much for what you guys do all day. I know it's a tough arena to work in. I especially want to thank the guys and the gals in camouflage. Thank you very much.

I'm going to start out at the end. You guys are asking what my success -- what success would be to me in this mission. Grass on the flats. Healthy grass on the flats. I think if we can have healthy grasses out on the flats here in Stuart everything upstream is going to work. Without it, we got no healthy grass.

I took the boat out three weeks ago for the first time in over six years through the flats here. I didn't see one fish. I didn't see one blade of any grass growing. I saw nine manatees cruising through a creek, a tidal creek right in the tide out. Water was beautiful. It looked like the Florida Keys, Bahamas, what the water used to look like here. I did not see one blade of grass. I did not see one fish. I did not see one osprey flying, diving in for fish. When my kids were growing up, we would do the sand bar thing. You'd see dozens of ospreys working the flats. Not one fish. That's my -- that's my measurement of success: Seeing healthy grass. And I'd appreciate it. Thank you.

MR. ENGLE: Thank you. Next, David Carlson, Gary Ritter, Mark Perry.

MR. CARLSON: My name is David Carlson. I've lived on the north fork of the St. Lucie River for 17 years. I'm a practicing veterinarian in Indian River, St. Lucie County and Martin counties. You've already heard a little bit of the introduction that was given before about the canine patients that were sick. So I'm not going to reiterate much about that, but I do want to paint more a vivid picture from a pathology report.

This patient experienced acute vomiting, diarrhea and collapse. Generalized subcutaneous hemorrhage and signs of a hemolytic crisis with blood oozing from the nose and the mouth. This was followed very rapidly within days of death. There was diffuse hemorrhage throughout all the internal organs. This is straight from the autopsy report.

By the way, this was done by a veterinarian, board certified pathologist here in Stuart.

Tissues in the animal proved there was massive cellular necrosis of the liver and every other organ in that body. Microcystin was identified in every tissue and fluid that was submitted. Not a very pleasant thought.

So we've heard a lot about pollution. The other thing that I would like to address, and I'm sure that some of the other people are going to, is dilution. I test the water every week in the north fork of the river a couple miles north of the Roosevelt Bridge. The normal salinity is usually between 10 and 15. When you open the gates at the St. Lucie Locks, the salinity goes to zero in less than 48 hours. I've seen it happen over and over and again.

So what happens to the brackish estuary that we have. It no longer exists the way it should. The large rookery that was north of my house when I moved there is no longer there. FWC says there's no fish. The birds can't survive, the osprey are barely making it. So I urge you to look at the whole big picture. Thank you very much.

MR. ENGLE: Thank you. Next, Gary Ritter, Mark Perry and then Zack Jud.

MR. RITTER: Hi. Good afternoon. I'm Gary Ritter with the Florida Farm Bureau Federation. I appreciate the opportunity to speak here today. I've had the opportunity to go to various public meetings around the area in Okeechobee and Clewiston; and I know, you know, there's a lot of heartfelt words here that have been presented today and a lot of emotion. But I'm going to kinda take one from Congressman Mast when he said, you know, it's important that we stick to the science and there's not a period behind that. I agree a thousand percent.

We need to -- When we look at lake stages -- And I'm not going to get into numbers. I think when we look at lake stages, we need to take a multi-agency approach at that because, obviously, as you have listened to many of the folks here, there's a lot of issues and a lot of challenges. And I think you can't do it without including agencies like the Department of Environmental Protection, the Water Management District, the Department of Agriculture, Florida Fish and Wildlife Commission. These agencies need to be at the table. They need to be on the project development team and they need to work closely with the Corps in helping reevaluate the regulation schedule.

Lastly, I think it needs to be -- And I think, Colonel, you had mentioned this. It needs to be a holistic, system-wide approach to ensuring that the regulation schedule -- You know, there are regulation schedules all the way out from the upper chain of the lakes in the Kissimmee area, the Kissimmee River, all the way down Indian Prairie, north of Lake Okeechobee, all the way down to Homestead. I think all of these regulation schedules have to be evaluated and they have to somehow work in concert with one another as you look at and reevaluate what you're going to do with Lake Okeechobee.

Again, I think in order for us to be successful at that, the lady from Pahokee said it very nicely: We all have to work together. Thanks.

MR. ENGLE: Thank you. Mark Perry, Zack Jud and Paul Laura.

MR. PERRY: Thank you. Mark Perry. I grew up in this area for many years, went away and came back. It's just disastrous what's happening. Basically, you know, we know, us in this community, exactly what's going on. But in the scientific community, as the Executive Director of Florida Oceanographic, we studied the estuary and we know the estuary's happenings and what's going on.

In 1998 we established Rivers Coalition. As President of the Rivers Coalition, we basically represent about 103 member organizations, over 350,000 members and in 1998 when we formed, it was because we needed to stop the discharges and save our river. This was destructive. We knew it back then and we've been working ever since.

Basically, these memos represent not only nonprofit organizations, but NGOs, also the business community and economic council and others. We came together as a group, because we knew that we had to stop the discharges coming into the river. It's the number one, the largest influence to St. Lucie River and the Indian River Lagoon that's happening that's causing this. It is not just pollution of blue-green algae and nutrients and other loadings, which is large and huge, it's also the freshwater. The duration of the freshwater in the St. Lucie and Indian River for over 120 days caused an oyster die-off of 99 percent. We lost about 82 percent of the seagrass community every time we get these discharge events.

Basically in 1937 we built this dam around the lake and basically that river of grass used to flow south before that, about 100 miles long, 35 miles wide at about 2.7 billion gallons a day. When we built the dam, we shunted the water east and west and discharged it to our tide losing all that freshwater, but also polluting the coastal estuaries along the way.

What needs to happen in the new schedule and this schedule I'm glad to see -- It used to be just for Lake Okeechobee and EAA -- now, it's going to be more holistic taking into consideration the upper chain of lakes, the Kissimmee Valley, all way to the lake and all the way to the tip of Florida, including the Everglades.

As Co-chair of the Everglades Coalition, we want to see that water go south, as well. The Everglades needs it and we don't need it. We need to stop those discharges. We will be submitting written comments for the oysters, seagrass and also moving that water south and to more than the maximum than you do now. Thank you.

MR. ENGLE: Thank you.

MR. JUD: Good afternoon. My name is Zack Jud with Florida Oceanographic Society. I'm an angler, a scuba diver, a boater. I'm also a marine scientist.

My message today is pretty straightforward. The US Army Corps of Engineers must start taking human and environmental health into consideration when making decisions about managing Lake Okeechobee. Stop sending Lake Okeechobee's water into the St. Lucie Estuary.

Our current antiquated strategy for managing Lake Okeechobee is destroying our fisheries, harming our economy and creating a very real risk to human health. Even if the water being discharged from Lake Okeechobee was clean, which it isn't, the salinity alteration caused by massive discharges has killed important fish habitats like oyster reefs and seagrass beds. Without healthy nursery habitats, our world-class fishery is collapsing in front of our own eyes.

In addition to devastating salinity alteration, our estuary is intentionally being poisoned by toxic cyanobacteria that originate in Lake Okeechobee. Current policies allow toxic cyanobacteria to be dumped into our estuary, even though science still doesn't fully understand how long certain cyanotoxins linger in our food web. Because fish and shellfish are not being tested for cyanotoxin accumulations, I cannot with a clean conscience, tell anglers that our fish are safe to eat.

By keeping Lake Okeechobee slightly lower during the dry season, you will immediately be able to create additional capacity to store water during the wet season. This is the quickest and most cost-effective method of reducing harmful discharges. Additionally, slowly lowering the lake during the dry season will provide the Caloosahatchee with freshwater at a time of year where it needs it the most.

The main argument that I've heard against lower dry season water levels in Lake Okeechobee cites navigation difficulty. I'm sorry, but this is not a valid argument. In the process of deciding the fate of Lake Okeechobee's water, navigation cannot take a priority over human and environmental health. Additionally, ensuring the irrigation needs of a single, private industry cannot take priority over human and environmental health. Please use this opportunity to modernize Lake Okeechobee management strategies for the health of citizens, our economy, our estuaries and the Everglades. Thank you so much.

MR. ENGLE: Thank you. Next, Paul Laura, Christina Maldonado and Trace Wolfe.

MR. LAURA: Good afternoon. My name is Paul Laura. I'm with the Hutchinson Island Preservation Initiative.

Providing the Congressional direction, the Corps received several mandates in 2018 addressing harmful algal blooms or HABs. The actions indicated in these bills should be included as part of any update in LORS providing leave to Lake Okeechobee and its environments. No longer are HABs a seasonal event in Florida, as evidenced by the recent detection this month, February, in Caloosahatchee River.

WRDA 2018, Section 1109 authorizes a five-year program for the Army Corps' Engineering Research and Development Center to identify and develop a scaled-up technology that includes early detection, prevention and management of harmful algal blooms. It funds the program with \$3 million per year.

An oft overlooked bill, National Integrated Drought Information System Reauthorization Act of 2018, under Section 9, Harmful Algal Blooms and Hypoxia Research and Control, the Corps is directed to accelerate the utilization of effective methods of intervention and mitigation to reduce the frequency, severity, and impacts of harmful algal bloom and hypoxia events.

The ACOE, at the discretion of an appropriate federal official, or at the request of the Governor of an affected state, Governor Scott indicated a 2018 State of Emergency, shall determine whether hypoxia or harmful algal bloom event is of national significance. The history of Toledo, Ohio shutting down its availability of drinking water, closing Lake Erie beaches, the devastation of reoccurring HABs in Florida should meet this criteria.

This law provides \$20.5 million for each of fiscal years 2019 through 2023.

Please consider the aforementioned laws in any review of LORS on managing local, harmful algal blooms and appropriate, proportional allocated federal funds in conjunction with Florida's Blue-Green Algae Task Force are provided in any solutions by the Corps. Thank you very much.

MR. ENGLE: Thank you. Cristina Maldonado, Trace Wolfe, Randy Locrotondo.

MS. MALDANADO: I'm not sure why I got called up here again, but I got a lot more to say.

The first time I spoke as a veterinarian, now I talk as a mom. I got a 13-year-old kid. He joined the River Kids when he was five. He's been fighting this his whole life. He's in seventh grade now. When he was in second grade, TC Palm had a contest that said, What's your river going to be like in ten years? The kid drew a dead river and he won. I think that's prophetic.

Since then he's been in Washington D.C. twice and he has talked to congressmen, governors, senators. We even met Bernie Sanders. He's told everybody how he feels about this river. He's not here today. He's in school, but he wants the Army Corps to know that he and his friends want to surf. They want to swim. They want to play. They want to be normal kids like I was when I grew up in this town.

And I urge you to please keep the lake lower for him and all the kids that are even younger than him and every single kid and grandkid that's not even born yet. We need clean water. We need less water and we want it now.

MR. ENGLE: Thank you. MR. WOLFE: Hello. My name's Trace Wolfe. I'm a native Floridian, been here forever, been in the lake management industry for 44 years.

About 15 years ago we start looking for a more sustainable product to treat lakes and ponds. Basically what we do is we -- 75 percent of the work is algae control and the reason it's algae control is because there's nutrients in the ponds. We work for some of the golf courses in this area. Rick Anderson with Aquatic Balance does a lot of the golf courses in Jupiter and Stuart.

We worked for about eight years looking for a product that would clean water and we found a product called Bio-Zyme. About eight years ago, we started adding it to our business and using it to clean water. In the time frame that we've worked with the product, we've transformed many a lakes that were hyper eutrophic into a good, stainable waterway with good fishery and a good healthy pond.

All retention ponds, stormwater treatment areas, reservoirs, they all age and they become eutrophic over time. Basically, Lake Okeechobee, if we were still back in the sixties, would have no problem because there wouldn't be the kind nutrient

load that's in there today. You've got all of Orlando, all of Kissimmee, all the water coming in and going into Lake Okeechobee. It's becoming more eutrophic every day. Yes, there is more nutrients in the water.

We need to address the nutrient pollution. And I think that the Bio-Zyme will help to address the nutrient pollution because we've done it before. So what we should do is give it a shot in some places where the muck and the detritus and the dead plant material is filling up the bottom of the waterway. The Bio-Zyme will eat the muck away at an average from 9 to 12 inches per year; and all of the muck and the detritus in the bottom of the lake or the waterways feeding the lake can be utilized and eaten up with the product. Nitrogen and phosphorous are the problems and I think that we can help the situation and I think we can help the situation economically. And I guess that's time. Thank you.

MR. ENGLE: Thank you. Randy Locrotondo, Blair Wickstrom and Rick Anderson. Blair Wickstrom.

MR. WICKSTROM: I'm Blair Wickstrom, publisher of Florida Sportsman Magazine. We also produce three TV shows, consumer shows, radio network website. My job is dependent on a healthy fishery. One hundred eighty-three thousand other Floridians are in the boating and fishing industry. Their jobs are dependent on a healthy fishery.

Unfortunately, our today's water management policy favors one industry over another. In two thousand -- Well, toxic '18, the lost summer of '13, our current issues are a result of stockpiling lake water for sugar irrigation. Keeping the lake at a fixed level so an industry can have 100 percent

reliability, go-to-anytime access favors one industry over another. The health of our fish environment, our industry is at risk because we are favoring one industry over another. We don't need to do that.

Here in Martin County the boating and fishing industry is very important. We're the 31st largest county in the state, but number 7 when it comes to spending money on fishing and tackle-related industries. It's important. It's socioeconomically important. It's why we moved here, we moved the magazine here 20 years ago. It's not right that we're choosing one industry over another.

Zero discharges. Thank you.

MR. ANDERSON: Hi. My name is Rick Anderson. I run a local lake management company here in Martin County and I work throughout Indian River and Palm Beach County. I happen to specialize in taking care of lakes on golf courses and if you think Lake Okeechobee is polluted, go to a golf course there. Seriously, they only get a hundred percent of the water from (inaudible). They're surrounded by 200 acres of green grass that gets fertilized every week or sometimes twice a week, tees and greens; surrounded by multi-million dollars homes. Those lake are stagnant.

Folks, a lot of you are here because of past algae blooms, your cyanobacteria. They're all caused by a reason. It didn't happen twenty years ago.

There's a thing called critical mass in my business. Lakes get older and older. Once you hit a critical mass where the nitrogen and phosphorous is above what the lake can handle, algae blooms are only a symptom. The real problem is the excess nutrients in the water.

Trace Wolfe just spoke. I use one of his products. It is called Bio-Zyme. It's about thirty bucks an acre. I can reduce nitrogen and phosphorous and the muck. When you have a storm in Okeechobee, you're very likely going to get an algae bloom two weeks later.

The Bio-Zyme product he's talking about works. I really think -- I use it in my jobs. By the time that water comes in and runs off my property, I'm telling you it's lower in nitrogen and phosphorus. It's reduced my chemical costs -- I've been in business thirty years -- by 70 percent. So I'm using an all-natural product. I'm making cleaner water. I'm making my customers happy.

There's no reason that the industry cannot listen to the private -- Army Corps cannot listen to a private industry. We have solutions. Some of them could be implemented. It's one solution of many. It does not solve your discharge problem. But folks, if you don't discharge water, you don't want to discharge to St. Lucie, it's going to go. It's coming into the lake. It's got to get out of the lake. So why not clean the water no matter where it goes in Florida, whether it's South Florida, Caloosahatchee or St. Lucie. Thank you.

MR. ENGLE: Thank you. I know a lot of you have been waiting a long time. I wanted to let you know we're at speaker number 38 of approximately 120. So we will stay here until the last person has spoken. We have the room all the way through 6:00 o'clock. But I'm just letting you know. All right.

Next three names: Cody Wolfe, Walter Deemer and Eric Harrison. MR. WOLFE: Hi everyone. I'm Cody Wolfe. I'm with Clear Waters, another lake management company in Florida. I'm a Florida native. I'm a hunter, fisherman, utilizing the resources of this lake, utilizing the resources of this state whole statewide.

We have accounts from Jacksonville down to Miami and I go all up and down the coast and I see the effects from all of this. Building off the Bio-Zyme product that we're talking about, we have over 600 accounts with thousands of lakes from Jacksonville down to Miami, Miramar. We started utilizing the product a lot more about 2008. Up to 2011 when we started documenting this, we have decreased our company (inaudible) use by over 75 percent.

We began utilize being Bio-Zyme in research to try to find a natural alternative to algaecides and anything like that for long-term effects and health of the water quality, but also for aesthetic appearance of the lakes and for cleaner water that will be discharged. When we started doing that, we noticed not only do we achieve decreased nutrients and algae blooms, we started noticing that there was more sand bottom on the lake. So then he started documenting that.

What I did, I took a Go-Pro into the bottom of the lake. I wanted to see how much muck was actually down there. So we have many lakes across the state where it documented for a fact that we can decrease the amount of organic sediment, which is a resource for more of nitrogen and phosphorous and their respective cycles in the lake. This effect of decreasing the organic sediment of nutrients has been present from Jacksonville down to Miami. We can consistently replicate it with the right amount of calculations and product.

I believe with this product we now mitigate and proactively come up with a solution for the discharge and all the problems that can occur. A lake that we started with in Daytona called Lake Ellabella, we have video of the lake where the camera actually went underneath 22 inches of organic sediment on the bottom and consistent algae blooms. We were able to go in weekly during the summertime and treat. It has not an algae bloom as of last year and we decreased the organic sediment by over eleven-and-a-half inches in one year. Thank you.

MR. ENGLE: Thank you. Walter Deemer, Eric Harrison, Nicholas Muzia.

MR. DEEMER: I think I'm going to go out and buy a lottery ticket. Walter Deemer from the Martin County League of Women Voters. Martin County Chapter of the League of Women Voters urges the Army Corps of Engineers to consider an array of human factors as you analyze how best to treat and manage the water flowing in and out of Lake Okeechobee. The water flow's impact on the health of humans and wildlife and the economic impacts on tourism and real estate are crucial, essential metrics. We believe the health issue, in particular, must be heavily weighed in the policy formulation.

In addition, as the Corps works toward a permanent solution to the problem, we urge you to spread the unavoidable interim adverse effects on all affected parts. Some geographical areas and some economic interests should not be forced to bear more than their fair share of the burden, while others are left with minimal or no consequences. And yes, I'm referring to the elephant.

MR. ENGLE: Thank you. Eric Harrison, Nicholas Muzia, Michael Morris. Eric -- Nicholas Muzia.

MR. MUZIA: My name is Nick Muzia. I moved to Martin County a little over three-and-a-half years ago. My wife Kara Grace moved here with her family when she was only one. Since then, she's been raised almost her whole life on the estuary and the ocean. And this is Juliette, she was recently born here in Martin County and already enjoys her time on the water. Well, she pretty much just enjoys being outside, whether morning, afternoon and all hours of the night.

MS. MUZIA: Thank you Army Corps for hosting these public sessions. It's my most sincere wish and hope that the result of these will result in healthier waterways, really a healthier Florida.

The discharges from Lake Okeechobee are nothing new. It's one of the main reasons I became a marine biologist because, as a young girl growing up in Martin County, I saw the degradation and wanted to do something about it.

The issues have continued. This summer I was pregnant and could not go near the water for fear of my health and the health of my unborn child. Paddleboarding and swimming, two of my preferred forms of exercise, were not an option. When the wind would blow from the direction of the river and ocean, I was concerned about inhaling toxins, even in my own backyard. And we do not live on the water.

My question for the Corps is this: Is microcystin a toxin? If so, is exposure acceptable for human health, particularly pregnant mothers?

MR. MUZIA: We are a hardworking American family with four generations living right here in Martin County and we all enjoy recreation on the estuary and our beautiful coast that we have here in Florida. That is life with zero discharges. Our family and many others like it have to take volumes of polluted water, causing dangerous health risk and destroying the estuary.

Can better water management practices by agricultural stakeholders be implemented to share in the adversity in lowering the Lake levels?

Also, how does muck accumulation in the Lake affect volume storage as far as of the lakes or lowering lake levels?

We plant oysters and the seagrasses try to grow. Then the discharges wipe 'em out. When the discharges are zero, these vital habitats try to return, only to be get knocked back after next year's discharges. I've seen this coastal ecosystem try to recover and it gives me hope. Everyone's attendance here gives me hope. It gives me hope that my daughter will not have to ask, daddy, why can't I get in the water? Thank you.

MR. ENGLE: Thank you. Michael Morris. Steve English, Melissa Corbett.

MR. ENGLISH: Good afternoon. My name's Steve English. I'm a commercial fisherman here in Martin County, third generation fisherman, fished for fifty years in this Indian River Lagoon, earned most of my living out of this lagoon.

I can tell you now that the discharges, the way they have done have killed the seagrasses. It's a desert out there. There's no more clams. They're gone; and the juvenile fish will pay for that. So you don't have any good fishing now.

The answer to this problem -- You're going to have to have releases. That's just a fact of life in South Florida. You'll never stop the releases. We're going to have to have some. It's the amount and the duration; and it's not as much the amount, as the duration. The duration is what caused the problem.

You can release all you want for seven days, shut it down for two months and you wouldn't have a problem. It's when you do the pulse releases or you do the releases for months at a time, that's when

you create your problems. So keep that in mind. It's not the amount, it's the duration. That's what the problem is. Thank you for your time.

MR. ENGLE: Thank you. Melissa Corbett. Captain Mike Conner, Ernie Cox.

MR. CONNER: Good afternoon everyone. I love your patience. One of these days, we're going to have to stop meeting this way and just go out and enjoy our waterways as Martin County and St. Lucie County residents.

I've been here twenty years. I moved up from Miami, Florida. My job's with Florida Sportsman Magazine. I worked with Blair Wickstrom and Carl Wickstrom all those years. Right now I'm a businessman in this county. I have a small media company called Mean Tide Media.

What I do -- All my eggs are in one basket. The problem with all these eggs in a basket, it's all about waterway quality. I'm a fisherman, I'm an outdoor writer and I run Florida Sportsman Expos with my wife, Michelle, for Florida Sportsman. So I'm taking a hit in three different directions.

When I first came to the county, we were very aware of the discharges and we knew the problem. We had reported on discharges from far, from Miami. But, you know, once you got here and you saw it for yourself, it was a shock to the system to see it going on. It's almost like a science fiction movie. When you see it, you go how can this be done to a community?

Anyway, time went on, publication company went down 'cause all print publication went down. I left the magazine for full time and I got my captain's license back because I had that in my quiver for hard times where I could make some money. I've guided on Florida Bay, Florida Keys and Biscayne Bay. So I had the knowledge and the ability. I had the rods and reels. I had a boat and I had a great estuary to fish in, which I knew very intimately the first ten years that I lived here.

In those ten years I learned to know every blade of seagrass, every bit of that river. And every time we had a Lake O discharge, I could see a little percentage beaten back, killed off. I could see grass edges beaten back. Every time we had the black water, the dark water, salinity imbalance, I saw fewer Florida species, fewer bait fish. Even migratory fish were not coming in the estuary like they had in the past. And this brings up a reason: There was less food.

Right now when I go to the northern -- You know, the thing folks don't realize is the Lake O discharges they decimate the St. Lucie, but they have a wide-ranging effect in the IRL about as far as north, in my mind, as Bear Point. On very wet years we have water coming out Taylor Creek, so this bridging effect. We have discharge wall to wall. And in all that time all that black water, we lose our habitat, we lose everything. And right now I believe the fishery is a shadow of itself.

My challenge is now getting my clientele back. As a fisherman, as a guide, you don't worry about how's the weather, which way is the wind blowing, what's the water temperature like? Here in Martin County we worry about how bad is the water and, as of late, how toxic is the water? And on a toxic waterway that's posted for the public, you don't do any guiding. Your business is killed. At this point, that's my worry is the fact that our businesses here are affected.

I just ran an expo in Fort Myers. It took me four months to put the show together. The folks in Fort Myers are broke. We did do the show together on a full floor, but every tackle shop owner, every

guide, every business there had a sob story, a sad story about losing money because of Lake O discharges.

In my mind -- Mr. Campbell, he's always great help to me on the phone. There's no other way to stop this except zero discharges. We don't need pulse releases. We need zero discharges. This estuary will not recover. It needs years to recover without any water. We need no Lake O water, not one drop.

MR. ENGLE: Thank you.

MR. COX: The crowd's starting to dwindle a little bit. My name's Ernie Cox. We moved to Jupiter, our family, in 1970. I actually went to school up in Stuart for elementary school and middle school. My company is Family Lands Remembered. We work on water conservation projects, work with a lot of agricultural landowners around the state. We work on sustainable development and we're kinda on the private sector side of pushing the conservation agenda. So I wanted to come to you from that perspective.

I also had the honor of swerving with Congressman Mast on the Governor's Transition Team on the Environment, Natural Resources and Agricultural. I think the Executive Order lays out some pretty good things that we need to do. It's important that we start to do those things.

One thing that I find interesting for all of us is when we moved to Jupiter back in 1970 -- I looked this up this morning -- there were 3,000 people who lived in Jupiter. Today there's over 68,000 people that live in the incorporated Jupiter. I also looked up, in 1970 there were 6.8 million people in the whole state of Florida. Today there's 21.5 million people. So we got a whole lot of people and, whether we like it or not, each of us contributes in one way or another to the problem.

But thankfully human beings have a way to solve problems. If you remember, for those that were around in the seventies, those horrible commercials that we would see about the Indian very unhappy about the pollution in the United States before the Clean Water Act. Well, thankfully we don't have that. If you looked at Los Angeles and New York, you couldn't breathe in those cities.

Well, folks, we got the same problem here now in Florida. I look at it and say we need this coordinated effort of everyone, whether it's coastal or glades or north of Lake Okeechobee. Guys, this is an all-of-the-above strategy. It's not one thing, it's all the things. It's septic to sewer conversions. It's stormwater retrofits. It's building reservoirs as fast as we can. It's helping the seagrasses recover. It's planting oyster beds and letting them grow in. It's keeping an eye on those resources, but most importantly it's all of us coming together from all different perspectives.

I applaud the Corps for looking at this as a system, as opposed to just the lake. I'll offer whatever I can, and my mother's with me, whatever she can to help with this. Thank you.

MR. ENGLE: Mary Radabaugh, Mary Gretzinger, Duane DeFreese. Mary Radabaugh, Mary Gretzinger, Duane DeFreese.

MR. DEFREESE: Good afternoon. I'm Duane DeFreese. I'm the Executive Director of the IRL Council, an independent special district of the State of Florida and host of the Indian River Lagoon Natural Estuary Program.

I think, as you all know, that we were recognized by the U.S. Congress as an estuary of national significance for the Indian River Lagoon. We have three others in the State of Florida: Tampa Bay, Charlotte Harbor and also Sarasota Bay. Two of us are really closely and intimately linked to Everglades restoration.

We were also authorized by Congress with a mission to develop a comprehensive conservation management plan that addresses restoration of the Indian River Lagoon. Over the last 24 months, with a lot of people in this room, we have revised that plan. It is currently at the US EPA for certification. So our ability to meet our federal authority, under Section 320, is connected intimately with your ability to meet this very, I think, ambitious, but innovative change in the way you look at the operating schedule.

So I just want to leave you with this thought: I've been on the system for forty years. I recognize and understand that, again, one thing isn't going to do it. We need to do all things. So I applaud your willingness to look at the whole system. It's both innovative, but it's also challenging because looking at the whole system means you need a different perspective than what you may have had before. And that perspective has to include water quality and also harmful cyanobacteria blooms, especially those that are toxic.

So we are struggling with those same problems up and down the Indian River Lagoon. We look forward to working with you as you move with this process. I know that we can get this right, but we need to work together to do that. And we know, from the Indian River Lagoon Natural Estuary Program, that restoration of the southern lagoon will not happen until we get Everglades restoration moving. I've been authorized by my board of directors, which is a representation of DEP to Water Management districts, five counties and 38 cities, to go ahead and move forward to request advanced expedited and expanded funding for both Everglades restoration and Indian River Lagoon restoration. Thank you.

MR. ENGLE: Thank you. Tom Rote, Linda DeFee, Travis Schwalm.

MS. DEFEE: Good afternoon. I guess the Congressman stepped out, but thank you for allowing us to speak.

My name is Linda DeFee. I'm a regional manager for Aquatic Vegetation Control. AVC is an environmental company that manages waterways, water quality in our bodies in Florida, water quality around the world.

In early 2017, O.L. Peacock Lake had a microcystic outbreak. We were asked to take a look to see what we could do to remedy the situation. After testing the waters, we thought that it could be from high phosphorus levels. We decided to fight the algae with a product you called Bio-Zyme. It didn't take long to see an improvement. The park reopened and has been algae free ever since. Two years later we find that the phosphorous levels are at the lowest level that can be measured. Nitrogen levels are specifically lower, as well. The lake is crystal clear as far as you can see.

Bio-Zyme is a bacteria that is naturally occurring in all water bodies. The company has found a way to ramp up the living bacteria to help clarify water and quality. We find this product reduces the muck on the bottom of the lake that we treat. I would like to see this product on Lake Okeechobee to help fix the water problems there. The science is there to prove that this product works. AVC is a big fish in a big pond and will need the help from all aquatic companies to endorse this product to help the environmental issues. Thank you very much.

MR. ENGLE: Travis Schwalm. Then Charles Grande and Bruce Osborn.

MR. SCHWALM: Good afternoon, ladies and gentlemen. My name is Travis Schwalm. I'm the site manager for Aquatic Vegetation Control.

Back in January of 2017, we started a 25-acre test block in a 900-acre stormwater treatment facility for South Florida Water Management. The product we used was Bio-Zyme. The goal is -- Everybody's laughing Bio-Zyme again but. The goal was to eliminate floating tussock mats. In a six-month study, we showed that the floating mats had broken up and the muck had dropped 12 inches in the 25-acre test plot and six to eight inches downstream of the water movement. The water quality in the entire cell had improved. The Bio-Zyme had dropped the high nutrient levels that caused the algae growth. AVC stopped the project and monitored the area periodically and the results showed the nonnative floating vegetation was at a decline and the native vegetation was thriving. I feel this product would be beneficial in all Florida waterways. I appreciate your time and your comments.

MR. GYSAN: Charles Grande. Bruce Osborn. Diane Goldberg.

MS. GOLDBERG: I'm Diane Goldberg and I'm the St. Lucie Audubon Conservation Chair. I no longer go boating and I don't allow my husband to bring fish home for us to eat.

I do feel that clean water -- and I'm sure all of you agree -- is a precious commodity, but there is nowhere for the Army Corps to send the polluted Lake O water that would be safe, except for a reservoir that will store the water until it is clean, so it can be discharged to where it is needed. This is very costly.

We need more and better prevention efforts. Just like the Everglades where we don't allow polluted water to enter, the Army Corps should work with the State to ensure only clean water enters Lake O. Polluted water into the lake means polluted water out. This starts with monitoring and testing water before businesses, farms and ranches are given permits to release the water into any body of water that connects to lakes, rivers, springs and the lagoons. They can also be good stewards by having their own reservoirs on their property to help themselves during possible winter droughts.

We need to ensure that they are already using best management practices and we need to set best management practices for use of Class AA and Class B bio solids too. The Army Corps needs to ask the U.S. Congress to fund studies to convert biosolids to energy for a win-win solution to how to get rid of its abundance. And this is a problem all over the United States. Prevention is the cheapest, safest and quickest solution to the pollution problem. Thank you.

MR. GYSAN: Mathias Gater, Alan Erskovitz and Ed Maas. Looks like you're up.

MR. MAAS: I'm up. Good afternoon. My name's Ed Maas. I spent, I'd say, at least half my life studying stock market and big money, what these guys do. If any of us think we have control over anything, including the Army Corps of Engineers, you're all crazy. Big money is controlling everything that goes on in our lives.

The stock market, the Food and Drug Administration that covers money, food, drugs, everything, it's all run by SROs, self-regulated organizations. They control what happened with the housing market. They control everything, including our friends over here.

My first introduction in the military was my 18th birthday. I went to register for the draft. In one minute, I learned how to take orders: This is what you're going to do. These gentlemen are taking orders from way above their heads. Maybe it's time to start thinking about this a little bit more.

A famous guy by the name of Thomas Jefferson said "Once the banks and corporations get control, they'll do more damage than a standing army." We're all talking about the damage, but we're talking about it to somebody -- They're in it with us. They're not in control any more than we are. Maybe it's time to do what some of these other states have done, like Arizona. When the government -- the federal can't protect you, they started to do it themselves. Right? Maybe we got to start thinking about that too. 'Cause you're talking to these gentlemen and they're doing their jobs. But look at his uniform. He has to take orders. Just think about it for a minute, huh.

You got to talk to the right people. He can't fix. I mean, let's face it, they've done a great job in keeping it the way it was for fifty years. Somebody up at the top wants it the way it is.

Nothing here's an accident. They decided to kill the real estate market. Boy, they did. They insured these houses for ten, 15 times over value, run the price down and they collected all the insurance money. They made trillions, Goldman Sachs and all these big guys.

They're doing the same thing. Somehow or another -- You know, they wanted the dike, they got the dike. Right? Everything they want, they get and you just -- We're all just talking to the wrong people. Maybe we got to just put these guys aside, go to talk to our Governor, our Congressmen, and let's see if we can do it on a state level, 'cause you're getting nowhere and you're going to see the exact --

Can you answer the phone?

We're going to see the exact same thing we got last year, you watch. Thank you.

MR. GYSAN: Thank you. Carol Ann Wentzel, Ashley Froehling and Charles Sherr.

MS. WENTZEL: Good afternoon. My name is Carol Ann Wentzel and I've lived in Martin County since 2001. I'm also a registered nurse. I lived at my current only since 2007, which is on the water in Palm City on a canal. Unfortunately, we've been exposed to numerous algae blooms from May 2010, 2013, 2016, 2018, but it's been going on longer when you do the research.

Each exposure for me has been worse by the algae. The toxic water, but more significantly the toxic air that proves the microcystic presence in our noses. Unfortunately, I also categorize myself as a victim of innocent exposure. I haven't swam in it. I haven't touched it. I didn't consume it. I didn't drink it and I haven't eaten any fish. I just breathed the air and go about my daily life, work life, family life.

A majority of our winds are east. So much of this toxic grunge and air flows in our home's direction, which has been here since 1978. The symptoms of exposure improved when I left the area, approximately 25 miles north. But then there was a time it didn't make a difference anymore. Multiple inhalers, breathing treatments, out of work for six weeks and now abnormal x-rays and lab work, multiple doctor visits and even trips to the ER. Additionally, three air purifiers stand alone in my home and a professionally installed Merv 13 AC filtration system we've acquired, but it hasn't helped.

It clearly appears that this exposure and toxic crisis is more than a one-off disaster and that there are health impacts to the residents and families, including pets.

Rest in peace, Finn. Your voice will always be in our hearts.

Army Corps of Engineers, if this impacted you and your family, your home, your life, your job, your neighborhood and your dog, I'm confident that you would be here speaking just like myself, fighting, because there's not enough time to wait to see what happens. It's already happened. It needs to be corrected and made right to save more lives, pets, families, jobs and the environment. At one point, I just wanted my paradise back, but now I want to feel better, too. Thank you.

MS. FROEHLING: Hello. My name is Ashley Froehling and I'm a mother on the Treasure Coast. This is my family here. We moved here in 2014. We are avid surfers and we moved here for the water and to live the salt life and also a very good job for my husband. But every year since we've moved here our summers have been stolen by the toxic green algae that's pervading our rivers and pervading our oceans.

As a mom taking care of little children full time, it's extremely hard to endure hot summers without clean water to play in. It's actually absolutely miserable to be honest. So we had to resort to spending our summers at our local chlorinated Sailfish Splash Park. We're thankful for it, but we would rather be able to play in our rivers and our oceans, what we moved here for.

I refuse to expose my children and myself to the numerous health risks posed by the discharges that are being dumped into our salty water. Our quality of life has been greatly impacted by not being able to surf, by not being able to play in the river. For instance, when we go to Indian Riverside Park, there's so many great attractions. My kids want to jump in the river and I have to tell them, I'm sorry, honey, but we can't because of the toxic algae.

I have friends who have moved from Sewall's Point because of the water quality issues. Her husband was a boat captain and a professional fishing guide and they decided to pick up and move solely because of the water issues. They're great people.

My kids have witnessed the wildlife dying every day. Imagine conversations that we, as moms, have to have with our little kids to explain why are the animals dying, why are the fish dying. Why isn't anything changing? My kids ask me, mommy, what can we do about it?

So my request is to please consider health and human safety and use the power that you've been given by the people to represent all the people in the State of Florida and on the east and west coast and not just those surrounding the lake. Thank you for your time.

MR. GYSAN: Charles Sherr. Ted Astolfi, Rebecca Betsinger.

MR. ASTOLFI: Good afternoon. Ted Astolfi. I'm the CEO of the Economic Council. Although, I don't like to do this, I'm going to read my letter so I don't veer off. I'm also a longtime resident of Martin County. So I'm going to read this. Apologize. First of all, thank you for allowing us to provide input to Lake Okeechobee System Operating Manual. The LOSOM paradigm really needs to change from that of, what we've heard a lot about, shared adversity to one of shared success among the stakeholders in Lake Okeechobee's water levels.

The new regulation schedule must allow for greater flexibility in the Lake Okeechobee water level thresholds to include both lower and higher levels. Greater flexibility will allow more opportunities to manage the allocation and distribution of water from Lake Okeechobee, to improve the natural

environment to protect the health of residents, and to promote the economic benefits of this water resource for all of South Florida. Expanding the envelope of storage will offer shared success in dealing with our water issues.

Other lake communities need water from Lake Okeechobee throughout the year, as you've heard today. Drawing down the lake level by meeting all the demands from lake water from the Caloosahatchee River, to the native Indian tribes, the Everglades and Florida Bay, agriculture in South Florida and the farming communities prior to any water releases to the east would reduce east coast discharges while providing shared success across all the stakeholders of South Florida.

As soldiers, Congressman Mast, and members of the Army Corps certainly know that it is much better to work from a position of strength, rather than a position of fear. For too many years the management of lake levels has been based on a fear of a catastrophic failure in the Herbert Hoover Dike. With funding secured and strengthening of the Herbert Hoover Dike accelerated, more water can be stored with confidence and limit the need for damaging discharges during the wet season. This is supported by a 2015 University of Florida study stating that allowing periodic increases in the amount of water stored in the lake during the wet season would be possible without damage to the lake ecology.

I thank you for allowing our input and considering our viewpoint. Thank you.

MR. GYSAN: Rebecca Betsinger, Becky Harris, Taylor Sanders, Victor Oniechak.

MR. ONIECHAK: My name is Victor Oniechak. I'm a Stuart native and I live less than a mile away from the St. Lucie Lock and Dam for 16 years of my life. Every time the spill gates open out of the locks, I have witnessed fish with lesions and marine life dying all the way out to the St. Lucie Inlet where the polluted water enters the Atlantic Ocean.

Fact: In 2016 and 2018, the St. Lucie Lock and Dam distributed a neurotoxin to my community. Numerous marine and land animals died as a result of the water management. The St. Lucie Lock and Dam has also killed the original oyster beds in my community and continues to kill the oyster bed restoration effort with careless dumping of freshwater into a saltwater estuary.

No environmental consideration was given to the St. Lucie River years ago when it was connected to Lake Okeechobee decades ago and this area has been declining since it was connected. I work as a merchant marine on the Great Lakes and I frequent the Poe Lock in Sault St. Marie, Michigan at least twice a week.

I have a huge appreciation for the Army Corps' structures and their importance to transportation and industry. However, the Army Corps' designs for water management in South Florida are destroying the east and west coast of Florida and denying the Everglades and Florida Bay our freshwater, which is needed for their ecosystem. Returning a southern flow of water from Lake Okeechobee is a must to correct this problem. Keeping lower water on Lake Okeechobee is a must until the southern flow is established.

High water levels and (inaudible) spring on Lake Okeechobee kills aquatic plants that remove nutrients from the water and support the ecosystem on the lake. Lake Okeechobee is dying under the current water management. Decreased bass tournament weigh-ins on Lake Okeechobee are proof. The numbers don't lie and the natives don't either.

I have personally witnessed forty years of destruction to my community and something needs to be done right now. Army Corps' flow rates are being posted online to multiple forums and we the people are watching daily activities. In 2011, I spent forty thousand on a boat, hoped to use it with my father, retired from the Stuart Police Department. He died last year and I lost about three years of fishing with him due to poor water management. I'll end it there.

MS. HARRIS: Hello. Thank you for this opportunity. My name is Becky Harris and this is Pandora. Pandora did choose not to speak today and that's a good thing because she'd have a lot of things to say. She's still upset.

She was the first of the six dogs who became deathly ill or died from microcystin in the St. Lucie River. She took a bite of a dead fish on our beach on August 26, 2018. Here are few excerpts from her hospital records.

August 27th: Significant bruising in neck at both right and left jugular stick sites with very load grade oozing of blood on right side. Bruising on both back legs. For the nonmedical people, she was bleeding out.

August 31st: Reviewed liver profile, ALT 6,000. Still very high, but better than the previous number of 9,000. For the nonmedical people, elevated ALT values indicate liver injury; and normal canine levels are 8.2 to 57. She was at 9,000.

On day of two of hospitalization, the internal medicine specialist, Dr. Brandi Gallagher, explained my dog was in severe liver damage, complicated by bleeding. She was not at all optimistic. I actually made a tentative appointment for an in-home euthanasia visit.

September 18th, 22 days after ingestion of the microcystin, a urinalysis showed microcystin still present. All four vets who treated Pandora said it's a miracle she's alive. Quite frankly, I'm thankful.

This is very personal to me, as I watched her take a bite of the fish. I watched her throw up. I watched her become extremely lethargic. My daughter and I visited her at the hospital, shaved and bruised and hooked up to two IV lines. They barely let us visit her, she was so ill.

The good news, besides her survival, is that this happened to dogs and not people. So please, Army Corps, take notice of what happened to Pandora, to Stanley, to Costa, to Sammy, to Savy and, of course to, Finn. This all happened in a two-week time frame.

Almost done. I've enclosed Pandora's hospital records and her lab reports. There's no doubt it was microcystin that caused the dog's liver failure. Microcystin is harmful to humans, as well.

The picking of winners and losers really needs to stop. As you make your revisions, consider the health and safety of our community. The St. Lucie Estuary is in severe decline. Sea life is dying, now our pets. What's next? We could be.

Thank you very much.

I'm not Taylor Sanders, but she had to leave. Can I read it for her. You want to read it for her?

MR. GYSAN: Go ahead.

FOR TAYLOR SANDERS: My name is Taylor Sanders. I am a junior at Martin County High School and I am here on behalf of Treasure Coast Rowing Club. I started rowing four years ago, have experienced countless exposure to toxic algae. My teammates and I are water infested with toxic algae every day. We're being punished. We're being poisoned from trying to do what we love. We need to prioritize the health of Martin County's residents. Consider the impacts that our actions today will have on future generations. Please manage the lake levels better so that we receive zero discharges to our estuaries.

Cute little 17-year-old girl. Wish she was here. Thank you.

MR. GYSAN: Next up Gary Goforth, Joe Gilio and Dr. Nelson Lahey.

If I call your name, if you wouldn't mind coming and lining up here by the State flag, so we can get people moving through here a little bit faster. Appreciate it. Thank you.

MR. GOFORTH: Good afternoon. My name's Gary Goforth of Stuart, Florida. I've been working in water resources for over forty years, the last 32 years have been focused on South Florida. I've been evaluating the hydrology, water quality and other issues associated with the operations of the C&SF project for the majority of that time. I've got several pages of comments that I'll submit. I'll only go over a few now and perhaps later this evening.

Over one million people live in Martin County, St. Lucie County and Lee County that have felt the devastating impacts of discharges this past year. As you heard from a lot of folks today, 75,000 people depend on clean water in the estuaries to make a living. The reports are over \$3.8 billion a year of business are dependent on clean water.

Since LORS 2008 has been in effect, approximately 60 percent of the regulatory releases have gone to the estuaries and none of it has been treated. By contrast, only 12 percent of regulatory releases have gone to the Everglades. So one performance measure, as an interim, would be to reverse that. Let's move that water south.

This past summer was just the last of ten-and-a-half years of operating under LORS 2008. Since May 1, 2008 more than 445 million pounds of suspended sediment has moved from Lake Okeechobee into the estuaries, more than 35 million pounds of nitrogen, more than three million pounds of phosphorus. Just as a comparative, just nitrogen pollution alone is equivalent to about 325 thousand tons of human sewage sludge. One question I have to the Corps: During this reevaluation, how will you calculate the cost of the adverse impacts of these regulatory releases to the region's economy, public health and environment? What algorithms will you use to put a dollar value on these adverse impacts?

Another question is: Would you ask US EPA to review the State of Florida's deplorable history in following through with the Clean Water Act? The State of Florida has a done terrible job. The pollution obviously is not the Corps of Engineers' fault. However, you are intentionally discharging toxic water to the estuaries.

I'll reserve time for more comments later. Thank you very much.

MR. GYSAN: Joe Gilio, Nelson Lahey and Tom Dee.

MR. GILIO: My name is Joe Gilio. I've been a resident here for 47 years. I'm certified a wetlands ecologist and restoration ecologist.

Three issues: Number one, you talk about dogs dying. I'm sorry they're dying. A friend of mine died one month ago. He used to eat fish and swim in the river. He died at the age 47 from liver failure. Liver failure, non-alcoholic liver failure in the three county area is three times greater than the national average. That's a travesty. Most of it, I would presume, is due to the microcystin from the algae or from the cyanophytes.

Number two, one of the reasons that this was brought up is because Representative Mast made the proposal during the end of the dry season to bring the water level for Lake Okeechobee down to 10.5. There's going to be people who are going to be for it and against it. I'm for it, as a lake scientist. Why?

You bring it down slowly. If you bring it down from eleven feet down to 10.5 you have approximately 230 trillion gallons of water left between those two levels. That means that if you give no water to the St. Lucie River -- It never had it. It should never get it again -- you still have eight trillion gallons of water for the Caloosahatchee. That's its lowest level. It needs it. You still have 45 trillion gallons left from 11 to 10.5 to do what? To serve the EAA, to serve the communities that are south of the lake and to do that probably a multiple of three times. There is enough water from 11 to 11.5 in the month of April possibly going in to May.

However, what does that do? That produces no water to us and reduces the discharge to the Caloosahatchee. And then with the harming of the HA HD that allows the lake level to be even held up higher.

The last issue is this: You have a domino effect. You cannot stop the production of the microcystins until you reduce the nutrient level in the lake. I said this thirty years ago. It still hasn't been solved. How do you do it? You suck the muck out of the lake, reduce the nitrogen and phosphorus level and you'll stop the discharge -- the production of the microcystin. Thank you.

MR. GYSAN: Nelson Lahey, Tom Dee, Maggy Hurchalla.

COLONEL KELLY: Go ahead, ma'am.

MS. HURCHALLA: I'm Maggy Hurchalla. I want to talk to you about the broad scope that you need to look at, looking at the LORS or LOSOM schedule. In the past years you looked at water supply and flood control. When you found out that the dike might break, you adjusted the schedule so the people wouldn't be hurt. You did so even though that reduced water supply.

Now we know about new risks. We know about climate change, sea level rise, algae blooms in Florida Bay and Lake Okeechobee, salt intrusion, destruction of coastal estuaries and a lot of other things have been brought up. Now we know about cyanobacteria and we know that the people most at risk for the cyanotoxin are the children south of Lake Okeechobee. We know that the lake blooms are toxic. We know that increasing water levels on the lake destroys more marshes and increases cyanotoxins. Long-term, moderate exposure to cyanotoxins causes liver failure, cancer, diabetes, shrunken testicles and dementia.

NEPA requires that the scope of your review look at all of the impacts and design and evaluate alternative systems and regulation that can minimize the harm for the human and the natural system.

If you are playing with a small kitten and a bunch of children run along to help you, you manage it a certain way. If you find you have a tiger in your lap, you manage it very differently. You did not create

the new risk in Lake Okeechobee, but it's your tiger now and you need to help us have a better job of managing it.

You cannot simply solve the problems that have been brought up by sharing the adversity some more. You can manage the lake better so there's less harm. Your responsibility is much more than NEPA and a bureaucratic need. Colonel Kelly told us that the Corps of Engineers does not build and operate systems that hurt people. We want to hold you to that. Thank you.

MR. GYSAN: Dr. Fran Clark, Larry Donbrough and James Moir. And after that is Sally O'Hare.

MR. MOIR: Hi. This is a little different. My name is Jim Moir. I'm a native Floridian and resident on the shoreline of the St. Lucie Estuary for the last 27 years. I am a husband and a father. I speak now on behalf of fish. It's a rare fish species. It's Gobiomorous dormitor. It's a Bigmouth Sleeper. It's large elongated, slender Goby with a large underbitten mouth. It's a dark brown with mottled coloration. It's got numerous spots all over its back. It's got lighter color on its belly and radiating lines around its cheeks and operculum.

The Bigmouth Sleeper is an exceedingly rare fish in the St. Lucie Estuary. It's one of its only natural indigenous habitats in the whole continent. You see the Bigmouth Sleeper has a complex life cycle. It's an Amphidromous species born in freshwater estuaries, but it's carried into the ocean as larvae, and then it has to come back into the estuary to fulfill its life cycle and become an adult and then theoretically spawn again.

The problem is the salinity regimes in the St. Lucie Estuary have been completely and tremendously changed from their natural state. It's creating all kinds of problems for all of the diadromous fish species, not just the Bigmouth Sleeper or the other Amphidromous species. These are a threatened species. These are fish that live almost nowhere else. They're right on the brink of extirpation and that, unfortunately, as you all know, is forever.

The discharges from Lake Okeechobee are extirpating many species and pushing the ecosystem into a state of collapse. These annual multibillion gallon -- multi-hundred billion gallon discharges are polluted with nutrient sediment, toxic loads of microcystin toxin-filled algae cyanobacteria. The blooms we've had this year are just unbelievably devastating. It's a moral outrage. But the loss of resilience and the astronomical cost of mitigating the loss of natural services provided by a functional estuary may be more than we can bear. If the discharges aren't stopped and clean water sent south, and an equitable and natural balance struck to make lake level management reasonable for everybody, we're going to be responsible for more extinctions in the future.

MR. GYSAN: Sally O'Hare, Jacqui Thurlow-Lippisch, Joyce Edwards and Nerissa Okiye.

MS. THURLOW-LIPPISCH: Hello everyone. I just want to say, before I make my statements, that I'm making -- because I know that they can become part of the record, so I chose just a couple of things to become part of the record, that things are very different today than they have been in the past. And I can tell you that this is your colonel, this is Colonel Kelly of the Army Corps of Engineers and your Lieutenant Colonel Jennifer Reynolds. And I have seen them listening the whole time. I've seen Lieutenant Colonel Reynolds, in fact, help a young family take a little video of their time talking up here. I, as many of you, have been in this for a long time and I can remember times when the Army Corps came and it didn't seem like the people in charge were listening at all. We all work under the

structure that we have to, but things are different today. I thank them for being here and I just wanted to note a couple of things.

My husband and I take thousands of photographs of the St. Lucie River. And I'm giving you a couple of them. And I've complained about this before. On June 1st my husband went out to run his engines and saw algae blooms. And I did contact the Corps, not like I'm anybody important, but I contacted the Corps and said, I think you're supposed to start releasing. And you did start releasing the next day. And within just a short period of time, by June 24th -- This is just from my printer at home, my printer -- the algae bloom, of course, in Lake Okeechobee was tremendous and it was right outside the doors of the S308, which brings the algae into C44 into our St. Lucie River. This is unacceptable.

The number one thing I ask for, no matter what happens -- and I hope this whole lake schedule is totally changed and thank God for Brian Mast -- but we have to be warned. You all cannot know that there are algae blooms in that lake and the South Florida Water Management District cannot know that there are algae blooms in that lake and not tell us, as the people. It's wrong. We are owed to be told what is going on. So I ask that, that is a number one thing.

I also do have all of the workbooks of the River Kids. They were born in the Town of Sewall's Point when I was mayor in 2011; and they didn't get to go swimming. There was toxic algae cyanobacteria at Bathtub Beach out for yards and yards and yards. Then they even took a picture of it that I have, through Deborah (inaudible) of Martin County, where there was a big piece of it like floating around out in the ocean that FWC took.

What is happening here is abnormal, it's abnormal. There's cyanobacteria problems all over the world, but what is happening here is abnormal. Thank you for helping us.

MR. GYSAN: Joyce Edwards, Nerissa Okiye, Frank Harvey.

MR. MAEHL: I'm obviously not Nerissa, but it seems like yesterday when we traded places.

My name is John Maehl and I'm an ecosystem restoration manager for Martin County. I'm grateful to the Army Corps of Engineers for the opportunity to be involved in the process of developing a new system to meet the critical needs of South Florida. The following are points of interest that Martin County would like to see addressed in this planning project:

We request that human health be considered as relates to water quality and algal blooms. We request that the ecological health of the estuary be considered, including ecological health of seagrass and oyster beds in the estuary, ecological health of coral reef. The definition of the Everglades ecosystem includes coral reef and we've noted degradation of the nearshore ecosystem and we believe there's discharge impact to the reef that needs to be considered.

Sustainability of the estuary dependent economy, including commercial and recreational and the important estuarine and marine fisheries. Increasing nutrient loads to and from Lake Okeechobee and the challenge that poses to meet our TMDL when it is assumed that Lake Okeechobee is meeting its TMDL when it discharges to the St. Lucie River. A salinity capacity of the lake and estuary as it relates to TMDL calculations and future loading.

We'd like to ask how is the Water Transfer Rule considered in the evaluation?

We request that the manual address all of the following: The probability of discharges to the St. Lucie River. Salinity algorithms to convert discharge flow to salinity levels in the estuary. An output of number of days in or out of the preferred salinity envelope for sustainable estuary ecology.

We'd like to see that it includes a probability that Lake Okeechobee will serve as a source of cyanobacteria to the St. Lucie River. We request that the project will consider the toxicity dynamics of cyanobacteria in brackish waters versus freshwater. We'd like to have considered the estimation of sediment pollution from Lake Okeechobee to the St. Lucie River, including what role do discharges play in scouring accumulated C44 muck and where does it get deposited? Does muck accumulation impact seagrass sustainability, oyster beds, fish and other ecological impacts?

We would like the project to consider in detail the potential impacts elicited in dangerous species in the St. Lucie River, Indian River Lagoon and coral reef ecosystem. We request that the model employ multiple estuary and coastal ecological performance measures so that a weighted evidence approach can be used to evaluate scenarios for alternatives.

We request that achieving CERP stated restoration goals for seagrass, coral and oyster beds be considered in the manual. We request that models with output of probability and input factor to evaluate alternative performance.

We recommend that the methodology for implementing seasonal climate outlooks for the Lake Okeechobee Regulation Schedule be reviewed. There have been many advancements in climate diagnostics and predictions since the methodology was originally implemented. We believe that considering climate change in the northern portions of the system, as well as the southern portions of the system could prove to more precise weather predictions in the system. We believe that applying climate outlooks to all portions of South Florida watershed will allow for a regional, high-quality system to be operated in a more consistent regional manner.

We would ask that the team consider an operations manual that also includes the Kissimmee River chain of lakes system, as well as the water conservation areas to the south to create a watershed operational manual, rather than allowing other operation in the watershed to serve as constraints.

This is just a sampling of the concerns. We have a limited time today. We'll be submitting a thorough brief by the March 31st deadline. Thank you again.

MR. GYSAN: Frank Arby. Pastor George McIlrath. Mark Nichols. R. Grant Gilmore, Junior.

MR. McILRATH: I'm George McIlrath. I'm not here on behalf of a group. I'm just a person who cares. But I know everybody makes a difference. I'd like to thank whoever has to listen to all this and salute you. I've done some of that as a pastor, too. I want to pray for discernment, freedom from distraction and for God to bless people with ideas beyond they're imagined, outside the box and such.

I grew up in an agricultural area up north. I worked on a farm. I have some idea of the importance of farms. In the last seventy years, ag chemicals really have transformed certain things. I grew up on the Mississippi River. I'm just sensitive to estuaries. I also have canoed in northern Wisconsin and the Upper Peninsula of Michigan and the national forest, as well as in Minnesota and the headwaters of the Mississippi. So I think I have some exposure and interest and concern.

My simple plea is what's happened is unacceptable and must be stopped, prevented. The overflow impact is not only atrocious, it's ridiculous and it's corrupt, in a theoretical way, that the system has allowed things like this to happen. I'm not saying individuals were evil or corrupt.

It's a long sit for all of us. It's been educational for me. It's very clear water from the north is a big part of this system and, in some conversations I've had, there's probably a 50-pound gorilla there to be dealt with.

I'm going to extend what I'm saying to comment on what a worker in Africa said when great powers were colliding and they said, "The people there say when the elephants fight, it's the grass that's trampled." The villagers, the little people. I also want to salute Representative Mast. And thank you for hearing me out.

MR. GYSAN: Mark Nichols. R. Grant Gilmore. Jenny Palowski. James Vopal.

MR. NICHOLS: How you doing? Hi there. I'm Mark. I make fishing lures. I started my company here in the late eighties and I started with absolutely nothing, a carved piece -- carved a shrimp out of a piece of wood, started making 'em out of silicone and became quite a successful company.

The reason why I became quite successful is because I've had people -- I was counting today -- from 34 countries, all kinds of states would come here and I could catch the biggest fish they ever caught and take them to water that they would just ooh and aah at because of its beauty and its beautiful seagrass.

That's gone. Will it ever grow back in the Sailfish Point area? I'm not convinced that it will because it's shifting, the bottom, it's shifting bottom. It's got to be settled for grass to be able to grow. If it's all dead and it's shifting, then it won't grow. It has to grow in Marcia's Flat. It has to grow in the cove over by the House of Refuge and that sort of thing. Okay, enough about that.

I also am a business guy. We were doing great last year. January was slow. February was awesome. March was awesome. April was pretty good. When it rolled around to June, we dropped 39 percent in sales. Our sales are very large on the west coast of Florida and our sales, you know, are as good as they can possibly get over here, as well.

I called White's Tackle, which is a local tackle shop. They said when that occurred, they dropped 39 percent. I called Snook Nook, which has got location, location, location. They were down over 60 percent. I called Giles who's got -- Is it Southern Angler?

UNIDENTIFIED SPEAKER: Stuart Angler.

MR. NICHOLS: He said he was over 50 percent off for three months straight. Small companies cannot survive that way, we know that. Many of the small dealers that I deal with on the west coast are going to be out of business if it happens again, it's as simple as that, as well as many of the hotels and motels that I've dealt with for years and years.

It's numbing because I could bring people here and I could be excited about bringing them here. I was raised in Houston and I was raised pulling a shrimp net in Galveston Bay and running crab traps. We thought we had giant speckled trout. The all tackled speckled trout is from Fort Pierce. I did a TV show

with Blair Wickstrom seven years ago. We caught four fish over eight pounds. I can go there now, there's no blade of grass anywhere. We were fishing potholes at the time.

I blame chemicals. That's all I got to say about it. I'm not a chemist, but I blame chemicals. I've been fishing those waters for forty years heavily and I'd walk through them, because if you're from Texas, they will deport you if don't wade fish and they will make all kinds of fun at you. The waters here I was so proud of and now there's not a blade of grass.

This can be fixed, but we can't have chemicals dumping in our water. And if you dump water into our water, it should be very slow. I've owned aquariums forever. I can put fish that is from fresh into salt if I do it slowly enough. If I do it quickly, he's dead. If we start growing beautiful little clams and stuff and suddenly they are shocked, they all die. If it's gradual, they can live.

In my opinion -- I'm going over -- but where we get all our water through Okeechobee Waterway, when we're first getting ready to get that dump, if you could trickle it in where we can dilute -- Because when we haven't had a rain for three or four months, that water that's in that canal is the worst that it can possibly be, because it's had the local runoff from the farms and it has set there for months and months and months and it hasn't been diluted at all. If could you raise that canal up a foot or two where that water would suddenly be diluted somewhat, it might help, blah, blah, blah. Anyway thanks.

MR. GYSAN: Grant Gilmore, Jenny Palowski James Vopal, Paul Williams.

MR. VOPAL: My name's Jim Vopal. Thank you to the Corps of Engineers for hosting this and thank you so much to Congressman Mast for making this happen. Otherwise, none of us would be here.

I moved to Martin County in 1986 to establish a surgical practice here and I soon transformed that surgical practice into primarily surgical oncology, which is cancer surgery; and after that, I became a breast cancer surgeon. As a result of that, I've been fairly involved in the Cancer Committee at Martin Memorial Hospital.

And I live on the river and I've lived on the river for thirty years. So I'm pretty familiar with what's been happening over thirty years.

As a member of the Martin Memorial Cancer Committee, I became very distressed when I started to see cancer statistics that were rather disturbing. We are one of the highest or we have one of the highest incidences of breast cancer in the state and we have one of the -- certainly the highest incidence of liver failure going on to liver cancer, then liver cancer deaths, certainly highest in the State of Florida and one of the highest in the country. These have all been documented to be due to microcystin cyanobacteria.

So we are sitting on a landmine here. We are only seeing the tip of the iceberg. We also know that some of the neurologic disorders, ALS, Parkinson's disease and Alzheimer's seem to be somewhat associated with cyanobacterium and microcyst. We know the cyanobacterium is a known toxin and it's a carcinogen based on microcysts. It can be spread by ingestion, if you drink the water. It can be spread by inhalation, because if you have a storm, it becomes aerosolized and you breathe it. You heard this before. So it's in your lungs.

Now, the interesting thing about cyanobacteria and microcysts, they can't be digested. They end up in your liver and they cause liver failure; hemorrhagic shock, which is what you're seen in all these dogs. So it's time to stop these discharges, unless you can clean that water before you give it to us.

Now, I have a list of 32 -- actually 52 breast cancer patients that I have personally treated that were born and raised in Martin County, swam in the river, boated in the river, essentially were part of the river. I've been asked by them to speak for them because probably their breast cancers were caused by the river.

I compare what's happening to our river to Toms River in New Jersey and the Love Canal. It's just a little different.

I have one question to pose to the Army Corps: How will you address these family members and survivors who have suffered the consequences of irresponsible carcinogenic and toxin exposure? Thank you.

MR. GYSAN: Dr. Paul Gray. Alex Aydelotte, Grant Landon.

MR. GRAY: Hi. Thank you. Paul Gray from Audubon Florida. The safety level, the best one for Lake Okeechobee is 12 to 15 feet. It's six inches lower than what we have now and if we had that, we'd have six more inches of free board. And we're recommending the Corps look at changing it down to six inches as performance measure.

We think the best release value for harm from Okeechobee to the St. Lucie is zero, not 1,178. So we're asking the Corps to look at changing that performance measure too, not that we can change the performance, but at least we could measure the harmful events as they happen. We're asking the Corps to do a lot.

One of the problems with Okeechobee is it's polluted as all get out and that's what the cyanobacteria is being fed by. That's really not the Corps' responsibility. That's the State of Florida. Noah Valenstein was here from DEP. The Corps can't go on a ranch and have the best management practices implemented. They don't go to cities and do water quality projects and they don't go to farms or watersheds and do that. That's up to the State. So they're doing the basic management action plan now.

This year they're going to have to make a 15-plan to meet Okeechobee's water quality goal. We have to really get on the State and thank Governor DeSantis for saying he wants clean water because this is our opportunity to make a plan that's going to clean up the water in Okeechobee, instead of getting worse every year and hopefully we can start getting it better? And that's going to be up to the State. And we need to do that -- whenever that water is going to go in the future, we got to clean it.

The second thing is water supply around Lake Okeechobee. We don't have enough water in the lake to meet the water supply that all the permits have been allocated. The State wants it to be one-in-ten goal. We're only meeting it with one in six. The only way to meet the water supply goal of all farmers, all the users around Lake Okeechobee service area is to either keep the lake really deep, so you have whole bunch of water sitting. We did that, spawned big releases. Or keep it where it is and when a drought comes, you just give away a whole bunch of water and make record lows. The record lows hurt the lake, they hurt the Caloosahatchee. They hurt the Everglades. So some of these permit problems is that we've given to users are really a threat to the rest of the Water Management system.

We have to ask the Water Management District to go back and look at those permits and see if they're really compatible with public interest. Thank you.

MR. AYDELOTTE: Good afternoon. My name is Alex Aydelotte. I live in Jensen Beach on the St. Lucie River with my wife and kids. I do want to thank Dr. Vopal. He actually has treated my mother successfully twice with breast cancer. Thank you.

For those of you that own a dog, you understand that basically they become part of your family. On September 5, 2018 our family dog, Finn, was a nine-year-old black Standard Poodle, died suddenly, unexpectedly from ingestion of toxic blue-green algae along the edge of the St. Lucie River.

We've lived on the St. Lucie River for about ten years and we have watched the steady decline of the river, over that time period, due directly to discharges from Lake Okeechobee. However, we had no idea until that day that the water quality had become that bad that it was actually highly deadly.

When Finn escaped our fenced yard that day, we didn't know where he went and we couldn't find him. He came home about thirty minutes later and we were thankful he was safe, as our greatest concern to date was that he would get hit by car in the neighborhood. Little did we know at that point he found his way down to the riverbank and he ingested blue-green algae. Forty-eight hours later Finn had passed away. He died a brutal and painful death. The toxins completely destroyed the inside of his body. He bled internally. His liver shut down. His pancreas shut down, amongst other organs and ultimately went into cardiac arrest. We witnessed it firsthand and my children unfortunately will take that memory with them.

The veterinarian tried to save Finn using several different treatments, including blood plasma transfusions, but the toxins were just too strong and powerful. We received an autopsy report that confirmed his death was due directly to the exposure to the microcystin toxin. This is not speculation, but confirmed by scientific evidence.

Finn was a healthy 50-pound dog. If that toxic blue-green algae was strong enough to kill him in 48 hours, what happens to a child or even an adult that accidentally ingests it?

Recent studies have confirmed that cyanobacteria is airborne, which puts our entire community at risk. I'm very concerned about the long-term health effects on my family and I.

Please put human health and safety at the top of your priority list when it comes to managing the level of the lake. I'd like to give you a copy of this autopsy report for the record.

MR. GYSAN: Glen Landon. Glenn Kellis. Laurel -- Larry Lavarqua. I completely butchered that. I apologize. Steven Parr.

LIEUENANT COLONEL REYNOLDS: Who else still needs to make a comment? If you still need to make one, why don't you come forward. We'll just go through the folks that are still in the room with their hands up and do it that way, 'cause we have quite a lot of cards of the folks that have left and submitted comments out in the hallway to us instead.

MR. GYSAN: If you could line up by the flag and then just state your name when you come up; and we'll make sure we get everything.

MR. LAVARQUA: I hope that didn't come out of my time.

COLONEL KELLY: No, sir.

MR. LAVARQUA: I'm Larry Lavarqua. I've lived in Palm City for the last 19 years on the South Fork. I'm a fisherman, boater and scuba diver. I'm not a scientist. I don't have to be to know something is terribly wrong. Colonel Reynolds, thank you for this and I want to thank you Brian Mast for leveling the playing field like he has.

Out of the frustration, I wrote a poem. I've never written a poem before, not even to my wife. So I'm going to read it today. It's called Back in The Fight.

We have back pumping.

And chest thumping.

And head bumping.

If you listen real close, you can hear a great whine.

I don't know whose problem this is, but I know it's not mine.

The Everglades especially, the Supreme Court said. They've tampered with nature, our river's dead.

The folks in Stuart and Fort Myers are not special, it seems. You'll take and like it; our rivers aren't clean.

Pollution and algae at levels so high, the Department of Health says stay away or you might die.

This is America, the land of ingenuity and solution. You can't make me believe we have to live with this pollution.

The water belongs to everyone, it's ours to use, not for the few to exploit and abuse.

While living in Paradise used to be our dream, we can't let the few flush their problems downstream.

A tea party in Boston a long time past is what happens when the government doesn't move or listen too fast.

We must speak up for our river and say this is not right and say it real loud and get back in the fight.

I have a question for the Army Corps and that is, is the water that goes south different, does it need to be cleaner than the water they send east and west; is it different criteria that it has to meet?

Because if it's federal standards for water that's going down to the River of Grass and they're dumping crap on us, the people, then that needs to be looked at. Thank you very much.

MR. KELLIS: Glen Kellis. I've lived here for five years in Stuart. I just wanted to hit a few things. Most people said everything that I was going to say already. So I don't want to repeat everything. I was one of those seventy people that were tested for the cyanobacteria and everyone, every one of us tested,

tested positive. So chances are you would probably -- if you were tested, you'd probably be positive, as well. It obviously was in the air. I wasn't out there drinking any of that water so.

Loss of seagrass. The salinity that's destroyed when the freshwater is released into the estuary kills everything in the river. It takes years for it come back. It actually started coming back a little bit when we skipped one year of discharges, but then immediately, upon the next one, it was all gone again; and there's no sign of it coming back now. It'll take years for anything to start growing back again.

I was out fishing last night, caught a few fish. Normally those fish would be in a frying pan tonight, but we don't dare eat them. So all of them go back, even the nice tripletail last night. It was a shame.

I just want to state a couple of facts here. I think most people will agree that Lake Okeechobee is not really a lake anymore. It hasn't been a lake for a long time. It's really a reservoir. It's managed as a reservoir and we should really just -- let's just consider it a reservoir and, you know, at least face the fact that it's a reservoir and treat it as such and stop pretending that it's some of kind of a natural lake.

The nutrient pollution, I think we can all agree, is the root cause of the bacteria, the cyanobacteria and the algae blooms. All the pollution is from phosphorus and nitrogen and we know where it all comes from. It comes from agricultural all around the lake. It comes from the north, from Disney -- not Disney -- that area north. Until the State, you know, makes some real regulations, some real enforcement and starts really regulating nutrients that lead to pollutants, the lake is just going to keep getting worse, as we said earlier.

The other thing, the last thing I want to say is, as far as this estuary goes, freshwater is a pollutant even if it's perfectly clean. It doesn't belong in there. There's no natural connection from Lake Okeechobee to the St. Lucie River. There's no historical connection, there's no natural connection. We want exactly zero water from Lake Okeechobee. Thank you.

MS. KENDALL: Karen Kendall. I'm a resident of Hobe Sound. I boat. I paddleboard. I love being around the water. Thank you. Thank you. Thank you very much for allowing us to be here.

In my lifetime, I observed Lake Erie when I lived up in Cleveland. There was no fishing. It was a dead lake. The fish might come up to the shoreline, they'd be white and bloated and disformed. And now today, because Lake Erie did get cleaned up, you can go catch Wild-Eye Pike.

I moved in 1977 to Pensacola. Came down to a boat show in Sarasota, boating and taking pictures of pelicans on pilings. We didn't have pelicans in Pensacola in 1977. Twenty years after the halting of DDT on the farmlands in Alabama where the Escambia River drains into Pensacola Bay, there are pelicans all over Pensacola.

We can change things on the earth. This just really made me realize that we can make a change.

I now have a heard a lot more today that it's not just cleaning up Lake O. That was my whole thing I really wanted to get up and say: Let's clean up Lake O. We also can't have the freshwater coming into the salty ocean. So we've got more than just cleaning it up. But if we don't address the causative factor and just try to work around the edges of the problem, it's not going to work. We have to address the causative factor. Thank you.

MS. MILLER: Hi. My name is Michele Miller. I'm representing the Marine Industries Association of Florida and the Treasure Coast. I serve as the Executive Director of both organizations.

I've heard numbers today from a lot of people about the economic impact and I'm just here -- I'm going to submit the full economic impact to you guys in writing.

But just to hit the tip of the iceberg, we are a \$15.3 billion, with a B, industry. I believe we compete with sugar and we compete with citrus as the biggest industry in Florida. We employ 183,820 people in the state; 7,329 of them are right here in Martin County -- Martin, St. Lucie, Indian River County, the Treasure Coast area. We are huge and we are being impacted. Boat manufacturers and people are moving their boats. They're not boating anymore because of this issue. And it affects -- the indirect causes, the indirect effects, it trickles down into daycares and other industries because if this 183,000 people move out, they employed six other people. So that's a big impact to our local economy and the state economy and it needs to be addressed. We have experts that are willing to meet with you in Tallahassee or Jacksonville, wherever we need to go, we'll have people there to meet with you, scientists, and input. Thank you so much.

DR. PARR: Hello. My name is Dr. Steven Parr. I'm an emergency physician here in Stuart, Florida. I've been a Floridian for about 20 years. I'm from Alabama originally and absolutely love the state. I moved to Stuart because I love the water. I'm a water man. I'm a surfer. I'm a free diver. I'm a scuba diver. I'm a stand-up paddle boarder. I kite surf. I fish. I boat.

I've got two sets of twins, were both born at Martin Health System: Two ten-year-olds and two 13-year-olds. So I've got a big stake here.

I'm just here representing -- We've got -- I manage a group of about 55 emergency providers here in town. I'd just like to state that there really is a public health hazard being caused by the discharges. This is absolutely a pollution issue. That's what we're trying to deal with. And all the cyanobacteria and all the toxins that come from that are a direct result of the pollution. Obviously, the salinity issues are also another form of pollution.

I very much respect you guys for being here. I understand that you guys really are probably more controlling the flow than anything else. But as everybody else has pointed out, we've got to get to the source of this. We've got to control the pollution that's leading everything downstream or at least come to a better way to move the water so that the impact of that pollution on the environment is less.

The other thing I'd mention is that we're seeing people with more rashes when they have contact with the water, been seeing a lot of people with respiratory illnesses. Especially this year I've been seeing a large number people coming in, including friends and family members, that have had difficulty breathing for months. A lot of those people are a little vulnerable, they have a history of asthma or airway disease where they're prone to asthma, but they're all saying I've never had this many months where I had trouble breathing.

A big part of that is the algae blooms that we're seeing offshore. And also we also see in the emergency departments when we've got the wind blowing the correct direction to blow this toxin on the population, that's when we're seeing people come in. I would estimate on days like that, we're probably seeing an extra twenty people a day out of four emergency departments that see about

140,000 people year. In addition to that, GI illness and then everybody else has kinda pointed out that pets and animal aren't safe.

Thank you guys for your attention. I appreciate your time.

MR. WAKEMAN: All right. First of all, thanks for the Army Corps being here and thanks to Brian Mast and all the -- Governor DeSantis and everybody for actually getting us to this point finally.

My name is Captain Rufus Wakeman. I've been here for 34 years. I've been a fishing guide on this river for most of that time. I went to Florida Institute of Technology, got my degree in Offshore Marine Technology. I attended Duke University's Marine Laboratory. I know a thing or two about the water.

My family owns River Palm Cottages and Fish Camp on the shores of the Indian River in Jensen Beach. Yeah, our business has suffered numerous cancelations over these discharge periods. And I also live on the St. Lucie River within that aerosol plume. When the guacamole algae is in our backyard, the smell is awful and believe me when I say you can feel the poisons. You know they're there. You can taste 'em.

The human health issue is real. When the Army Corps, when you guys pull those levers and you send that water here, I mean, you're knowingly poisoning us. It's kinda bizarre actually, if you think about it. I mean to knowingly know that there is hundreds and hundreds of acres of blue-green algae sitting in the lake and you send it right to us, knowing that once it mixes with saltwater, it's going to go through some cycle changes and turn into this God awful mess and people are getting sick, dogs are dying. You know, it's just terrible. But then again maybe that's what big pharmaceutical companies want, along with the real sugared-up population.

So anyway, that's going to bring me to the part of the story when I moved here in '83, it was really a paradise. I mean it was something special. The Indian River was full of life and it was abundant. It was good for a while and then the massive discharges started and it slowly started to change.

The fact that I was on the water every day gives me a real insight to see those changes firsthand. And the future started to look bleak. We could wade the river and it was a course of life, as my associate earlier, Mark Nichols, was pointing out. You know, wade fishing puts you in kinda of a zen one-on-one with the fish and you're in the water with them. It's a pretty special way to do it.

You know, it's all dead. The storybook would unfold in front of you. You'd walk through grass that was, you know, this tall. I mean it was really just unbelievable. I mean, I thought I died and gone to heaven. But it was a happy, healthy ecosystem and that's now gone and in its place is a barren wasteland. There's no grass, no bait fish, no shrimp and very few game fish.

Something must be done to stop these discharges. Storage north, south, east and west, whatever it takes to change the management of the water is necessary. We've lost over 350,000 acres of what used to be pristine estuarine habitat. Once the mangroves start dying, it's probably going to be too late.

I was offshore fishing today and the bait was everywhere. Anyone want to know where? There were fifteen to twenty manta rays swimming on top eating the plankton. No discharges equals abundant life. It's just that simple. Turn off the faucet and everything starts coming back.

As we entered the inlet, the water color was beautiful and I made the comment to my friend: There is no reason this should ever be any different. There is no reason the water should ever look any different than it does right now. It's just beautiful.

Something must be done to stop the discharges to both coasts and send water south of the Everglades. Let's get these projects funded and make 'em a priority. Thank you.

MR. TOTOIU: Good afternoon. I'm Jason Totoiu. I'm the senior attorney for the Center for Biological Diversity. I was also born on the banks of the St. Lucie River forty years ago.

The Center for Biological Diversity urges the Corps to expeditiously implement an 18-month NEPA review process. Moreover, the Corps should not wait for infrastructure projects before making changes to the operation schedule. The EIS needs to rigorously examine the range of alternatives and the impacts of its operations. The Corps needs to closely study the impact the harmful algae blooms are having on human health, wildlife and local economies. These HABs are killing wildlife, forcing businesses to close and depriving families of the experience I had growing up fishing, boating and swimming in the IRL.

There's a growing body of research documenting the dangers of cyanotoxins produced by HABs. BMAA is a neurotoxin produced by cyanobacteria and has been linked to Lou Gehrig's disease, as well as other degenerative illnesses. BMAA, by accumulating in the food chain, poses a significant risk to wildlife and the residents and visitors of Florida.

The impact of cyanobacteria, including what researchers are now pointing to as synergistic impacts with red tide, were largely ignored in the 2007 EIS reports. They need to be rigorously examined now and alternatives need to be created that avoid all of these harmful impacts to South Florida's environment and communities. Thank you.

MR. TIMMER: Hi. I'm Elroy Timmer from Aquatic Vegetation Control. I've been in the aquatic industry for about 59 years. We've heard a lot of problems today, but not many solutions. We've been working on solutions for a long time and what we have is a way to deal with the nutrients in the water. This is what we need. We need to deal with the nutrients and we can do it. We already -- There's 15 companies that manage water, 15 companies that are already using a product that's called Bio-Zyme.

You've heard it talked about today. There's about 20,000 lakes in Florida that are being managed. Most of these lakes are top lakes, lakes that are on golf courses that got lots of nutrient. We manage them and they're managed and they look pristine. The muck on the bottom is gone. The sand is all back. Now, we've got clams all over. We have snails all over. The fish population is way up there. The superintendents are the ones that are moving this here product because they say I want this product on my property and the next golf course superintendent just has to comply because it does so much for them.

What I'm talking about a little bit today is how of the muck removal and how much nutrients are in that muck. We did a lot of studies on muck and in every case the muck just drastically increases -- decreases, probably 10 to 15 inches a year. In some cases where there's a lot of copper in the water, it's probably lower than that because copper slows the amount of bacteria.

In this case, we have -- one of these cases, in Ibis Country Club, we had 3,000 pounds of nitrogen and 900 pounds of phosphorus removed per acre in three years, per acre. In another club that we have, we

had 800 pounds of nitrogen and 300 pounds of phosphorous in two years. It's the data from the -- We take the muck samples and we send it off to the University of Florida and this is data back from them.

This works. There's no reason that it couldn't work in Okeechobee. It's worked everywhere. It can work in all the cities along the coast and we can solve a lot of our nitrogen and phosphorous problems. Thank you.

MR. BURNEY: My name's Jim Burney. I'm also in the lake aquatic management industry. You've heard this is kinda, I guess, a summary of what you heard from Elroy, Trace and some of these other folks. So I guess there's two reasons why I'm here tonight. One is to -- I don't know if zero discharges to the tide through the Indian River Lagoon may or may not be possible in the near future, but I am here to kinda state my personal opposition to any plan that relies on discharges to the east as a long-term strategy.

I'm also here, like I said, to summarize improvement option for reducing nutrients in Lake Okeechobee and subsequent discharges to either east or west. That option is what you heard tonight. It's the introduction or augmentation of naturally occurring beneficial microbes to consume the available nitrogen and phosphorous, as well as to reduce the organic components of the sediment. This is without dredging. This is without need for drawdowns.

In addition, a program of bacterial (inaudible) in conjunction with the Corps and the State's aquatic management programs on Lake Okeechobee, it also reduces the amount detritus that is sent to the bottom, in conjunction with those program. This is operational now, as you heard. It's not theoretical and it is scalable.

So what we're asking is respectfully request that the Corps devotes the time and resources to explore this option either through their Jacksonville office through their aquatic plant program or somehow that the Corps devotes the time and the resources to explore this option.

Many in this room are available for consultation on it and we can offer case studies, expertise, whatever it would take. This is a viable option to solve one part of the equation. Like I said, it is operational currently. It's not theoretical. Thank you.

MR. GYSAN: Is that everyone? Great. Thank you everyone for bearing with us through this and sticking it out. We'll be back here in about fifty minutes and start this again. (Thereupon, at 5:10 p.m., the meeting was concluded.)

STATE OF FLORIDA) : SS

COUNTY OF MARTIN)

CERTIFICATE OF REPORTER I, MARCELLA R. SAMSON, a Shorthand Reporter and Notary Public of the State of Florida at Large, certify that the foregoing meeting was stenographically reported by me and is a true and accurate transcription of said meeting.

I certify further I am neither attorney nor counsel for, nor related to, nor employed by any of the parties to the action in which the meeting is held and, further, that I am not a relative or an employee of any attorney or counsel employed in this case, nor am I financially interested in the outcome of this action.

DATED this 26th day of February, 2019.

MARCELLA R. SAMSON

THIS TRANSCRIPT IS DIGITALLY SIGNED SHOULD THERE BE ANY CHANGE MADE, THE
SIGNATURE WILL DISAPPEAR