

GLOBAL SUSTAINABILITY

COMMUNICATING THE VALUE OF SUSTAINABILITY

Professor: Carl Herndl

Guest Lecturer: Cynthia Barnett

Well thank you so much. It is a real honor to have been asked to speak at the Patel College. I wrote a little bit about the Patel College when my first book *Mirage*, when the idea was getting started, as this hopeful idea that this could be a place to educate a new generation of sustainability leaders. And it's a great honor to speak here and, so, thank you, Carl and Lauren for inviting me. And Carl tells me that you are not professional writers and not aspiring to be professional writers. Congratulations!

I think that's great. And so when he told me that, and I also have to admit I read some of his lectures and saw the difference in language between academic rhetoric and women on the street, journalism and writing, so I thought I would just take five minutes to give you, boiled down, my best writing advice from 25 years in journalism, just five minutes of it, and so we could have a starting point like you need this. You need this in order to write well about sustainability. You need to be able to write well so I just made a couple of slides that are everything I've learned in 25 years, boiled down to five minutes. And I'll also leave you with. Carl can put it on the website so if you actually find it helpful, you can go back and look. So the basics of good writing-- always the result of good reporting and fact gathering. So in our case, if we're going to be interviewing scientists and policymakers and people impacted by decisions, that is the basic tenet.

If the reporting and the fact gathering are there, the writing comes much easier, right? Number two for me is to tell a story. And the way I've-- even the way I've have arranged this talk tonight, it's a story. I'm going to tell you a little story about my writing life as a way to give you advice about communicating on sustainability. I could never communicate without telling a story. And that goes for writing a book or giving a speech or whatever it might be. The third is have a theme, make it clear, and stick to it through the last word. Think obsessively about your reader and your audience. This is all about-- like when I was thinking about this talk, it was all about you. I try not to think about myself. I try to think all day about the audience no matter what I'm writing.

The next one is mix in the history like a good historian. People love history. Mix in the facts like a good investigative reporter. And finally, think obsessively about your credibility. Fact check all your science. Fact check all your numbers because, as you know, if you get one thing wrong in an article or story or a communication, that can really foil the credibility of the entire piece which would be so unfortunate especially in sustainability communication. So on to the details-- more on the mechanics of good writing. So what I would call Bricklayers English. Avoid pretentious writing. Avoid academic writing. Avoid technical, scientific, bureaucratic, and jargon-y prose. Next, write from the standpoint of real people full doing real things and real places undergoing real consequences rather than, again, don't write from the scientific report

or from the bureaucracy or from the policy paper. Write from people, places, or creatures that are being impacted by that. And all the things that the writers do and that you see in my writing, like scene setting, metaphor, anecdotes, quotes, generally clever writing-- all of that is great but it doesn't work if it's not relevant. So you wouldn't paint a scene or use a metaphor if it doesn't go back to that team that I was just talking about.

Avoid passive writing. I see this a lot among academics and actually, I have a good friend who's my writing partner and he is a historian and he's a really good writer, but I often see that he went back, he fell into the passive, and when I was doing this for you, I read his line, birds by the millions were shot across North America. And so, of course, you want to say plume hunter shot millions of birds across the continent equal to the destruction of North American bison and beaver. You just always want to turn that around and never write in the passive voice. It feels OK when you do it but to the person reading it, it gets boring if you write that way. And last, replace each tired phrase. Anything that you've heard before, the person reading your piece will have also heard it before. And I'm struggling with this right now.

Sometimes I'll right a cliché in my copy and it bothers me and I can't think of a way to fix it, so I write it down and I carry it around with me in my pocket on a post-it note. So right now in my pocket, I was writing about Robinson Crusoe's umbrella and I wrote, Crusoe goes to great lengths to make himself a goat-skin umbrella. And I'm so mad at myself. I'm like, why can't I think of anything better than Crusoe goes to great lengths? So in my pocket, I'm always thinking. I'm always thinking about my audience. How can I write that-- I have a whole book to write by May 1st, but I'm obsessing about that sentence because I don't want one thing in my writing that feels tired, that feels like someone already said it before. So this all leads to good writing for sustainability and I know I totally broke a PowerPoint rule with it. And I'm sorry to do that, but I was so excited about good writing for sustainability, so don't feel like you have to write it down. I'll email it to Carl and you'll have all of it online.

But the main thing is, the basic and the mechanics are always the same. Those first two slides-- all of that stays the same when you're writing for sustainability. But then these are just some of the things that I feel have worked in my work. One is to find commonality with the audience whatever way you can. So sometimes-- like my latest book uses the term America which I don't love, but it's a way to have a call to action to America. And sometimes I write to Floridians. Sometimes I write as a mother. Sometimes I write about future generations. You want to use the language that makes people feel included. Another thing that I tried to avoid is stridency. A lot of sustainability writing is so strident. And I could name names, but I'm not going to because I don't want to be strident. But sometimes you read sustainability writing and the person is just preachy and it's painful. And I think that can turn people off.

On the other extreme, sometimes you read nature writers and they're what I would call la-de-da nature writers-- like, isn't it beautiful? Isn't it sweet? Sort of not tough enough.

So there's this nice happy medium between stridency and la-de-da nature writing, which is good, solid, descriptive nature writing, layered with a lot of facts in that history and investigation. I found I like to write constructively, that is, there's always a negative or positive way to write. I sort of lean toward the positive spin of writing but with an edge--with, again, an edge of investigative reporting or a hard-hitting fact, but not hitting people over the head with negativity. You may have read some of the studies that have been done. If you write or communicate the truth of climate change in the most extreme way that you can, painting the most negative picture that you can, the listener or the audience literally can't hear you. They literally shut down because the news is so bad they can't take it.

So I found it helps to write not in a rose-colored glasses fashion, but with a spin of hope. I find that to be really effective. Quote a beloved historical figure. So for you, today, since you're sustainability students, I'm going to quote Leopold, but if I was writing for a general audience as I am in my new book, I might quote Thomas Jefferson or any number of people you can find. It's OK to make an ethical appeal. I think sometimes we worry about writing about ethics or religion and we shouldn't be worried about that. It's a part of life, of most people's lives, and that's OK. And my whole book, *Blue Revolution*, ends up being a call for a water ethic.

It's even OK to write about myth, faith, and religion. If you read the piece I wrote about groundwater in Enzia, I had a little part about the myth of throwing pennies into a fountain, where we get some of the mythology about groundwater. I think adding details like that and even the funky religious details that you read in my Big Dipper chapter in *Blue Revolution*, that's all OK. That's all part of life and it makes it easier for people to read. Again having fun is OK too, even in topics as serious as sustainability.

That Big Dipper chapter was sort of a weird one for me to have you read because it was less serious than most of the book, but I wanted you to see that it's OK to go find Simon Bar Sinister and go quote a cartoon character even if you could be writing about religion and you could be bringing in cartoons. In my new book, I'm writing about Morrissey, for example. You just want to give cultural references that pull people in. I think one thing that's not so good is to get bogged down in politics or the culture wars. I try-- sometimes it's unavoidable-- but I try to not get bogged down in the he said and she said of politics. It's nice to elevate your material above politics. I'm sure you've heard the saying that sustainability is too important to leave into the hands of politicians.

It requires all of us. So we want to keep the material elevated above politics and I think that too makes the audience feel elevated and you, as a writer, can make the audience feel elevated and let them know how much better we are than people who would waste water and energy and resources, pollute, and so on. Showing people how easy it is to live differently-- I think that's really important. Using economics, which I know you saw in some of your other reading. Using anecdotes. One thing I'll show you in a moment is-- my travels, I try to go around the world and go places that can show people how we can

live differently with a lot less water. Come up with a phrase worth repeating. I do this in my books and I think it's also really important when you speak in public. And I think public speaking for all of you will be really important and that's why it's great to study rhetoric. So when we talk about writing, it's not just written communication but it's also the speeches that you'll give in your career when you're out there. And sometimes it might even be something like a dedication speech for a building, or even a water work or something like that. You can use those little life events to say something that you really want to say and that will stick with people.

So you know how good speakers kind of repeat phrases. You can do that as a writer and you can do that as a speaker. And just a couple of things I do-- I often say it doesn't have to be this way when I speak about water and how we live with water now. And a phrase I repeated a lot in *Blue Revolution* is the Chapter One title, which is *The Illusion of Water Abundance*. I want to get across TO Americans that we are living this illusion of water abundance so that's something I repeat. And then finally, you want to give people something tangible, clear steps toward solutions both specific and systematic. So I think that was more than five minutes, but that was my little writing spiel. So I apologize for that, but I feel like that gets us all on the same page with them some writing tips.

So now I'll go on to the presentation. My first book, *Mirage*, told this ironic tale of vanishing water in one of the wettest states and the way I got to this book was-- Carl mentioned I earned a master's degree in Environmental History--- and I really came to know how much people appreciate history. I had been a newspaper reporter for many, many years and then a magazine reporter and when I wrote this book that pulled together Florida's environmental history with its water future, it really seemed to touch people. They wanted that. They liked that. They like learning about the past and the Cliff's Notes for this book are that we set out to get rid of water and we got rid of too much. So it took me 350 pages to say that but, again, people like the history. So I talk about how we-- the perceptions when we drained all the swamp land. And then I talk about the 20th century. We started by draining swamp land and then we looked to the ground water and started overtapping the groundwater.

So I'm telling those stories to let people know what was happening underground. And I try to use a lot of metaphors and, again, only if the relevant. And one thing I have come to see and I think I talked about this in the *Enzia* article that groundwater is sort of a window into the health of our fresh water and springs, especially, they're sort of our portal to see the health of our groundwater all over the world. There are used to be springs in Las Vegas, even. I don't know if you knew that, but Las Vegas was covered with springs when the first settlers arrived there. And this is just what we do. We go to develop a place and we suck up the groundwater and so this is one of the stories I'm telling about Florida. Again, finding history. Showing them this, for example, what White Springs looked like at the turn of the last century. This is what it looked like at the turn of this century.

This is one called Peacock Springs and William Bartrem, you can see by this beautiful color what made him call Florida springs blue ether of another world. Now it looks like algal brown soup. So you can see why the history is so important, right? You want to show them before and now because if you just came to Florida today, it's all so beautiful and wonderful and watery, you wouldn't really think anything is wrong, right? You have to know the history. This was a particularly depressing assignment, but this story, which I later wrote for the St. Pete Times turned out to have I think maybe more impact than anything else I've ever written.

I had this depressing assignment to give the dedication speech to a dead spring. So this was a spring called Kissengen and they were going to put up a historic marker and declare it dead. So this day, I walked through the dry spring bed with the elderly Floridians who had done cannon balls into the water in their youth. And that humanity, right? Remember I was saying early on, don't just write about the policy or the science report. Find the human beings. This was just such an example of finding-- I found those people who were doing swan dives in the 1940s and I walked with them and it was so incredibly sad to be there with them and hear their stories. And there's no way I could have told the story of groundwater depletion from a report in the way I was able to by being with those people who remembered jumping into the cold water when they were young, so that's really important.

So one thing I really tried to do is not single out an enemy because the enemy is us, right? So I try not to single out one industry. I always try to say that it's our collective use of water, flood control, power production, agricultural, irrigation, and us, water coming to our homes and businesses. So I think that's really important. Back to the politics-- if I do find that I have to write about politics, I try to put it in an historical perspective and show that both Republicans and Democrats have worked on environmental policy and here in Florida, you know, Jeb Bush and Bob Martinez were two particularly strong water governors. I try to put that into its context again because it elevates the conversation.

Otherwise, people get stuck in the muck and they end up arguing about politics instead of thinking about what's best for water. So one thing I like to do-- do you guys know? So many of you are young. You may not know. Do you know that our country nearly dammed the Grand Canyon? Do all of you know that? Do you teach them environmental history in the Patel College? So I'm always surprised at what people don't know about their environmental history and what nearly happened. So I think, in addition to saying what happened, sometimes I'll tell people or write about what nearly happened. And damming the Grand Canyon was one of those situations that I think gives people hope now because if you're trying to change things now, sometimes it feels hopeless. But if you look back and you read some of what happened when this country came very close to damming the Grand Canyon, you know that gives you a sense of hope that people stopped that bad idea.

So I said not to be preachy but I do preach a little bit. So I think it's OK to talk about things when you have facts and numbers and maybe not point a finger at one person. But when I talk about lawn watering, for example, I try to put that in a scientific context. So I interviewed a NASA scientist to try to use satellite imagery to try to figure out how much of the nation is covered with turf grass. And she figured out that 63,240 square miles of turf grass, an area larger than most individual American states, is covered with sod in America. So I used that figure in the first chapter of Blue Revolution and I called all that turf grass our 51st state That way you can write about the problem of irrigating turf grass without pointing to one person or one development here in Tampa. You know what I mean? So that is a little trick. The other thing I think is good to do and I did this in the first chapter of Blue Revolution, I talk a lot about the illusion of water abundance.

And so again, I'm going to let us off the hook a little bit by saying we didn't make this up. This is sort of human nature. This is how we've lived for a long time and now it's time to change. So I talk about Palace, King Louis the XIV and the Palace of Versailles and these colossal fountains, pools, grottoes, and waterfalls. And then I tell this great story that I got in a very obscure gardening history of France. I found this amazing story about these guys-- there actually wasn't enough water at Versailles to keep all the fountains going. So the King had a whole palace staff devoted to running ahead of him during tours so he would have all of his buddies come and then this elaborate palace staff would run out ahead turning the fountains off and turning them back on so there would always look like there was water flowing. So that again, little funny piece of history that makes the chapter fun to read and sort of gives you the context of how we got to live as crazily as we do. And also, if any of you have been to Versailles, if we can start comparing ourselves to them, then we know it's time to change. We better change quickly.

So I sort of use that to explain our current water ethos thought and then I go around the country and show the illusion of water abundance. And the Colorado River is a really good example. It's so over-allocated, that there is no longer enough for all human legal users much less fish and wildlife during times of drought. Now here, I've thrown in a funny photo for you but I have a reason for this.

So I mentioned children earlier in talking about future generations. I bring my own kids into my work a lot and I found that helps me connect with readers. And this was a good example. I wrote a piece that got a lot of attention in the Los Angeles Times after I took my son on a trip to the Hoover Dam and we were just like tourists going to the Hoover Dam. And I knew a lot about the Colorado River and the stress that it's under and I thought, wow, I can't wait to hear what the US Bureau of Reclamation tells tourists because I've read their reports and I know what they know about the Colorado River. So I take my son. There's the giant bathtub ring around Lake Meade. The tour guide never says one word about the stress on the river and in fact, the whole thing was a propaganda tour about what a great system this is and how well it's working.

And so that turned into an op-ed that I wrote for the Los Angeles Times that talked

about my son and talked about the river. And it really works. It really works to, again, get beyond the scientific report, do all of that, have all of that in your writing, but then put in the humanity of this iconic place, right? This is sort of like the iconic American engineering marvel so when you mix that up with motherhood and the State of the Colorado River, it can be powerful. Another place I write about a lot is the Midwest, because again, it reveals that illusion. We have this illusion of our great breadbasket in the high plains when this is one of the most over-tapped aquifers in the world.

Here in Florida, I've written about this sinkholes that have opened up due to agricultural over-pumping but again, I don't make farmers bad guys, because in this case, what's important to note is that no farmers are violating their permits. The truth is that the water is over-permitted. We have, as a state, over-permitted the resource. And so this is what we have to work on. These are all things we can work on. But again, there's a way of writing it where you can show the drama without creating one bad guy because there's really not one evil force here.

And again, that turns people off. You might have seen this. This is the terrible plum that comes out of Lake Okeechobee marring the beaches of southwest Florida and I have to say, I could never write in a way that shows this quite this dramatically, so I really think photography is important-- with the before and after Springs photos too, which were taken by a nature photographer named John Moran. It's important to have the visual before and afters.

By the way, I know I'm probably talking so fast that you feel like you can't jump in and ask a question, but if you wave at me, if anybody wants to ask a question, I am up for it. So all of that reporting that I had done after Mirage and I kind of took the leap and decided to try to write full time about water, all of that led to the second book, Blue Revolution, that turned into a call for a water ethic and the way I got there was covering all those other stories. It became clear-- and you read the Big Dipper chapter-- we can see that the courts are not going to get us out of this situation. We can see by the fact that the groundwater is over-permitted, we know that the regulators aren't going to get us out of it.

There are all these different solutions that are part of the puzzle. but what really emerged for me after specializing in water for a long time, that what needs to happen is that we all have sort of a collective ethic for water. And that turns out to be a good way of writing about water sustainability. It's language that people have really reacted to, and particularly that white paper I handed out to you. I've handed out 6,000 copies of this paper and it's been widely spread on the internet. And the amazing thing is we now, finally, hearing the language come back to me from places like Tallahassee and other places where I never expected that and hadn't seen it before.

So I think the language of the ethic whether it comes to water or something else is a good device. And I think it's important to define things. I'm sure you guys wrestle with

the definition of a sustainability here in the college, but I think it's always important any time you're writing or speaking to define the terms. And this is just the simplest thing I've come up with is making sure the way we live with water today doesn't jeopardize fresh, clean water for our children, businesses, and ecosystems tomorrow.

So I told you I was going to quote Aldo Leopold for you since you're interested in the sustainability. Has anyone read *Sands County Almanac*? How many have read it? One, two. So listen, you need to read this book. It's a beautiful book written by Aldo Leopold in the early '30s and he died, tragically, before it was published. And this book calls for a land ethic. And the really interesting thing about it was that he was writing in a time when the country was dealing with some of the worst of the Dust Bowl and he was advocating, you know, it's not la-de-da nature writing. Its la-de-da nature writing layered with a lot of very factual, good scientific information about how we could live differently.

So he was writing about a land ethic, how we could live differently with soil, how farmers could rotate their crops, and so on. And he laid out this very tangible idea. Many of the things we have done, many of these things we have changed in the last century that has helped us avoid similar dust bowl conditions in the recent drought, which equalled the drought of the 1930s, but the conditions didn't equal those conditions. So again, this is not touch-feely or la-de-da. It's tangible but people respond to it differently because it's not a scientific report or a bureaucratic. It's written in a beautiful way-- anyway, a very inspirational work, I think, for anyone studying sustainability. And I really like some of his language.

This one thing I love that he said, he called the land ethic a community instinct in the making. And that's really what a water ethic is too and I think that's what sustainability is too, especially in a community like ours, where we all care about this and we all want to work on it. This is the community instinct in the making. His son, Luna-- all of his kids turned out to be brilliant scientists-- and his son Luna is considered the father of modern hydrology. He built on his father's idea and I credit him with the water ethic in my book. And he articulated it as a set of guiding beliefs for government large water users and citizens. And I really like that language too. So talk about a family of scientists who could really speak and write lyrically. It's quite inspirational to go back and read their writing. So as I mentioned, I traveled around to show people how easily it could be for us to live differently. And Australia turned out to be an important place. And the reason Australia was such a good analogy for Americans is because they were just as wasteful as we.

Only 10 years ago, they used about 150 gallons of water per person per day. And that's just extravagant and now they've cut that in half so it's always nice, again, to be able to not only give the negative side of the story but to go find some place, even if it's a small place, go find a place where things are working. So in water, Australia turned out to be a really good case study. So I had fun going to Australia and writing a whole chapter about it. And the kinds of things they do you were small technologies. They weren't all huge

technologies like desalination plants but small as in micro-irrigation for crops and waterless everything-- so waterless urinals, waterless car washes, waterless woks in the Chinese restaurants. So these were all things that Americans could relate to. So that's what I would look for when I each traveled to other parts of the world.

And lawn watering-- it's very interesting-- when I interviewed people in Australia, after they had been through their terrible 10 year drought, they said they would never go back to pulling precious groundwater out of the earth to water their lawns. Now they collect it all in rainwater catchment. So that's nice for us to hear. It's nice for us to hear that here is the whole country full of people who live differently. They still have beautiful lawns. They still have a high standard of living but they lived very differently with water than they lived 10 years ago and, again, it was because they had gone through this terrible drought. I devoted a chapter to Singapore as well. And Singapore has a lot of interesting things about it. It was the first place in the world that recycled every single drop of everything that falls on the island, from the sewage to the rainfall.

The one point of that chapter is that if we lived differently with water, we wouldn't have to get to that point. But another very interesting thing about Singapore is how they realize that cutting people off from water had made people feel callous about water. And so they set about to bring children and adults and everyone closer to water again throughout the country in a series of parks and educational campaigns and other things. And they've too have completely changed their water fortunes in a relatively short time. San Antonio is another place I went to in and here, similar to Freedman, I wrote a lot about businesses and the economic argument which is very important for sustainability writing. I went to a Frito Lay plant that I think they were saving like \$10,000 a year on their water bill or something like that with some relatively minor changes. So it was all adding up. All these relatively small changes in businesses and factories all over the city added up to a lot.

Seattle is a really good analogy for us here in the United States because the building on the left is called the Bullitt Center. They're building buildings in Seattle now with the concept of net zero water, same as net zero energy, the concept that a building could actually create more water than it uses. So if I just stood up here and told you that it would be one thing but if I can take you to Seattle and show you the Bullitt Center, it becomes much more personal. So I wrote a big story for Orion Magazine. If anyone is interested in the story, I can send it to you. But it was all about Seattle and how differently Seattle lives with water and particularly, green infrastructure and green architecture.

And so I really like being able to do that, again, going somewhere and showing you something. In the old journalistic parlance it's called show, don't tell. You want to show your readers something, not tell them about it. So I told to leave your readers with something and, in the end, even though I don't like to be too prescriptive in the last chapter of Blue Revolution and you have this in the handout you have, I give a

definition. Here is what a water ethic might look like. Like Leopold said, it will evolve in the minds of the thinking community but here's a starting point. This is the piece I already showed you and this has had, as I mentioned, this has had a lot of traction in Florida. I've been very pleased to see the impact of this paper. It's being talked about now even though I've been handing it out for more than two years.

It seems to have gotten particular traction in Tallahassee lately, this language of the ethic. And I've been so pleased to see that. And then I also wanted to mention to you that even though I never would have imagined this when I was in graduate school where you are, I actually have written for churches and I have spoken from pulpits, which is really strange. I would not have imagined feeling comfortable doing that but there are many faith communities that are so interested in sustainability. And this is the way we can get beyond preaching to the choir. So we are always, as you know, preaching to the choir.

And the important thing, what we have to figure out, is how can we bring our messages to the larger public. And I think churches are a really important way to do that. So I was afraid, at first, of getting too close to the pulpit. But now I do it and it's fine. It absolutely is fine and I've made some great connections with people who are working on creating a water ethic at their church or in their synagogue. So that's been a good connection. And I think we can all do that in our little ways. So, again, I wanted to show you when I speak, I have a wider ethic talk that I give and I often end with my daughter. At left, she's at that Kissengen-- remember I told you about the spring where I walked with the elderly people and they were remembering it-- so now I'm going to show you my daughter in the dead spring. She looks maybe consternated because she's never seen a dead spring before.

And her normal spring pose is flight. And so to me, the one on the right is the picture of the water ethic. And there's this fine line. I don't know about how you feel about bringing children, your own children or any children, into a cause. It always bothers me as a parent when I see a kid in a group of protesters holding a sign. But again, it goes back to relevancy. If your kids already loves the springs and your kid is at the Grand Canyon-- and I mean he was that Hoover Dam-- in that case, I'd feel comfortable talking to audiences about my kids or putting my kids in my book but if you have to force it in some way, that would be the line, I think. That would be when you don't want to do it. If you have to tell them hold this sign or whatever it is, there's sort of a line there.

So people often ask me if I think it'll take an epic event such as Australia's ten year drought to turn Americans toward this water ethic. And the answer is yes. And I think we are there. So these are all things I'm starting to write about now-- historic drought, record rainfall, Hurricane Sandy, warmest on record Summers, Snowmageddon winters, and so on. As I've gone around the country talking about Blue Revolution

I've learned that even people who don't want to talk about climate change love to talk

about the weather. They love to talk about those extremes. They want to talk about the hurricanes. Are hurricanes getting more extreme? Are we seeing more floods? And so this is what has led me to my current book project. I'm now working on a human and natural history of rain. So just like water is literally a chemical bond, I think it bonds as people, and rain, too, gives us a sort of kinship when we're all feeling it at the same time. So this work to try to communicate with the general public on water sort of led me to climate change but also to the question of how I could write about climate change in a new way, in a way that would pull people in. And so this is how I decided-- I had been writing more about weather and climate-- and now I'm writing a whole book about rain. But, again, I am trying to reach beyond the environmental choir so in this book I'm stretching myself to be a little less prescriptive and more artistic.

So I am writing about the rain obsessions of Thomas Jefferson, Morrissey and Toni Morrison. I'm taking readers to Kannauj, India, where villagers extract the scent of rain from the earth and turn it into a heavenly perfume, so this gives me a way of writing about the monsoons but in a kind of a neat way, writing about the smell of rain, to the haunting Hoh Rainforest in Washington State, which is the rainiest place in the continental US, rainiest uninhabited place, Lauren, the Glasgow, Scotland rain coat factory where guys still cut and glue Macintosh raincoats by hand, the Texas Hill Country where people live entirely off scant rainfall, and perhaps my favorite place I've traveled, Cherrapunji, India, one of the rainiest places on Earth, where it failed to rain on me even in monsoon season, so that is turning into a story in itself.

So remember when I started out, I told you that everything I communicate has to be in a story. So I sort of had to tell you that story of my writing life and my career and how I got two this classroom. And so now that I've told you that, I would love to answer your questions if you have questions. If you have questions about what I've talked about or the readings, and I also brought a little bit of the rain book if you want me to read you any of it, I have a bit. But really I'd just like to hear your questions and what you'd like to hear from me. Thank you.

So thank you for that, Cynthia. That was really interesting. I wonder about work that maybe you've done for corporations on reporting on their carbon footprint, their sustainability, have you done that? And how do you do that? And if you did do that or if you were to consult with the company, how would you counsel them in terms of storytelling?

So I wouldn't work for a corporation. No. I'm serious. It's a great question and this is why I don't have very much money. I'm a completely independent journalist and I don't do any consulting work. And I get asked a lot. And that's difficult but I just was always a journalist ever since-- I wrote for my Girl Scout newspaper and my college newspaper-- I've always been a journalist and I'll always be a journalist and I don't consult for anyone. I like to be the one running around reporting on corporations or being the one behind the notebook. Now I have gone to companies like the Frito Lay plant to write about their

sustainability work and I've done investigative reporting on corporations and their water use or their wetlands mitigation banks or various things, but that is strictly journalistic.

I want to ask how you define the power of word? Like, in our lives, we have 10 different kind of words or pictures or reviews and now many people, we are surrounded by a lot of information. How do you define the words of power? How can we when we write something really can let others view us?

Yes. So how-- if I understand your question, you're asking how to make your work and your words stand out among all of this noise around us, among the pictures and videos and the tweets and the Facebook and the social media and the TV and the Fox News, is that right? How do we make our good sustainability writing stand out in that noise? If I only knew. That is what I ask myself every day. It's very difficult. So I really think it goes back to those tenets I talked about in the beginning.

So it goes back to all the good writing. Water, energy, sustainability deserves writing as strong and powerful as the best novel on the New York Times Best Seller List or the best story in the newspaper of that day and it and it's not really happening. So what is important is to keep writing these stories in the best-- and this is just what I tell myself-- if I do the best job I can. I'm trying to write this new book for a general audience, for a larger audience so that it's not prescriptive.

I try to use all those tools to pull people in, like I'm we're talking at dinner, I'm writing about Woody Allen. You know. I'm trying to figure out what are all the new ways I can write about climate and water that will pull in people. I've gone to the ends of the earth to try to find new stories to tell. And I think we have to keep working on professionalizing sustainability writing and sustainability reporting. And it is happening. I mean it does have more cache than it did ten years ago.

It still doesn't get out among the noise. If we were writing about the latest affair from rap star whoever, we would be out with a million tweets or retreats. And that's just not the way it is with sustainability writing but I find that the more I work at it, the broader audience I have. I mean every book has sold better than the last book. Every article gets out there a little bit more. I think if we make it highly professional. If we find the most interesting stories we can tell rather than reporting from the old policy, technical, bureaucratic writing, I think we will get there. I think we will get there. It's a great question and it wasn't a good answer because that's what I ask myself every day.

So on the subject of social media and professionalizing sustainability, do you feel that there is a place then for positive, good sustainability talk on social media? And if so, how do we do? that, because I mean, with the younger generation that's what they're going to follow?

Yes. So I'll tell you my Twitter handle and you can all go home and follow. So yes.

Absolutely. So it works. It works. I'm on Twitter and when I-- OK, what's a good example? You know the Enzia story that you guys read on groundwater. So when this story came out, Enzia tweeted it and I re-tweeted it and it got many re-tweets, and it's really gotten a lot of interest in the story in India. This story has gone around the world in a way it never would have gone around the world if it was a story in an American environmental magazine before the age of social media.

So I actually use the social media pretty vigorously, especially for middle-aged journalist. I use it whenever I write a piece. I put it out there. I have a Facebook page but I also have an author page where I talk about water issues. And I love to engage with those people who are following my book author page because they really care. And it's a whole group of people who I have a conversation with and I also sometimes will run things by them. I may ask them about that Robinson Crusoe cliché that I have.

It's good. It's a good conversation and it's completely vital to a book author, especially someone like me, who's independent. So far I've had relatively small publishers. I've been published by a university press and then a nonprofit press so I needed that social media interest to create more interest in my book. So it's been good for me and it's been good for my books. And I would encourage you all to use it. I use it. But again, I keep it elevated.

I don't even have time anyway but I don't tweet about whatever music I'm interested in or something like that. I keep it absolutely professional and elevated to water. So the people who follow me know that I only tweet occasionally and it's going to be something good. It's going to be something about water that they haven't heard before or a new work of journalism. You know what I mean-- try to not overuse it but use it strategically. Does that make sense? Thank you.

Yeah.

I guess I just want to ask was there ever a point in your writing career or journey that you desired water was exactly what you were interested in?

Yep. And I have expressed this to the class before in previous discussions that this idea of sustainability is quite overwhelming in terms of how many areas that you can focus on and I guess what I want to know is your inspiration or maybe there was a moment or a place that you visited that kind of clicked in your mind telling you that water was it and that was the most important subject and it was the most crucial?

Absolutely. So I wonder if this is true for all of you. I suspect that you all have some inner personal reason why you got interested in sustainability and it might have to do with your childhood and a place that's missing. And for me, definitely that place in my childhood. I am a Floridian and I was around the Suwannee River as a child in the spring. So part of it is that personal experience of watching a beautiful spring fill with algae or

go dry. That's personally heartbreaking. So that was sort of happening in my adult life and at the same time, I was a business reporter but also interested in history. So I was reading history books about how we got rid of water, got rid of water, got rid of water, and then in my day job, I was writing about developers who had become desperate to find water. And I thought, I can't believe the same people who got rid of it all got rid of too much. It was like an irony, like this great ironic point, an ah-ha moment that led to Mirage.

And that was the point. I mean, two years ago I quit a very good day job in journalism because I just had to write about water full-time and that's what I do now. So definitely. There's something. There something for all of you. Sustainability is too big. You can't really go out and say I'm going to be Miss Sustainability but some wonderful, some wonderful something will happen in your soul that clicks. And you'll find out exactly what it is you should be doing and when you find it, it feels good.

And I didn't realize what I was doing before wasn't quite right until I started doing what was right and now, even though I don't get paid a good salary or anything like that, it feels right. It feels right and my husband said the other day, you sleep so well now. Ever since you started writing about water, you sleep so well. He was envious because he wasn't sleeping well and he thought, you, you're doing what you should be doing so you're sleeping well.

I have been to Hoover Dam before. This Summer. It's really great and beautiful. My question is, I know the Hoover Dam supplies water to Nevada and Arizona. Do you think the prime water in Hoover Dam is from Colorado River because I found that one part of Colorado River is dried up? So do you think--

Yes. So the dam holds back water from the Colorado River but it's actually divided among seven US states and Mexico. And the interesting thing about the Colorado River is that when they divided up the river in the courts of law, they thought it was a normal time in the life of the river, but actually the river was the highest it had been in 1,000 years when they divided it up. So then when in the rest of the century it was more at a normal level, now there is no longer enough for the seven legal users, much less fish and wildlife, like I said. So there's a-- I can't remember the chance-- I think it's a 50/50 chance by 2017 that the water could drop so low that Hoover Dam will be incapable of producing hydroelectric power.

So it's a very dramatic story, but it's not a story that most Americans know. They get 20 million visitors a year and they don't tell the actual story. So it's a real, to me, it's a great lost opportunity to tell a story of how we could live differently and how we should be living differently with water, especially in arid parts of the country.

My question actually was building off hers. I was going to ask you about the Colorado River. When I lived in Phoenix, I knew that we pulled most of our water from the

Colorado River but you never heard of anything in terms of how quick it was depleting.

Wow.

And I guess my question to ask you, because I recently came across an article a few days ago about how some states such as Utah and Wyoming might come into agreement with-- I'm from Idaho-- might come to an agreement in pulling water out of the state river now to help lessen the stranglehold with the Colorado River. So my question is with your research and everything, what do you think is the most sustainable measures for the Colorado River to stay afloat especially with Phoenix and Las Vegas and southern Nevada?

It's a great question. And it's a great question that the policymakers and water managers of the West are dealing with now. And then I think the question becomes with the Snake River, where would you stop? Like if you just keep going out to tap the next river and the next aquifer, it would never stop. So the idea-- the best idea is to live differently. And if you've lived in Phoenix, you know that the low hanging fruit hasn't even been picked yet, right? Isn't it like the most unsustainable city in the United States.

So if you see lawns in Phoenix, to me, it's not ethical to tap the next wild river if you're still growing sod, if you still have a sod lawn in Phoenix, or if you're still growing alfalfa as many of the farmers are in that part of the world. So to me it is an emergency. It is dire. But the truth is we haven't done all we can do to live differently. And that's sort of a no-brainer first thing to live differently. And I can send you-- the story I did for Orion Magazine interviewed some people in the West about the Colorado River and some of the untapped ideas that don't involve mining the rest of the aquifer and tapping all the rivers of the West. So I could actually-- Carl, maybe we can put that on your website too, the Orion Magazine story. I'll send it to you.

Why do you think they don't explain to the visitors that--

It's odd. It's so odd because I have sources--

I mean this is a great opportunity.

Yeah. And I have sources in the US Bureau of Reclamation, scientists, who are so eager to tell people the story and to talk about what's happening and they're the ones with the scientific reports and the charts that show what's happening to the river. And then their own tour have a very promotional film that they show. They are still showing the black and white film that they must have been showing that since 1950.

[LAUGHTER]

Which is like really exciting, and all of that gung-ho music, and great engineering

ingenuity. It is really odd that they don't tell the story. I wrote that piece for the Los Angeles Times and I thought surely, someone with the Bureau of Reclamation will call me and something will happen. But I don't know. I need to check into that. This had been about a year ago that the piece published, but it was very odd. They see it. Yeah. We see it as this great lost opportunity but they, for them, maybe they feel it would look like a failure or they don't want to--

Just very briefly--

Yeah.

I was down in the Keys two years ago with my family. We took the glass-bottom boat out of Pennekamp State Park Coral Reefs and I asked him about the declining health of the reef and the effect of climate change in ocean acidification. And the guide said, Oh, no. the reef has never been this healthy. It's beautiful. It's better than it's ever been. And they gave me is essentially the same-- I didn't tell them who I was and what I knew and stuff-- why are you telling everyone on the boat how wonderful life is when in fact you can see the reef dying underneath us. The date is very clear. So I was confused.

And it's not the policy of the Park Service because I've been to other national parks where you do get a wonderful straight story about what's happening to the park. So if you had that happen at Pennekamp then maybe this is a bigger story. That's interesting.

In response to both of you guys, I moved here from Colorado three years ago, and it is a very well known fact, particularly because a lot of people will go to Lake Meade, about the excess drainage, all of the water issues, very public and in the papers all of the time. And I also lived in the Sacramento area and they also knew about it. So it makes wonder if it's, considering we're talking about Phoenix and probably more primarily, L.A., that they don't want to release that information because that's the area that wants it so badly in demand because they don't have their own sources. I imagine it's probably more bent along that lines, and as far as the Hoover Dam aspect of it, have you learned about that they're selling, and I mean selling, the great achievements of our Army Corps of Engineers? But it is actually very, very well known fact in the southwest.

So you're right. People who live in Colorado know and especially people in Utah who are now so worried about their ground water being pumped by Nevada. But what we're talking about is this incredible opportunity of 20 million. If I remember, the tour was not cheap. It was at least \$10 or \$20 to take a tour. And if you're that curious about the world that you would take a kid or somebody to the Hoover Dam and pay money to take a tour, then you'd be open to whatever you're going to learn and that's the shame of the lost opportunity because these are people from outside the region who could really learn something about the need to live differently and to live more sustainably.

I work for the Sarasota Bay Estuary program and you did a presentation for our

watershed symposium--

I did.

--not too long ago. So I'm a big fan. Anyway, so I have to do presentations a lot to neighborhood associations and just this last Saturday, I did a presentation to about 100 people that were mostly snowbirds that came here. So there's about 100 people in the room and I asked if anybody was from Florida and no one raised their hands. So I kind of struggle with that a lot to-- how do you connect with people that aren't here all the time and how do you connect them to really value the water and the watershed and pollution and all of that when really don't have that connection and sometimes you feel like they don't have the history or the knowledge of this area?

Yeah. Yeah. I think that's a good question. And I think that where all we are all from somewhere and we all have to deal with this issue of sustainability. And if they live in Sarasota, they really love the beach, they love nature, they love the bay. I would try to connect with them in those ways I mean that's the only that's the only way you can do it. And what I loved about that Sarah set of symposium with what you guys were trying to get across about how every single yard is connected to the day. And I didn't know about all of those creeks and how that all works. And just this small detail of changing a curb to a berm-- is that right? It knocked off a swale.

Changing a curb to a swale knocked off 90% percent of storm water pollution. I mean, just mind blowing statistics. Those people who are retiring to Sarasota are well-educated, they're smart, they have money. They are going to connect with facts like that, especially in the context of the beauty of nature and the bay and that place. It'll take awhile to get them into the fold, but they will. They will. And that's how you connect with them. I think we're all touched by the beauty of place, especially if we've come to Florida from somewhere else. That is the way to connect with the non-native.

Hi. My question is, because we're so inundated with information all the time and there's always articles being published and all this news coming up about, when you're looking for inspiration for your new book or a new article to come out, how do you go about collecting all this information and these quotes and these historians that you're looking at and all these history books? I guess what's your personal, maybe, process and how do you go about filtering through all that and compiling it into something that can be delivered to the public?

Hmm. It's hard. I was just telling Lauren. I really got bogged down. I have a whole chapter on paleoclimatology in the Rain book. And so I'm not calling it paleoclimatology. I'm calling it Cloudy with a Chance of Civilization. But even know that sounds really fun and hopefully the chapter will be fun to read, I still read every climatology report on Mesopotamia and what happened to those people, and what happened to the Sumerians and the Egyptians and I've actually do read it all because I'm terrified of not

getting it right or not having the credibility. I want to get the science right and only once you understand the science can you pull in that fun stuff.

So I do read all of the academic reports on whatever chapter I'm working on. For example, in the Rain book, I do have the chapter on paleoclimatology that was a really hard chapter to write, but now I have a really fun chapter on rain and creativity which is all about musicians and poets and filmmakers who were inspired by rain. So I think the way I deal with it as a reporter and writer, is also the way I'm trying to make it more interesting for the reader which is to, every time I have a hard chapter, then I'm going to take a little break and write a fun chapter about rain and creativity. Or I'm actually writing a whole chapter about raincoats but I'm still going to get you to climate change. I'm going to tell you about Macs and then I'm going to tell you about climate change and I hope it all works out in the end. But I don't want you to think-- I actually had you read a relatively flip chapter of the Blue Revolution book, but I don't want you to think that I had to read every single report at the time on the Colorado River or the water wars to get to that voice of knowing what you're talking about but being able to have a little fun. You've really got to try to read it all but not everything on the internet. I'm talking about everything in your academic library.

So I was pretty floored by your statistic about the percentage of acreage covered by turf. I've never been a fan of grass and I was reading an article about a woman that wanted to build in her neighborhood a garden in her front yard and she was having some--

I read that.

--some lash from the homeowners association and you know she worked through it and she said she never received a complaint from it from any of the neighbors. But she said also that was really surprising to me that some homeowners associations can foreclose on your house if you violate these rules. So it's kind of a silly question, but do you see that this could possibly change kind of the idea that a lawn is--

Yes. So I read that same story. This was the recent one and the quote I loved from that story was when she said, it's OK to have a plastic flamingo but not an eggplant. It was just great. So true! So that has changed and it is changing. So when Mirage came out, which was Spring 2007, the homeowners associations still had a lot of power and they could tell people not only to have grass, but what shade of green it had to be. There would be these guys in little golf carts to drive around and take their colors swatch and make sure your grass was the correct green.

So that's not allowed anymore. The state statute has changed to say you are not allowed to make the homeowners in an association do anything that would violate the policy of your local water management district. So if your local water management district is encouraging Florida-friendly landscaping or if your local jurisdictions says it's

OK to have a garden in the front yard, your homeowners association can't say otherwise. They're still acting like bullies because they know all the newcomers that come down, they don't know the law. But the law is now behind people who want to live with a native lawn.

I was wondering-- you mentioned working with churches and places of faith and I think there's a disconnect sometimes between academia and churches and there's an underlying assumption that if it's a church they don't believe in science, which I find--

I know.

I work with the Episcopal church and I find that overwhelmingly not true.

Right. Absolutely.

I was wondering if you have any anecdotes or any stories about working with the church and getting people outside of their church community to work in the general community in areas of sustainability?

Yes so the really good example I can give you, and I might have to email this to you, is the large-- I can't believe the name is escaping my mind-- the large Catholic University in San Antonio. Really? What is it? Is it Saint Mary's? They had a lot to do with the spread of the water ethic around San Antonio and they also have a very important spring on their property. And that's how they got started. They started taking care of the spring and then they sort of helped the water conversation spread beyond the walls of the campus into churches in the community. And so I will tell you that in my experience the churches that ask me to come tend to be those that might be a little closer to academics or have academic members and they include Unitarian, Unity, some synagogues. So they tend to be certain denominations. Although the National Council of Churches did a whole readers guide for Blue Revolution and that was a very intellectual pursuit. And that sort of got out there into a larger church community. So you're asking the question opposite. Usually people think the discrimination is coming from the church, but you're showing that it can come from the Academy and that's important that gets broken down, that both sides, that people within churches and people within universities see their larger commonality and commitment to sustainability. And I think all you can do is keeping working on that. Have someone from a church who headed up their green sanctuary program, have them come speak here at the Patel College and then have people from here speak in the churches who have a green sanctuary program and that will keep happening and that's going to be-- that's how these things spread and it's nice to see. And it will happen.

You mentioned Australia and some of changes that have gone on there in the past decade or so. What did you find were the main-- I know you said the main driver was drought-- but where did the change take place? Was it market forces? Was it policy?

And then, where do you see it happening here in society?

Yes, so the interesting thing and I wrote a chapter about this in Blue Revolution about Perth. The interesting thing in Perth was that it came from the water utility, which is called Water Corporation. They were in a desperate bind because water levels in dams all across Western Australia dropped below 35% capacity. So it was sort of like what happened here in Tampa Bay 20 years ago when there was this terrible scare and water wars and groundwater being tapped out that sort of made Tampa Bay get its act together and build all these alternative sources of water and really start conserving. The same thing happened in Australia but in a larger scale. So that was an interesting case study. If you're interested in that, I would read that chapter on Australia. The Water Corporation really had a big role in helping. They helped businesses make all of these switch-outs and they helped residents change the way they used water.

For a while they did things like making-- they called their wells bore holes-- they made them illegal for a while, but then over time, they didn't have to have restrictions. People just were living differently. So it happened on those levels but it was very much triggered by a water utility in an emergency. And one thing you hear sometimes from water utilities is they can't do that. They can't sell less water because then they'll make less money. And it's just not true. They can charge more for water and they should. It's very valuable.

But there are also other things they can do to actually see-- if you look at water conservation as a water supply strategy, it's the cheapest possible form of getting new water, because if you don't have to build the desalination plant, it's going to be much cheaper at the long-term capital cost for your utility. So they had a very progressive CFO who saw that and it was the same thing in San Antonio. And that sort of helped the ethics spread. Although they did have water markets in the agricultural regions and they do have-- I'm not saying they don't have de-sal. They do have big de-sal cell plants on the coast. But the truth is that people use half the water that they did ten years ago. So that was a nice example. I think that example was also in the water ethic paper that I gave you, the Florida water ethic paper.

Like the Hoover Dam, in China, not all dams established on Long River and Yellow River. These dams supply water and electric power. That's because of established these dams. o are a lot of biodiversity, like plants and animal species.

And people, too, right?

Yes. A lot of species disappear in the world. So do you think establish dams is a good thing or bad thing for humans, for the earth, the environmental?

Yes so I think the trend in the United States has been away from dams. There's sort of all of these lessons from places that made mistakes and what you wish is that the places

that are growing now would learn from our mistakes and that we would learn from other mistakes. For example, the Netherlands. The Netherlands had this terrible storm in 1953 that killed a couple of thousand people and the response was to build up dikes to barricade the country and to build these huge water works. And over time, then they suffered severe flooding in the '90s because when the rivers flooded, the water had no place to go and it flooded the inland areas.

So the whole human water history is this series of thinking we have to go too far in one direction to build huge things, seeing the environmental consequences of that, and then seeing the pendulum swing back. And it's so frustrating to watch it play out in a new place because it's almost like people have to make the same mistake over again. They can't or they won't learn from other places. And so, yes, the United States kind of got away from that era of big dams in the early '70s. And the nice thing to see-- people who were pro-dam at that time said, we absolutely have to do this. We won't survive if we don't dam the Grand Canyon and that wasn't the case. We are surviving and hopefully will continue to live differently with water. But unfortunately, it's very hard for people to-- people want to do their own thing. They want to do their own thing and that's human nature, right?

So as I was reading through this chapter in the Big Dipper, I noticed a lot of these issues had a mirror at an international level-- allocation of agricultural versus urban use and damming a watershed to prevent it from going to another country-- did these sort of issues, did you think about it on an international level too and then purposely decide to focus on the US?

Yes. Yes. I did set out to write a book about the United States. There were a couple of reasons for that. One, there have been a lot of global water books written. Actually there's been a lot of-- five US water books came out the same year as mine, so if I know that, I'm not sure I would have written it exactly that way. But the theme in Blue Revolution, which which I think comes out more in the first chapter, is this theme that we were blessed with this incredible resource.

We had it and we're squandering it. And that is a very different situation from always being water-stressed. And it's almost like, how could we do this to ourselves? We were very, very lucky. So this is sort of the theme of the first chapter and the second chapter. We were so lucky to have these water resources, the groundwater under our feet and I counted up the number of miles that the rivers are running through the country, and it's just enormous. And that we could get ourselves into this situation with that bounty seems to me another very different story than in those parts of the world where children are dying every day for lack of fresh water. It makes you want to shake somebody and say, c'mon, are we're really doing this? We don't need to live this way. This is something we can get right. This is not as intractable as climate change. This is something we can work on and here's how. It's sort of doable thing. And so that's the book I wanted to write. The Rain book is more global.

Just a quick question. Have you ever read anything by Jenny Price?

I think so.

Just to give some background, I read a really awesome article that she published a few years ago and it's called-- and I recommend it to everybody. It's very short, and it's called thirteen ways to view nature in L.A. And it blew my mind. And I was I'm wondering if you used any element similar to hers in that she takes on different perspectives to reach different groups of people and she talks about different communities and different types of people and--

How many ways to view nature again?

Thirteen.

Thirteen.

Yeah. And I'm not sure if that's the exact title but it'll come up if you type that in.

I'm not online. I'm just bringing it up there.

But I was wondering if you, in your writing, you chose to do it in one particular way or if use one particular voice or if you directed it to a particular group of people or how you consciously made the decision to direct it to whomever you directed it to? Because she kind of takes different pathways to attract different groups of people.

I love that idea. I think that's a beautiful idea. I'm trying to do something different. I often am writing for one person and I can't tell you that one person is. But it's sort of an average person. It is not an overly-- it's not someone in the Master's program in sustainability at USS. It's someone who cares. It's someone who retired to Sarasota, who cares, but maybe they don't know They don't know what's happening to the Colorado River and they don't know what could happen to the Hoover Dam by 2017. I have this person in my mind's eye and it's really who I would like-- it's the mind that I want to change. And it's kind of grown to that person. The first two books, I think, are really written for more of an environmental audience and this time I'm really writing to a person who-- OK, I call this the caring middle. I'm writing to the caring middle. Yeah. But I love that concept of writing to thirteen different audiences. I don't think I can keep it all straight in my mind. Yeah. Right. It's a great, beautiful idea.

When you're writing or when you're talking to people, what is that thing or technique you used to inspire people, because you read different articles and you see different things on the news and you're like, yeah, climate change. It's bad. It's terrible. But what really triggers people to enact change or want to change? I mean you mention some

techniques in writing, which are good, like rise above and don't play the blame game, which I think are really important but is there any other techniques we can use as communicators to kind of get people to want to change?

I like this concept of an intergenerational ethic. I find that the most helpful with the caring middle. Someone just may not know what this stakes are for the next generation, for their grandchildren, or whatever. And I think people do care about the next generation but you sort of have to put it to them that way. So I would think about it intergenerationally and talk about it that way, and talk about their legacy and what they're leaving and what we're leaving.

I took a landscape architecture class last semester and we talked about the dikes in the Netherlands and the whole process with that, and dams and specifically dikes, and then the ones in New Orleans with the hurricane, and ways to work with the land and work with the water and make it more integrated instead of this very hard seawall that distinctly separates them. And there's a landscape architect that's doing work in the Hudson River in New York City with oysters to help restore-- soften the shoreline and restore and clean the water. And I was wondering, because we seem to talk a lot about of conserving water, but do you ever talk about or explore ways to clean water? Like with Swales?

Yeah. Yeah. That's a big part of the water ethic. I think it's this one bit of the definition about-- I do. To answer your question, yes. And that's a lot of what the Rain book is about is living differently with water. But this idea, the last idea is maybe the most important. We leave as much as prudently possible in nature, aquifers, wetlands, and rivers. The idea is to use water as the best filter for clean water and to use nature as the best way to give flood waters a place to go. I think that that's a good way of putting it that helps people understand the work of wetlands and the work of flood waters even. Yeah. It's a great point.

I was just wondering if you have written about or talked about population in regards to water. Obviously, we're not getting any more water but population keeps growing.

Right. Right. I haven't written about population. Someone always asks me that question and there's a great expectation that I'll write about population but I have so much to write about on the topic of water that I haven't written about population. So you will have to write about population in your master's work.

And I also would say I don't think sustainability is too big a topic to cover because you can cover everything in it. You can talk about water and everything's a system. And so when you're talking about other things, it's not too much to incorporate water and energy into it.

No. Right. I just meant for my career, for one career, I had to focus on something. I was

drawn to water and it feels right. And I think that's really important, especially in the phase when you're earning your masters and you're trying to figure out what to do next. It's important to figure out what feels right to you, what sphere you feel you should be working in, and for me, it was water. And I do try to pull in energy and other elements but I found there's so much here, I'll never write everything that I have on my list to write about water.

One of arguments I've heard a lot is that one of the things that have been holding us back from a consistent view on water and how to manage it is how big we are as a nation. We have all different kinds of landscapes, we're a melting pot of peoples, and how do we really create this common goal or vision when we're dealing with that? And do you think that's an issue, number one? And then, how you think we should move forward from that?

Yeah. No. I don't really buy that. And I think the best analogy-- when I do the water ethic talk, I always show a film, a little video clip. Do you guys watch Mad Men? Have you seen that great scene from Mad Men where Don Draper, the handsome ad executive and his wife and their kids are having a picnic at this beautiful park and he chucks his beer can into the woods and then they go to pick up their picnic blanket and they toss all their litter right onto the park. And it reminds me of my childhood.

When I was a kid, people regularly just shook out there picnic baskets down on the beach and left there trash. And this was more common all over the United States. In the 1960s, more than half of all Americans admitted to littering, which means many more than that actually did. And by the late '90s. It was less than 15%. It was a really dramatic change in just one generation. So I interviewed behavioral psychologists who study littering and they talked about all these different things that worked but what changed the culture more than anything else was simply an ethic. It was a judgment. It was a community-wide judgment, just like Aldo Leopold talked about with the land ethic.

It was a community-wide judgment that littering was no longer OK. If you litter now, someone is going to give you a dirty look or fine you or whatever. So I see the water ethic and water sustainability and other sustainability issues in the same way. We will get there. The children look at it much differently than people our age. It's changing all the time. When I speak in college classes, the young people, they don't have this ideal of a sparkling green emerald lawn. They don't even like the looks of it. They want to live differently. And so I think it is going to change and I don't think the country is too diverse to change it. I think just like with littering-- and there are parts of the country where littering is still rampant, I know-- but for the most part we don't litter like we did 50 years ago. And it's going to be the same with water. And it's going to be that same idea and I write about this in the last chapter of Blue Revolution it takes that one person to be willing to have a native lawn and then it's the next person and it kind of spreads. And that's how it spreads around the country as we move around, as someone lived in Phoenix and then moves to Florida and we get to hear these incredible stories.