

March 13, 2009
Call with Steven Peyronnin
Interviewer: Winder Lyons

WINDER: Good morning everybody, or afternoon depending on where you are, this is Winder Lyons and I have Steven Peyronnin on the line with us, he's the head of the Coalition to Restore Coastal Louisiana. Did I get all that right?

STEVEN: That's correct Winder.

WINDER: We're off to a wonderful start. So first of all, why don't you give us a little bit of your background and how you came to be doing this and what the focus of your organization is.

STEVEN: Sure Winder. Well, let me tell you a little bit about my organization, we are the Coalition to Restore Coastal Louisiana. We are a non-profit advocacy organization that represent a multitude of stake holders in coastal Louisiana concerned with the deterioration of our wetlands and what we can do to restore them. Our organization has worked on this issue for nearly 20 years, working both on the policy decisions being made at the state and in Washington DC that affect how we restore this landscape, and also working with our state and federal partners to put together the plan necessary to achieve a comprehensive restoration strategy that can be integrated within any number of other approaches, including hurricane protection or establishing a more significant habitat for our wildlife and waterfowl.

WINDER: Now you beeped out there, I assume the word you said was "policy?"

STEVEN: Correct.

WINDER: Okay.

STEVEN: Do we need to go at that again?

WINDER: No, it's fine.

STEVEN: Okay.

WINDER: The thing about conversations like this, that are actual, is that it's not staged and what I want to get out of the conversation is just the truth and the flow of it is what it is.

STEVEN: Sure.

WINDER: So how'd you come to...I'm sorry?

STEVEN: I was going to say do you want me to address how I came to get involved with this organization?

WINDER: Yeah, exactly.

STEVEN: People often ask me how I became involved personally. I am a native of Baton Rouge, Louisiana, I was born and raised here. And as I try to explain to people what drew me to this cause and organization I think back to my childhood and my fondest memories are in fact fishing with my father in the Atchafalaya Basin and other areas of coastal Louisiana where we spent any number of weekends. My favorite aspect is that we used to trek into the swamps with only maybe a dozen eggs and some soft drinks, relying on fishing and hunting, craw fishing and running trot lines to gather the rest of our meals for the weekend. And that was something that was just so amazing to me, how we could survive so substantially for what was just truly one of the most amazing times of my childhood. When I was trying to debate how I would pay for college, I remember my father recommending me to a friend who ran an off shore survey company, these are companies that work with the oil and gas industry to survey coastal areas in the Gulf of Mexico for oil and gas production. And I began working on survey boats and on pipeline rigs to pay for college. So when I graduated and started to think what was I passionate about, what did I want to do with the rest of my life; it really dawned on me that I'd had such tremendous experiences in coastal Louisiana, both in the way I was raised as a child, both in how I helped pay for my education, that it just seemed like such a natural fit. When I came to really understand what was happening to coastal Louisiana, what was at stake, that future generations wouldn't have the opportunity to have this experience with their parents or friends and family, that they wouldn't have the opportunity to benefit from the growing economy of oil and gas, the "working coast" as we call it in coastal Louisiana. And that their very safety might be in jeopardy considering the rapid loss of coastal land in Louisiana and the impact that hurricanes now have on our coastal communities.

WINDER: And that led you to the Coalition. Now define the Coalition's focus and purpose and how it got started if you would.

STEVEN: Sure, you know the Coalition actually started as a true advocacy organization about 20 years ago a group of ordinary citizens, made up from the religious and civic engagement sectors, as well as businesses, parish government, representatives from academia and universities, came together and recognized that this problem facing coastal Louisiana was much bigger than any state agency could handle, the state itself could handle, or the federal government alone could handle. It was going to take citizens who had a unique knowledge and experience of the landscape, knew what it ultimately meant to these communities to band together and start to direct these actions. Because without immediate action, without starting the ball rolling at the earliest point possible, we simply would not be able to put our arms around this problem. And they came together as very small group, pointing out as their first three priorities 1) to create a funding mechanism in the state of Louisiana, to set aside funding specifically for restoration, something that had not traditionally existed. 2) To set up an office within the governor's executive authority, directly charged with coastal restoration. 3) And to reestablish management practices for how we manage the coast, to take a comprehensive view of all the activities that took place in coastal Louisiana. Ironically enough, within three years, they'd achieved almost all of those objectives and they love to tell the story of meeting and saying should we now disband this organization. But clearly, and fortunately, they came to the realization that it simply wasn't going to be enough. That there was greater action, that because we live in such a dynamic coast, because we live in a coast that took thousands of years to create, we certainly weren't going to solve this problem with a few administrative quick fixes. So they began urging the state to complete a comprehensive planning approach that resulted nearly two years later in the Coastal Wetlands Planning Protection

Act, passed by Senator Breaux. They continue to push the state for greater engagement with the federal government resulting in a more comprehensive and coast wide plan called the Louisiana Coastal Authority in 2004. And now the challenge we face is how do we implement these great plans? These are all critical steps towards conceiving the mechanisms through which we can do these things. Articulating a plan that guides our path forward and now we're faced with the real challenge of actually doing it.

WINDER: And why aren't we doing more?

STEVEN: Well, this is an incredible problem when you view it from a landscape perspective, that never before probably in the history of the world has any single entity, much less a group of entities, embarked on restoring an entire deltaic coastal ecosystem. Sure we have examples like the Netherlands where they've engineered structural protections to protect their homes from flooding. But as the Netherlands are currently starting to find out that they, in doing so, enclosed or impounded most of their wetland areas. They've threatened the productivity of fisheries with structural protections that help protect them from storm surge, but don't allow for the natural habitat and benefits that come from these coastal systems to continue to remain a part of their flood protection mechanism. When you view that within the context of the entire coastal zone of the state of Louisiana, you start to recognize there are real challenges here, complicated by the fact that we have the Mississippi River, the greatest deltaic ecosystem in North America. As a great and fantastic tool for restoring this system, but it certainly has implications for the way we currently manage the Mississippi River today. There are navigation concerns that are entailed in this, there are flood protection in terms of flood protection not from storms or hurricanes, but from river flooding that have to be taken into account. And utilizing the river to restore this landscape is the third leg of that stool effectively. So consolidating all of those efforts into one comprehensive initiative that incorporates, as I mentioned before, reestablishing the most abundant habitat that we have here in North America, looking at how we provide protection and using restoration to do that, it becomes very challenging. That's all additionally compounded by the fact that the traditional agencies, that dealt with this like the Corp of Engineers, or NOAA, or EPA, often had very siloed or separate approaches on how they managed this resource. They never joined together in a way that both provided a structure and a concerted effort to how we engage all these different concerns both from the federal agencies to address all these different concerns of the landscape. So the real challenge has not simply been how we try to manage a natural system, that's challenging enough on its own, but how do we also manage the entities charged with the responsibility to restore and manage this system. And quite simply none of these agencies have ever been equipped or charged with thinking on that broad landscape type approach into how they're set up, how they're directed, how they view or consider these decisions. And that's been a challenge, not just recreating a landscape, but recreating the technical institutions, and the policy institutions to put them in the best position to deal with this problem on the scale that we need.

WINDER: And I understand it from talking with other people involved in this work, there are also some strains and stresses that come from, the different viewpoints from all the different people who are involved in this. You get the environmentalist have one view, you have the fishermen with another view, the shrimpers with another view, etc. etc. It sounds like there's been enough contention and controversy involved in how to do this that this may have been part of the reason that slowed the process down.

STEVEN: Well, I think initially you're correct. I think, and I point to the Coalition's history over 20 years, that those were some of the early speed bumps that we experienced. A prime example is the notion that to restore much of the coast, we're going to use the river, we're going to mimic the natural system that built this coast in the first place. Well, over the course of the years, this landscape has changed, people have also adapted to that change. As salt water levels crept higher and higher into coastal areas, our commercial fisheries started to adapt to that. In some ways it was beneficial for them, but ultimately it's not sustainable and to change that we're going to need to reintroduce the river in certain areas. Well, that's going to change the hydrology as most of your listeners probably know, certain types of fin fish or shell fish need certain types of water in which to be very productive. So now, when you talk about restoration you talk about making some tradeoffs that are certainly going to have impacts on the users of this ecosystem. They've adapted to the changing dynamic of a collapsing coast. Now, there's the challenge of how do they adapt to the challenge of a restored coast? Where some of the tools that we need to do for restoration are certainly going to have an impact on them. We've had many discussions about this over the course of the past 20 years as we've developed these plans and I think the one point that has perhaps triumphed over all of them came when we saw the hurricanes of 2005, Katrina and Rita, and then again in 2008 with Ike and Gustav, that ultimately people started to realize that while there are certain immediate economic, social, or cultural interests, that if we don't all band together and we don't all make tradeoffs, that none of those things are going to exist in the future. That quite simply the current state of how we've managed this coast is unsustainable, and that yes those tradeoffs will be painful, but the hope is that people realize it's going to be far less painful by acting now than it will be if ultimately we continue to do nothing and the entire system collapses and everyone loses.

WINDER: In an earlier conversation I had with Carlton Dufrechou, Pontchartrain Basin Organization, he had mentioned that because the devastation has reached the point that it has and there is really not much barrier left between the Gulf and New Orleans, or other populated areas, that every time a hurricane hits that, those sweet spots so to speak, that it's going to cost the taxpayers somewhere between 20-50 billion dollars per storm, is, do you think, would you agree with that?

STEVEN: Well, my friend Carlton is far more educated when it comes to the economics of storm impacts, when you look at the investment it's going to create when these communities as we saw in New Orleans and much of south Louisiana were devastated by Katrina, and then you look at what happened in the southwest portion of the state where you saw entire communities devastated by Rita. The price tag currently in place right now for the rebuilding efforts in New Orleans alone is approaching nearly 90 billion dollars. And the simple fact is, is that you can take some variation of that depending on the degree of impact of any range of storms from a Category 2 to a Category 5 and get a very good gauge of how expensive it is to rebuild, reconstruct, and storm proof some of these communities in the wake of the recent hurricanes. And the question that often arises is number one, why should we continue to reinvest in these communities that are obviously so very vulnerable to storms from the Gulf of Mexico? Well there are a couple very broad reasons that I can give you. Number one, you look at the productive fisheries that exist here in coastal Louisiana, not that just supply seafood to the rest of the nation, but also provide a very protein rich food base for much of our other cattle crops and pork farms and chicken farms. You look at the vast mechanism of port systems in coastal Louisiana that are five of the largest 15 ports in the United States, representing together the largest port complex certainly in this hemisphere, and the

access that they provide for foreign goods to the heartland of this country. You can also talk about the oil and gas produced and brought in through the coast of Louisiana. Nearly 33% of the oil and gas consumed by Americans either is harvested in coastal Louisiana or is brought into this country through the wetlands of coastal Louisiana. So just dealing with those three resources, the navigation, the oil and gas industry, and certainly the fisheries industry, it becomes very clear how critical coastal Louisiana is to the rest of this country. We like to joke that New Orleans was founded for a reason, because it's such a strategic point on the river. So I hope that answers some of the questions as to why we should continue to invest in these coastal communities and Louisiana after storms. The question then becomes how do we invest smartly? Certainly I think the response to hurricane Katrina indicates that the smart response is not to wait for a hurricane to strike to impact these communities in such a negative way that the cost is astronomical. I like to talk about sustainability of a coast; well that model of protection and investment isn't sustainable either. And that's why we've got to be a lot more proactive. There are much more cost effective ways to reduce the risks that these storms pose to these communities by fully restoring a coast, by smartly integrating the placement of our levies, and then by also adapting our communities and our cities so that they're more resilient to storms so that if we do experience a levy breach or an overtopping it doesn't destroy entire cities that in fact there is the opportunity to elevated some of these homes to harden some of these business facilities so that there's a redundancy built into the system of protection. The investment in those types of systems are far less than the cost of trying to recover the damage inflicted by these storms if we wait and take a much more reactive posture, rather than a proactive posture.

WINDER: So an ounce of prevention is worth a pound of cure?

STEVEN: I think that sums it up a lot better than I did in the past dialogue, Winder.

WINDER: Well, and the question is, alright, so this is not news, we've known that the problem has been here for, we've known about this really since the early '70s, but things are still not moving at a pace that will allow it to happen without further trauma, why do you think that is?

STEVEN: Well, Winder, you bring up a very good point, we've known about this for quite some time, but I will tell you that here today in our direct conversations with the Core of Engineers this week, in talking about their comprehensive planning effort, they still don't have either a model or a mechanism to measure the benefit of healthy and restored wetlands to dampen storm surge. They don't have, again, the technical expertise to know exactly how helpful a healthy or wetland area outside of a levy system can help, not only dampen storm surge, but also reduce the burden of wave action on these levies. And they ultimately also don't have an accurate assessment of how, again, these structures, communities, and developments behind levies can be storm proofed so that all three of those things can then add up to a sustainable system. We've relied on levies for so long because it's the only hard, conservative estimate of what the Corp can establish protection guidelines based on, it's the only thing they're familiar with. Earlier in our conversation I talked to you about some of the challenges, not just to restoring the ecosystem, but to transforming the agencies that are responsible for providing protection and restoration in these areas. And this is a key component, is that just now (cough), excuse me, we are beginning to recognize the need for these three things to work together. We talked about the economics of this, it's certainly not economically feasible to construct large levies that will have to become taller and taller on a sinking coastal ecosystem and expect that over time that those will be not only be cost beneficial

but also be sustainable. That ultimately we have to integrate those three things that I've talked about and that Carlton likes to refer to as the multiple lines of defense: the wetlands outside of the levies, the levies themselves, and then the elevated structures and pumping stations on the interior of our communities. Together, those things start to present a cost effective mechanism for being proactive in how we create resilient communities and quite frankly the reason we haven't been successful is we've not approached it from that level of thinking. And it wasn't until the devastation of the hurricanes that the light bulb really went off. That if we don't look at the natural benefits that we have that are fairly cost effective, that reduce the burden on our levies, and start to redevelop our communities more smartly, if we don't do those things, then relying on these typically separate efforts to construct higher levies or build bigger flood ways aren't going to be acceptable and they're not going to work. So ultimately I think that's where the challenge lies as we move forward, that answers why we haven't been able to be more successful in the past, but it certainly shines a very bright light on what our path forward should be.

WINDER: Well now, it's almost inconceivable to me, the Corp of Engineers is populated with some smart people, it's almost inconceivable that they don't grasp this, do you think that's just because of the culture of the organization?

STEVEN: Well, I think so, I think that by their nature the Corp is compelled to evaluate these large public works projects with some degree of certainty. That's how we've set up funding within the federal budget cycle that projects are evaluated on their worthiness based on their cost and the benefit that they will provide. And it's very difficult to pin a cost on or to pin a benefit on a restored and healthy landscape if you don't understand its ability in very clear terms to dampen or reduce storm surge, if you don't understand the vast network of economic investment based on productive and healthy fisheries and wildlife and waterfowl. Until we can quantify those things or until at least the Corp can be given a different vision or a different model for how it evaluates projects and that starts with leadership in Congress and the President of the United States. Until we can direct the Corp to think on those terms and not their traditional models of certainty of cost versus certainty of benefit yields either an acceptable or an unacceptable project, until we can create a culture within the Corp and within our federal leadership that is more visionary and proactive, we will continue to face the same challenges in how we determine which projects are moved forward and which are simply not clearly definable in terms of their benefits and their costs.

WINDER: So how do we accomplish that?

STEVEN: Well, it starts with vision, it really does. It starts almost at the state level, at the community level, by demonstrating a willingness and commitment to integrate these things. And that consensus building, which is something that the Coalition has been working on for the past 2 decades, has to translate into political action. It has to paint a picture for the leaders of our country and the leaders of our state that the status quo for the past 20 years is not going to be acceptable, it's not sustainable. And we have to give them the courage to embrace bold visions for the challenges that, not only are we going to face here in coastal Louisiana, but coastal communities across the globe are going to face. And that relying on these traditional mechanisms has been unsuccessful in the past and it will continue to be unsuccessful in the future, especially in the face of rising seas and a changing climate. That we have to embrace bold leadership that brings together these different and distinct agencies with overlapping missions, puts them in the same and

doesn't constrict them or confine them with cost or with known technologies, but encourages them to think boldly, out of the box, to embrace the natural environment, together with the most innovative approaches that we have as well as with the very traditional ways in which these coastal communities existed to begin with. I'm so proud of the fact that I come from Louisiana because it represents a culture and a type of people that lived on a dynamic landscape for centuries. These are people that adapted to a changing environment; because of its abundant resources, they stayed here. But they learned how to live within the laws of the environment that benefited them so much, and until we go back to those traditional ways of thinking, both at the community level and how we, develop, and at the leadership level and how we utilize these tools to create a blueprint of what's going to be successful in the future. Until we do those things we're going to struggle to come to terms with what is a rapidly degrading ecosystem and a rapidly changing environment.

WINDER: Now aren't people's economic positions and their viewpoints at odds sometimes with that?

STEVEN: Certainly. Certainly there are many in Louisiana right now that continue to place a high priority on continuing to develop, whether it be a navigation system, an oil and gas system, or urban development. As many people do in every part of this country because growing the economy of this state is such a priority for so many people whose lives are tied to this coastal system. That is absolutely one of our most basic human responses to this. I can only hope that the severity of the circumstances we're in right now starts to impart a little more vision, a little more sense of self sacrifice for a larger good. And I think that we've started to see that, I think, as I speak to some of the cultural traditions in south Louisiana, it's a very family orientated and family focused community here. And what you see is people who have wanted to hand down to their children and their grandchildren the same prosperous and bountiful environment that they inherited from their parents. And that sense of stewardship, I think, is ultimately what is going to cause people to reevaluate, is it more important for me to think about my immediate and current condition or is it more important to me to evaluate what tradeoffs are acceptable so that future generations can enjoy the same success that we've enjoyed. I think that becomes part of the real question here, because there are tough decisions to be made, there are going to be very difficult changes for people in coastal Louisiana. But until we can commit ourselves to that sense of stewardship and recognizing there are going to be short-term sacrifices to protect long-term gains, many gains which we ourselves will never see in our lifetime. Until we can embrace something that is bigger than ourselves and our immediate concerns, we're going to continue to struggle. But I've really been bolstered by the posture I've seen both in public meetings, in meeting with leadership in these different parishes and communities that recognize that and seem to grasp that.

WINDER: This seems to also still be a little bit of living with your head in the sand kind of thinking, as Mike Tidwell said in "Bayou Farewell," and was echoed in a talk I had with Kerry St. Pe, said that in a deteriorating ecosystem, often the productivity goes up until the exact moment of collapse of the entire ecosystem, that seems to be what we're experiencing in Louisiana right now, it's more productive than it was because of the deterioration.

STEVEN: Well, again as I pointed out, I'm not an economist and I'll also proffer that I'm not a scientist, but the basic explanation can be seen in a very common example, fisheries production. Fisheries production generally has been correlated the amount of what has been described as marsh edge, meaning that interface between water and a wetland area. And as we start to see this

system degrade, what we're finding is what was once intact marsh, that was consistent across the coastal zone, is now being broken down and as it's broken down, more water and more areas of open water start to infiltrate, which in fact creates more marsh edge. And that marsh edge is what is so productive in terms of a nursery and feeding ground for many of our coastal fisheries. So what you're seeing is that as the coast, in effect, collapses and we actually start to see the degradation of large pieces of what were once intact marsh start to fall apart, you're actually creating to some extent in the short term, more habitat area, simply because of the nature of the deltaic process. But what ultimately happens is if left unchecked is that these areas of open water start to spread and pretty soon you have less and less marsh edge because the marsh is in fact subsided or turned completely to open water. So, I think that is what can best describe this increase or at least level of productivity that we currently see indicating that we may in fact be on the edge of a complete collapse if we continue to allow open water to transform this landscape.

WINDER: And as I understand it, it's not going to take very much longer if we don't do something as you said, bold, now. In just a very few years we will, there will be nothing left and therefore, nothing to build on and it will be virtually impossible to recreate something from nothing.

STEVEN: That's correct, in fact, scientific reports can give you a varied timeframe but most agree that unless we see dramatic and urgent action within the next 10 years, we may reach a point, of effect, no return. We may reach a point where it will be so cost prohibitive or so difficult, if not physically impossible, to restore these areas that we simply have to draw a line in the sand and say this is where our coast is now, this is what we can afford to maintain. This system is so vast and so interconnected, that I think we're reaching a point at which that unless a strong commitment is made we're going to start making even more difficult choices. More difficult choices about where we relocate to. How much of our coastal habitat we're going to accept as lost. And those are very real questions that I think have to be framed in the context of rising seas as I said before, that are certainly going to accelerate that time frame. Many of those estimates don't necessarily take into account even the most conservative rates of sea level rise. When we add those things and factor those things in we certainly have a very small window in which urgent action has to be taken unless, or else we risk the collapse of the most magnificent deltaic landscape on this continent.

WINDER: Well, and also with the change in the climate there are more storms, there are bigger storms, the result of the storms is getting worse and worse and so this whole thing could be exacerbated beyond anybody's projections at this moment. And so to me it seems we have, it's almost like we need an effort as if we were under attack and have a focal point with this problem like the CCC in the '30s where we galvanize the nation and send a vast amount of people and resources and equipment to shore this problem up very quickly otherwise it, I mean, it could happen in a very few years.

STEVEN: Well, Winder it's interesting that you mention it in those terms, there was a public awareness campaign almost five years ago designed to generate national awareness of what was happening in coastal Louisiana. It looked at a couple of different interesting message points, number one, coastal Louisiana since the 1920s has lost nearly 2,400 square miles of land, this is an area comparable to the entire state of Delaware. Now if a foreign enemy had invaded Delaware and had effectively taken it away as part of the United States, you certainly would have seen a vast

and immediate response from the federal government, I think there's no question about that. When you think about it in terms of this land in coastal Louisiana the size of Delaware being taken over or converted to open water, no longer being part of the United States, I think you see a similar need for the level of response we would have if that were happening in the Midwest. I think you have to have, this is a national problem, we've talked about this in context of what coastal Louisiana contributes to the national economy, we need to talk about it in terms of the national commitment to coastal Louisiana. These aren't problems that are unique to Louisiana when we think about natural disasters, we've made commitments to California when struck by earthquakes, we've made commitments to the west when they're struck by wildfires, we've made commitments to any number of natural conditions throughout this country that occur in these geographical areas and the commitment to address these needs in coastal Louisiana should be no less, in the face of strengthening and more frequent hurricanes, than has been our commitment to any other of the natural disaster uncertainties we deal with in the rest of this country.

WINDER: Somebody said one time that the reason the Everglades were being saved, was it's in one of the most visible tourist locations on the planet, but who goes to southern Louisiana?

STEVEN: Well, you know that's an interesting question. I think that southern Louisiana is perhaps driven not only by the economy of oil and gas and by the economy of ports and navigation, but by the economy of tourism. New Orleans, the most productive economic asset that New Orleans has is in fact tourism. You look at the great food, the great music, the great art, architecture, any number of things that inhabit one of our country's oldest cities in New Orleans. And certainly I think the argument can be made that tourists often frequent New Orleans, but maybe they don't frequent the areas outside of New Orleans, I think that certainly might play a role in lack of awareness. But let's be very frank as well, Florida's had a very powerful effort underway to talk about the Everglades from a national perspective, they have a tremendously large population which, you know I think, earns them a larger political voice in Washington than we have had in coastal Louisiana. And often times in coastal Louisiana we've been willing to make these tradeoffs, and no one would doubt this, for our own economic gain, that we've been willing to accept the burden of oil and gas because it employed our citizens. We've been willing to accept the burden of navigation canals crisscrossing the coastal wetlands of Louisiana because it benefited local jobs. I think those are things that need to be brought to the attention, not just of people of Louisiana that start to take this ecosystem more seriously, but to people across the nation that when they visit New Orleans the food that they're eating comes from these wetland areas, the music and the culture that they are experiencing has a direct relationship to this landscape, that much of New Orleans has its soul really embedded in the river and this coastal ecosystem and without it, New Orleans might as well be just any other urban city that isn't known as the unique cultural gem that it is today.

WINDER: Right. So what do we, the average person living in Iowa what, I mean, they're not going to consider this unless they're educated properly as a threat to their well being, how do you suggest we go about this?

STEVEN: Well, Winder I hope some of your listeners are in Iowa today. I'm a big Hawkeye fan myself, but I think that the issue is how do we demonstrate that much as any other region of this country contributes something to the whole that is absolutely essential to make this country as successful as it has been. That the Gulf south region, the Gulf coast region, certainly has an

abundant source of resources that have committed to making this country very successful. When you think about the impacts, when you see the spike in fuel costs after a hurricane, when you recognize that much of the northern part of our country relies on heating oil and fossil fuel products that come through or are developed in Louisiana, when you feel that pinch at the gas tank, those are certainly impacts in the immediate lives of people who don't necessarily live here in Louisiana. And those are things that I think the everyday citizen is concerned about. I think it is certainly climate change becomes a factor and how climate change will impact many people and the challenges that we face in that regard. I think these are all part of a national dialogue that when brought home to people's front doorstep and they start to understand exactly how their grocery bill is going to be effected by more expensive products being transported through a very fragile navigation system. When they start to think about the cost of gas going up or the cost of heating oil going up, any number of these things have roots in what is happening here in Louisiana. And I think if we can deliver that message I think people have been willing to make sacrifices for those things that are not immediately in their backyard but they recognize as critical social components and critical economic components for this country. If we can deliver that message I think we can be successful, again, in taking a proactive approach to this, not going back to the country after a massive storm and saying we need massive amounts of money to rebuild something that we weren't very proactive about protecting in the first place. So I think it's going to also take a commitment from Louisiana to demonstrate that this is important to us and this is what we're willing to sacrifice. And we hope that the rest of the country hears that message and believes that this is a worthy issue for them to make small sacrifices for as well.

WINDER: So for the person in Iowa, what can you suggest to them to do right now to make a difference?

STEVEN: Well, you know I think, much of the action we've seen from the federal government in recognizing the importance of places like the Everglades or Chesapeake was stemmed not just by efforts from Maryland or from Florida, that in fact they were recognized as national icons, that people in Iowa, or North Dakota, or West Virginia, in fact communicated to their leadership in Congress, that this was something that was important, it was important to the country and it deserved their attention. There are many ways in which people can get involved. One of the easiest ways and we make this a point to make this available, not just to citizens of Louisiana, but citizens all across this state is to visit one of the many websites that deal with coastal Louisiana. Our organization's specific website is www.crcl.org or you can visit www.mlods.org and that stands for multiple lines of defense.org, mlods.org, and we have petitions set up that will in fact allow people to simply sign a petition that will be direct to their congressional representative or senator that expresses an interest from heartland to the west coast to the east coast, that what's happening in coastal Louisiana is important, not just for Louisiana, but for the rest of the nation.

WINDER: So crcl.org

STEVEN: Correct.

WINDER: And people can go there and make donations and send letters or volunteer and get involved somehow.

STEVEN: Absolutely and one of the things we're excited about is we encourage people who visit Louisiana for the great food or for Mardi Gras, to check with us, see if there's an opportunity for you to come out into the marsh with us and help replant a coastal ridge or help do some shoreline stabilization along one of our bayous and see what's really happening here. It's truly one of the great experiences, not just of New Orleans, but of Louisiana that we would certainly encourage. So come down here and volunteer, make a contribution of your time or your money, but certainly take two minutes to make a commitment to your congressional representative or senator that this is important to you, wherever you live. And hopefully that message will get across to the federal government.

WINDER: Well, that's a pretty good message. What are you seeing in, from the legislative perspective from Louisiana and on the national scene, are you beginning to see this take hold?

STEVEN: I think so, I think some key things have been done in Louisiana to address this. Number one, we've consolidated the offices of Natural Resources and Transportation and Development, which allowed us to create an effectively new comprehensive agency to deal with this, the Office of Coastal Protection and Restoration, to deal with all coastal issues. As some of your listeners may or may not know and this is another example of what Louisiana has done, as part of a negotiation with the federal government, the federal government has agreed to redistribute some of the oil and gas royalties, developed in federal waters, to the state of Louisiana. And in exchange the state of Louisiana has committed that all portions of those royalties will be directed to the Office of Coastal Protection and Restoration so that those monies can be reinvested in the coast. Those are two small things that have happened, and I say small things, those are apparently small things but they have tremendous impact on our ability to not only fund what we need to do here but to do it in a coordinated way within our state legislative and government structure. The other thing that has happened, and this is more to the federal level, is that I think we've certainly seen a greater degree of recognition of the urgency with which these things need to move forward. After the storms we saw specific congressional language that charge the Corp of Engineers with developing comprehensive ways to do this restoration and protection work. We've seen a willingness of Congress to fund the initial studies that need to be done in order to move forward to construction. Perhaps an area where it's lacking is, I'm sure many of your listeners have their own thoughts about, was the federal reinvestment and Recovery Act, or the Stimulus Bill, that provided billion of dollars to many of these different efforts throughout the country both to stimulate the economy, create jobs, and address critical infrastructure needs, both urban infrastructure and green infrastructure needs. Louisiana was not eligible for those dollars in terms of coastal restoration simply because not enough federal dollars had been spent to develop our plans to the point where they were construction ready, or as the federal government like to say, shovel ready. That is the irony and the challenge that we face, is enough of an investment from the federal government to move these projects forward through to construction, that's the challenge we face at the federal level, despite the action we've seen to move these plans forward, we're now getting to the point where dollars are needed to put these projects on the ground, to build these things, as we said in our previous conversation, within the next ten years, if we stand a reasonable chance to achieve success down here.

WINDER: Well isn't it a multi-tiered approach? I mean, don't we have to do some emergency things now to protect the population and the cities and then look to the long-term at the same time down the road 50 or 100 years?

STEVEN: Absolutely. As been pointed out by my organization and by Carlton's organization, the Lake Pontchartrain Basin Foundation, strong support exists for immediate action right now to look at how our communities are rebuilding or redeveloping in the wakes of these storms. There are opportunities that could be done tomorrow that would create more resilient communities. And when I say resilient I mean the ability to recover in a more expedient and cost effect way if by chance we experience another major storm in the next decade. Those things are elevating—

WINDER: IF?

STEVEN: —well, in the next decade, it's not a question of if on a large time frame, but when, in the immediate time frame we're hopeful that we can catch a break between these last four storms to give us an opportunity to, again, go into these communities and elevate homes, improve the pump stations and the drainage, those are things that can be done tomorrow. Those are things that can be done within months. The next phase obviously becomes our ability to quickly construct both levies and restoration along the coast of Louisiana. Levies can be constructed fairly quickly. As well as marsh areas that can be replenished through mechanical means, using material and sediment and soil dredged from the Mississippi River to rebuild some of these natural ridges and marsh land bridges that existed. Those things can be done immediately, and I say immediately within 5 to 10 year time frames easily. What we then have to do is look at the third phase, which is those things that will sustain this area for not just centuries, but hopefully millennia. I mean, we talk about how long it took to build this landscape, we're certainly not going to put it all back together within a lifetime, it's going to take a long-term commitment to do it in a way that's cost effective and as I've mentioned before, that's why we place such an emphasis on looking at the natural hydrology that originally created this place and putting in place at least initially, the mechanisms that can start to recreate that process and sustain it over centuries.

WINDER: What took 6,500 to 7,000 years to create the delta, we ripped the whole thing apart in about 75 years, isn't it conceivable that within a few years, with the kind of effort you were describing earlier, we could really put this thing back together enough to save it?

STEVEN: Well, I think you're absolutely right. You know, very often, we use the analogy down here of a patient in a hospital and right now there are critical issues with the vital organs of this patient, the integrity of the marsh, the susceptibility of our levy systems, and vulnerability of our communities, that's effectively having brain failure, lung failure, and heart failure all at the same time. We can certainly do some things to stabilize those conditions. But then ultimately what we're talking about is a long-term commitment to an effect then rehabilitate the patient, the make sure the patient has enough healthy body weight, has a good diet, so that the patient can then live a much longer life. So in looking at it from that approach, we have several critical steps we face the challenge of in the immediate 5 to 10 years to reestablish these communities, these levies, and some of these wetland areas. By doing that, that buys us some time to put in place those more natural processes that can carry us through to a system of sustainability over time. And when I say over time, obviously we're talking about centuries here, not decades.

WINDER: Well, it seems to me the way to really accomplish this is word of mouth and grassroots and having everybody who hears these conversations ask other people to not only participate by volunteering, or sending letters, or giving money, but also to spread the word to other people that they know so that this process can continue. And like a positive contagion,

spread across the world. And then, I think that once we have accomplished this task and/or are accomplishing the task now, that we can export what we have learned to all the other endangered areas in the world, which is, as I understand, pretty much all of them, and make a real difference. Because as I see it if we lose our oceans, which is possible if all the estuaries die, we're done.

STEVEN: Yeah, Winder, that's appropriate for you to put it in that context, I think two things to address what you first said. I think when I go out and I talk to people about what I do as a coastal advocate for Louisiana, I certainly ask them to make a financial contribution to our organization, I certainly ask them to be aware of what's happening here in coastal Louisiana and be as informed as they can be. But at the end of the day, if they even, if they're not in a position to do those two things, I ask them to go home tonight to your family at the dinner table, to your neighbor in your front yard tonight as you're walking home, and ask them or tell them about what you heard today about coastal Louisiana. Ask them if they know what's going on down there, or if they've heard, or if they understand what's happening. That is the only way we're going to stimulate real dialogues, not just about what's happening here in coastal Louisiana, but the impact it is going to have throughout our planet. And the interesting thing that you bring up is this is not just a crisis but it's also an opportunity. For decades the Dutch have prided themselves on their commitment to storm protection. As a result they built entire industries that have been tremendously successful for their economy in exporting a knowledge base that is so desperately needed right now. Coastal Louisiana has that same opportunity, that we don't always have to see dire forecasts of gloom and doom but we can look at this as a challenge through which we are fortunate enough to have a resource in the Mississippi River to deal with this, but to also develop a knowledge base and an expertise about how these natural ecosystems are going to be so valuable in the future of uncertain climate change and rising seas. I think that when we look at those opportunities we recognize that there's a benefit to be gained here, not just in protecting coastal Louisiana, but in also a benefit to be gained by any number of communities, coastal communities around this planet that could benefit from unfortunately the tragedy we've had to endure here.

WINDER: Well, in other words, another way to look at that I think is that going green can be very profitable.

STEVEN: Well, there's a reason that green is also the color of money. Whether you're saving it or whether you're creating it, I think we have to envision new economies. New economies based on a green infrastructure. The value is inherent in protecting what we have to preserve jobs and not necessarily waiting until we've lost these systems to try and then create new jobs.

WINDER: Yeah, wonderful. Well I think we're about running out of time here and I very much appreciate your participation in this, is anything you'd like to leave us with as we close this conversation?

STEVEN: Well, Winder, I think we've touched on a lot and I want to thank you for drawing attention to this, I think if we have more people like yourself in a position to get this message out publicly, we'd receive far greater attention and achieve far more success and it's going to take people taking an active interest in this and telling others about it. I'm just thankful that you've invited me to tell the story, that you consider it important enough that your listeners know about it and together I think that we could do great things.

WINDER: I totally agree. I think that the greatest natural resource that we have is us. And as we tap into the parts of ourselves that are the most connected and dynamic that we can do anything. I don't think there's anything we cannot accomplish if people just decide that it's time to do it. And I think that it's absolutely time to do this, so I think it's appropriate that we're having these conversations and I'd like to thank you for being diligent and hanging in there and doing what you do because if it weren't, if it isn't for people like you, then this is not going to happen. So, we're all in this together and I think it's time to galvanize the world community and step up and fix these things. Because if we fix this one, and we will, we can fix all of them, there's nothing we can't do and now's the time to get it done.

STEVEN: That's very well said Winder.

WINDER: Well thank you sir, I appreciate the time and the chat and I look forward to it again in the future.

STEVEN: Sounds great Winder.