World Oceans Day

Samuel Lawrence Foundation

First Fridays

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Bart Ziegler: Thank you and welcome to everyone tuning in to join us for the June edition of the Samuel Lawrence Foundation's First Friday Webinar series. My name is Bart Ziegler, and I'm the president of the Samuel Lawrence Foundation, which advances impactful programs at the intersection of science, arts, and education in order to find solutions to our planet's greatest challenges like nuclear waste and climate change. We host our first Friday shows every month to showcase the incredible people, ideas, and projects, advancing that mission and making a positive difference in the world. For today's edition of First Fridays, we have assembled a global panel of some of the most extraordinary experts who are working to ensure that our oceans are protected, healthy, and sustainable. I'll turn this over to our moderator, our remarkable moderator, CEO of Brooklyn Story Lab, Lance Gould, to introduce our speakers today. Thank you, Lance.

Lance Gould: Thank you, Bart, and welcome to all. Tomorrow is World Oceans Day and that is oceans plural. There are five oceans on our planet, but there's also just one oceanic system connected via water currents, gyres, and wind patterns, which, in addition to connecting all of the oceans, also connect major waterways, straights, rivers and bays. Thus, pollution in a bay in Boston or a river in Rio becomes everyone's problem. World Oceans Day is one of the bigger awareness days on the social good calendar, and it has since 2009. The UN is hosting a major event today under the theme Catalyzing Action for our Ocean and Climate. One of our guests is there and will be reporting from there. Today, on this panel, we will explore what is happening in and to oceans, tapping into the expertise of our panelists who will give us a perspective from scientific, academic, and cultural lenses. And hopefully we will learn about what action we all can take to reduce pressure on global oceanic systems and allow what the great oceanographer Sylvia Earle has called the blue lungs of the earth to heal. So let's meet some of the key players in this process and learn more about what is being done to sustain and protect oceans. Joining us today, we have Matthias Egger, who leads the environmental and social affairs team at the Ocean Cleanup, a nonprofit organization

that develops and scales technologies to rid the world's oceans of plastic. Emily McGlone is the director of Peace Boat US, a non-profit and non-governmental organization with a vision of creating a culture of peace around the world, and is on the steering committee of the Nobel Peace Prize winning International Campaign to Abolish Nuclear Weapons (ICAN). Kim McCoy is an author and oceanographer who studied everything from surf zone wave dynamics to the coastal effects of climate change, and has also helped pioneer advances in instrumentation, underwater communications, autonomous water vehicles, and free diving. Diana Nyad is a renowned athlete who is the first and only person to swim from Havana, Cuba to Key West, Florida. She's also an accomplished journalist and writer, and the subject of the Oscar nominated movie Nyad, starring Annette Bening as Diana, which captured the planning for her successful 110 mile swim, as well as the grueling, unsuccessful attempts before it. And Paul Watson is an environmental activist who founded the nonprofit Captain Paul Watson Foundation, as well as the Sea Shepherd Conservation Society, which both target illegal fishing activities and take direct action to stop such activities. Welcome to all. For our first round of discussions, we'll speak with each guest and learn a little bit more about their work and what they are doing to protect oceans. And then we'll learn more about the critical issues facing oceans and island and coastal populations, and what we, as viewers, can do to take action. So first question, Matthias. There is so much garbage in the Pacific Ocean that there was at least one floating garbage patch that is twice the size of Texas. Your organization, The Ocean Cleanup, is a Dutch based nonprofit, and I believe you're in Switzerland, that removes marine plastic pollution from the ocean. Tell us more about the ocean cleanup and how the organization has evolved since it was first founded in 2013.

Matthias Egger: Yeah. Thank you. Lance. Like you were saying, we are a nonprofit organization, and our mission is to rid the world's oceans of plastic, right, and you already mentioned that in the ocean, you have what we call these ocean garbage patches. Actually, there are five of them. The biggest one is between Hawaii and California in the North Pacific. And so, you know, we set out we founded the organization, our founder, Boyan Slat. You know, the idea was, hey, why can't we just clean up those ocean garbage patches? You know, it's very unsatisfying to think about it, that, you know, humanity actually managed to really pollute those very remote areas, and there's nothing we can do about it. So the first couple of years, we spent a lot of research. We we sampled like hundreds of samples from the area. We actually flew with

airplanes over the Great Pacific Garbage Patch to map out where all the plastic is, to really just understand the problem we were trying to solve. Right. And followed by that, we started to test the cleanup system, and eventually we succeeded in actually developing a technology like you can see here, you know, a cleanup system we can deploy in the middle of the ocean in a very harsh environment, and we can very efficiently now target plastic pollution hotspots in the garbage patch. And the very tricky part about all of this is you want to develop a technology, right, that catches the plastic, but it does not catch marine life.

Matthias Egger: So we spend a lot of time optimizing the system. And now we have a working system that is very efficient in catching plastic and does an awful job in collecting marine life. Right. So it's very, very good. And at the same time you also realize, you know, with the research that we did, it's actually, although most of the plastic found in that garbage patch in North Pacific comes from fishing, most of the plastic in the ocean globally actually comes from land and from rivers, right? So we also started work in intercepting plastic pollution in rivers so that we get the plastic even before it reaches, you know, the middle of the ocean. And so there we are developing what we call interceptor solutions. Here you can see one in Guatemala, for example. I think we're close to 20 such systems deployed all over the world. And we are also successfully catching what we call trash tsunamis, like you can see here, right? In Guatemala, the river is almost dry, then it rains and it flushes down all of this plastic, all of this trash into the Caribbean. And now we intercept it before it actually can reach the Caribbean.

Lance Gould: It's really incredible what you're doing. It seems so obvious and yet no one has done it. And congratulations to you and your team for for taking this on. I should just note for the audience that for each of the guests that are speaking today, we're going to have photos and slides depicting what they're discussing. So, Matthias, can you tell us, tell our viewers why plastic pollution is such a problem? We know that you're investing all this energy and investment into capturing plastic pollution. But tell us why, specifically and scientifically, we should be so concerned with how much plastic is in our waters.

Matthias Egger: Yeah, it's not only how much plastic there is in the water, it's everywhere. So everywhere we look in the ocean, we find plastic from the surface to the

beach to the very remote deep sea into the hadal trenches. So we know plastic is everywhere. And scientific evidence starts to pile up that it's actually it's not good for the marine ecosystems. I mean, obviously, we all know this. You know, the videos of, you know, seals and turtles entangled in ghost nets and they're dying because of entanglement. But what we mostly worried about is that, you know, if you leave all this plastic out there in the environment, in the ocean, it starts to break down into what we call micro and nanoplastics. So very tiny little pieces of plastics, and they can be eaten by plankton, by the very base of the marine food web. And like this, you know, those plastics also often have chemicals in them. And so those chemicals and plastics they get into the marine life, you know, in plankton, fish eat the plankton, bigger fish eat the fish, and eventually we eat the fish as well. So there are not only concerns for the marine ecosystem, but also human health concerns. And at the same time, plastic pollution is also impacting the way the ocean can take up carbon CO2. So it also has an impact on how the ocean regulates climate. And obviously it also has a lot of social impacts, right? Coastal communities being impacted by plastic pollution, especially, you know, small island developing states that are very remote and receive a lot of their plastic, actually, it's not from their shores, themselves, but it travels far to those remote islands, and it's devastating its ecosystems. And it's also, you know, harmful for human beings.

Lance Gould: Thank you for that. Um, uh, speaking of SIDs, uh, our next guest just returned from a conference on SIDs. We'll talk about that a little later. Emily, the UN has a set of goals that were unanimously adopted in 2015, called the Sustainable Development Goals, or SDGs. And the idea behind the SDGs is that no one on the planet should be left behind by 2030. Tell us about how your organization, Peace Boat, uses the SDGs as a guiding light, and even developed an educational initiative around those goals.

Emilie McGlone: Hi everyone. Thank you so much for having us here today. And yes, I work as a director at Peace Boat US, and we actually sail with the SDGs logo on the hull of our ship. So as we are traveling the world, we're raising awareness for sustainable development. And we have a youth program called the youth for the SDGs, which has now been officially endorsed by IOC UNESCO as a contribution to the United Nations Decade of Ocean Science for Sustainable Development. So we're really focusing on SDG 13 for climate action and SDG 14 for life below water, helping to do

capacity building programs and training, peer to peer learning, and experiential activities in the ports of call, whether it be beach cleanups or citizen science engagement. We've also started doing a water testing program where we are allowing our youth to do water testing in each of the ports of call around the world. Peace boat visits around 20 countries every three months on our global voyages. So we've been testing the pH level, turbidity, oxygen level, and also looking at different areas of the world to see how they're being impacted by climate change and also ocean degradation. And with our youth programs, we're doing a lot of activities, such as you can see in this photo here, a kelp study program, which was all the way in Svalbard in Norway. We also did a river cleanup with U Ocean in London and on board the ship, we're hosting all kinds of activities and workshops so the youth can learn from each other and share their experiences and also solutions. So we'll be continuing this program all the way to 2030 and beyond, using our ship as a venue for stakeholder engagement, training, and also just having guest speakers from each of the countries coming on board and giving lectures and workshops about the UN Sustainable Development Goals and how they're being implemented in their local communities.

Lance Gould: That's a that's wonderful. Can you tell us about some you mentioned the pH testing in different ports of call. Can you talk about some of the other scientific experiments that you've done aboard the ship? With marine life and things of that nature and just talk about, also, I believe you've had youth from the Cook Islands going up to Svalbard, and you're taking people from locales that they would probably never get to explore the places that they get to go, so tell us a little bit about that as well.

Emilie McGlone: Absolutely. We have a lot of youth coming from small island developing states or large ocean states, which are primarily coming from the Pacific or sometimes Latin America and the Caribbean, and working with us to share their knowledge on board. We did have two youth from the Cook Islands on our voyage to the Arctic, as Lance just mentioned, which were co-sponsored by the nonprofit organization Blue Planet Alliance, working towards 100% renewable energy for island nations. And they were incredible. They are also working on environmental issues in their home community and working with biodiversity. So each of those youth are giving the workshops on board. We also have a theater and a conference room that holds around 500 people on board. So as we're traveling, they're also giving lectures and meeting with participants that have been traveling on the ship to raise awareness about

these local issues. And for marine science, we have many different guest speakers and experts in the field, from Christiana Figueres from Costa Rica, leading the way for the Paris Agreement and sharing their expert knowledge with the youth. And also each of the youth have their own expertise as well. We have a lot of marine biologists. In the past couple of voyages we had youth from Panama, for example, coming and sharing their knowledge with us and in the ports of call, we're also doing those hands on activities, as I mentioned. So we had a program with Reef to Reef, also learning about coral reef restoration. And this time we'll be going also to Manzanillo, Mexico this summer, sailing all the way up to Vancouver and then to the fjords, the glaciers in Alaska. So really trying to highlight those biodiversity hotspots and allowing youth to see how the different ecosystems are connected as we're traveling on board the ship.

Lance Gould: International collaboration and cooperation is so important, and that's exactly what you guys are doing. So kudos to you, that's really wonderful to hear. Thank you. Kim, the author Willard Bascom wrote a classic book, Waves and Beaches in 1963, which examined the awesome power of the ocean. It was an instant classic, admired by surfers and scientists alike. The author was a mentor of yours, and you had the honor to update the book recently, because oceans have transformed significantly since the onset of climate change. Tell us about your additions to the book and the relationship that we all need to have with oceans.

Kim McCoy: Willard Bascom was a great guy. He had many talents, and he was born a long time ago, in 1916, before I was born. Anyway, the book was mainly the first two editions, which sold a half a million copies. And to show how significant it was during the Cold War, it was used by the Soviet Naval Academy and the US Naval Academy at the same time. Wow. Pretty much standard there. So what I did in the third edition was I expanded the view. Of course, I updated and removed a lot of things that, you know, don't occur anymore, from industrial vantage points and technologies. And I added dams, rivers, and deltas. So Waves and Beaches as a third edition is really a view of our world from the coastline. And here we see an image on the right that is Korea. And on the left is part of China. And you see this is a photograph from a satellite. And you see the cloud cover. And on the left hand side you see all the sediment coming out from the rivers in China and come out from all over Mississippi River Delta can look the same. And all these, see, this is the Ganges-Brahmaputra delta. It's a large, most inhabited delta in the world. The sediments are 20km deep. That's like 12 miles. And

there are 50 million people that live in that delta. So when the things upstream. So I added dams, rivers and deltas and how they affect the coastline and how the waves affect the sediment movement, so it's really a continuum that goes from rainfall, changing climate,so when you have more rainfall you get more sediment, when you have less rainfall, you have less sediment. And in one case, you're going to have to dredge a harbor, and the other case you're going to get coastal erosion and things will collapse into the sea. So by widening the scope of things, you start realizing, well, this is a dynamic that isn't just one's own backyard. It's not a NIMBYism kind of issue because our weather comes, let's just say in North America when we have tornadoes, we have what's happening in Africa affects really what type of storms we're getting in North America, whether or not we have inundations, massive rain because as the sea level, the sea surface temperature increases, you get more water vapor in the atmosphere, which in turn can lead to more rain. So that's me diving in a kelp forest in Avalon, not kelp forest, coastal stuff. It's all connected. The health of the of the water in Avalon is remotely connected, but connected to what happens in Africa. The amount of rainfall we get in the coastal region, Southern California, we had torrential rains and we had flooding around Ventura and parts of northern LA County. And that dumps into the Southern California area and all that's all connected. And you really can't separate one portion from the other because our climate is connected. The atmosphere drives the oceans, and the oceans circulate things. And then Matthias has to pick up all the detritus with his system that we've accidentally or intentionally just discarded.

Lance Gould: Thank you for articulating that picture, the global picture of how everything is connected from extreme weather to to rainfall to pollution, as we said at the beginning, a bay in Boston, pollution from there can impact everything from Africa to Asia to other parts of the US.

Kim McCoy: And just if I can add, I have decades of experience. I started a company with some other people. We designed and built oceanographic instruments, and I ran that company for over 25 years. And we were part and parcel to experiments all over the world. The fundamental research in collecting data and what we saw 40 years ago is substantially different, certainly in the Arctic. The dynamic of the ice and the temperature changes up there.

Lance Gould: Well that was my next question, Kim, is, you've traveled throughout the world and swam in every body of water imaginable. Can you tell us about some of the specific impacts of climate change that you're noticing in various parts of the world, that we might not yet be aware of things that you're seeing while you're out there?

Kim McCoy: I'll give one real quick one. When I first went to the Arctic in the early 80s and actually 1980, one of the areas was the west coast of Greenland, and this is a picture of Antarctica, but it could be Greenland. And in that area, the last ship that was in the area was in the 1840s. And that was Sir John Franklin's vessels, and they were all lost. I don't think they ever found, I think they just recently found the vessel, the 1840s, and we were the first vessel to go in there. And that was in 81, I think. And now cruise ships go up there. We were on an icebreaker. No one had been up there for 100 years, virtually. And now

Lance Gould: You're saying they couldn't get in there because of the ice. And now it's accessible, much like in a negative way because of the breakdown of ice.

Kim McCoy: Yeah. And when I spent, I spent a couple of months in Antarctica and on the Palmer Peninsula, there are species of warm water penguins. Of course, there are many species that are actually migrating south, you know, further south because it's getting warmer further south and they're displacing the colder species of of penguins. Now, that's not an issue of who's territorial controlling it, but it's an indicator that the species are moving further north and further south because the environment is changing and it's irrefutable. They have bones from penguins over the last 5000 years in the Antarctic Peninsula that they showed that this one species had been there for a long while. Now they're virtually the number of nesting pairs is greatly diminished.

Lance Gould: Wow. Well, thank you for sharing that and those observations, and I want to move now to Diana. Diana, your perseverance is legendary, pushing your body well beyond its limits and your swim attempts, and in your ultimately triumphant, successful swim from Havana to Key West. How much was the ocean a character in your journey? Tell us about how you studied currents and conditions and marine ecosystems to prepare for your endeavor.

Diana Nyad: Well, thank you, Lance. First of all, let me say it's a privilege to be with all these erudite, true activists on this panel. I'm so admiring of the work all of you do. You know, I think the most emotional commentary that I know of that's come about our blue planet comes from astronauts. You know who, the only only speck that they see in all of this universe, this chaos that we know of as of today, the only one that's blue is planet Earth. And I pulled up that wonderful Carl Sagan quote. God, I miss Carl Sagan. I don't know, but, you know, he said it's our responsibility to preserve and cherish that pale blue dot, the only home we've ever known. And I can tell you that I myself, more than ever, standing on a shore or standing on a boat to be immersed in this pale blue dot brought me to tears and a sense of awe, of the beauty of our planet, our blue jewel of a planet. But it also brought me to a sense of responsibility. Like when I get out, when I finally get out and get on the floor again, I've got to remember. I've got to remember the stunning beauty of this home of ours, this blue planet. And what can I do to keep these catastrophes? What I think a lot of us think, well, there's nothing we can do. It's so big. It's like talking about the billions of stars when we talk about when Matthias. Matthias tells us about the size of this, of this, you know, plastic blob in the Pacific. What in the world can we do about it? Well, he and his group are doing something about it. Emily is doing something about it. And at least all of us can do one little thing. And that's not to use single use plastics anymore. You know, a lot of athletes, become reverential about the place where they competed, Martina Navratilova. She's gone to Wimbledon and sat there when nobody's there. Just just a quiet grass court and come to tears of that, that place she revered. Well, look what my arena was, the ocean. And so I have a deep emotion, you know, for all the oceans of the world, not just the ones I swam. And when you ask about, you know, research and getting to know that particular body of water, which for me was I did many other swims in my youth, in my 20s, when you're supposed to be doing these things, but in my 60s and finally did the the Holy Grail for me, the Cuba swim, after trying it five times over 35 years. You know, knowledge is power.

Diana Nyad: Every expedition, anybody who goes to trek across Antarctica or to climb Mount Everest, they get to know. They get to know the couloirs. They get to know clearly the weather patterns. So it's a very tricky area of water where you've got, you know, winds and currents that come sweeping around the south coast of the Dominican Republic in, through the Yucatan Channel, up into the Florida Straits. You've got the trade winds that come out of the east, blowing from Africa 6000 miles. You can stand in Havana and put your tongue out. Some days when those heavy winds blow and you

sense a crunch and it's not the salt vapor, it is particles of sand from the freaking Sahara Desert that have blown 6000 miles across. Unbelievable. You've got the Gulf Stream flowing, the powerful, powerful ocean current flowing up against that airstream. And now you've got huge peaks out there so you don't just go out, you know, thinking, I've got mind over matter. You go out with an expedition team, you shark experts of the tropics, jellyfish experts, and you all go out there with with knowledge is power. Knowing what's there and how you can possibly slip through and get to that other shore. So, I became enamored of this area on the macro level and on the micro level as well.

Lance Gould: It's incredible. Like the level of granular detail that you can observe when you're when you're going to immerse yourself in that. And let me just add that as much as we admire you for doing the swim from from Havana to Key West at all, the fact that you did it in your 60s is unbelievable. It's just it's such an incredible achievement. Um, Diana, you've also spent so much time swimming in many other waters around the world from, as we mentioned, from Cuba to Italy, Argentina to Canada, and even around Manhattan Island in record breaking time in 1975. I can only imagine what was in the waters back in New York City in those days. But from your experience as a global swimmer, what are your fears of warming waters, receding coastlines, plastic pollution, and other negative impacts on our global ocean system? What are you experiencing or what have you experienced in terms of the negative impacts of climate change?

Diana Nyad: Well, since I, um, with no hyperbole whatsoever, since I should have and could have died from swimming into a swarm of box jellyfish, they cause something called the Irukandji syndrome, a particular species of the box, a beautiful little tiny animal. It's only an inch square, a cube of an inch this big. But it's the perfect killing machine. There's no spider. There's no snake that can kill as quickly as that particular species of the box. And I lived through that night, but I'm telling you, they are now proliferating because of global warming. Many species of jellyfish are coming up from southern oceans, and they're swarming into the equatorial waters of the Sea of Japan, the Gulf of Thailand, the sea, the waters between Cuba and Florida, the Hawaiian waters where the Molokai Channel used to be a non jellyfish, uh, area. And now every swimmer who tries the Molokai channel has a number of stings to deal with. So we're dealing with not just a few marathon swimmers but the world at large. You know, the people in the Philippines and the southern islands are dying from the box jellyfish stings because those animals are are, as I say, they're proliferating in these equatorial waters.

And there's also just the, you know, talk about global warming. The oceans are warming, and all of your panelists could speak to it in a much better scientific level than I can. But we all know that last summer, and now we're coming into the heat of summer. Soon, those waters in Florida, some of the estuaries just off the coast, reached 100 degrees Fahrenheit. How much longer will it be that, you know, millions of people around the world can just go on a nice vacation and take a dip in the ocean, but but not be able to anymore because the waters are going to be not warm, they're going to be hot. So there's a tremendous amount of change that's coming, not just for, you know, us few marathon swimmers, but for for the world at large that loves to dip in the ocean.

Lance Gould: Well, for another observation about the oceans, I'd like to speak to Paul, Captain Paul Watson, who is both the founder of both the Paul Watson Foundation and the Sea Shepherd Conservation Society, both of which protect endangered marine wildlife by mobilizing ships captains and crews to defend these species. Can you tell us more about the problems posed by illegal fishing? What does it mean for species, for local economies, and for marine ecosystems? Illegal fishing, that is.

Paul Watson: The worldwide commercial fishing is in a state of collapse and has been in a state of collapse. There is no such thing as a sustainable commercial fishery. You know, I started I was a co-founder of Greenpeace in 72 and then established the Sea Shepherd Conservation Society in 77. And I established it with a strategy which I call aggressive nonviolence. That is, we're going to aggressively intervene but not hurt anybody and haven't caused a single injury to a single person in 50 years. But we have intervened and shut down hundreds and hundreds of illegal activities in 2022. However, I was removed from Sea Shepherd for being too controversial because we got too big, got too much money, and they decided they wanted to rebrand and become more mainstream. And I wasn't going to put up with that because there's a need for an in-your-face, aggressive movement. And so I had to restart as the Captain Paul Watson Foundation and also as Neptune's Navy. And so that's what we're doing now. You know, I'm not as optimistic as most people about it, because let's just be blunt. The ocean is dying. It's dying right in front of us. I've seen it over the last 60 years. I was raised in a fishing village in the east coast of Canada. I've seen the diminishment and the decline, and it's not getting any better. Since 1950, there's been a 40% diminishment in phytoplankton in the sea, and that can be verified. There's an article in Scientific

America in 2010 that shows that there hasn't been anything since then. So I think it's probably worse.

Paul Watson: And what that means is phytoplankton, which provides up to 70% of the oxygen in the air we breathe and sequesters enormous amounts of CO2. And here's the plain fact is that if phytoplankton disappears from the sea, we die. We don't live on this planet without phytoplankton. It is the foundation of life on this planet. And I like to compare our planet to a spaceship. It's it's on this incredible voyage around the Milky Way galaxy. And every spaceship has a life support system that provides us with the air we breathe and regulates climate and temperature and the food we eat. And that life support system is run, it's maintained by a crew of engineers, and we humans are not engineers. We're passengers. We're having a wonderful time entertaining ourselves on Spaceship Earth. But what we are doing is we're murdering crew members, we're murdering the engineers, and there's only so many engineers you can kill before the whole machinery begins to fall apart. We cannot survive on this planet without worms and bees and trees and whales and fish. And yet we seem to be not very much concerned about the constant and diminishment of all of those species. We lose bees, we're in big trouble. We lose worms, we're in big trouble. We've already seen an incredible diminishment in insect populations, with bacterium, all sorts of I mean, it's actually the smaller creatures, which are the big problem, because they're supporting everything above that. And so what I've tried to do over the last 50 years is to uphold international conservation law, because there's a complete lack of economic and political motivation to uphold the laws.

Paul Watson: I mean, we have all the laws, we have the treaties, you know, and everything. But they're useless. They're absolutely useless without an enforcement. For instance, World Ocean Day. I'm not a big fan. World Ocean Day came into being because the Canadian government established it in 1992 at the United Nations Conference on the Environment and Development. And it was basically a PR thing. Hey, let's think about the ocean once a once a year. It was established by a government, which is horrendous record. I mean, they burned all of the libraries on Department of Fisheries and Oceans. They burned and destroyed the entire library because it was so embarrassing what they've done over the years with the diminishment and destruction of the northern cod populations, the damage being done to the indigenous salmon populations because primarily because of salmon farming and

everything. So what we're seeing are world governments that are subsidizing the destruction of the ocean, because the commercial fishing industry is subsidized to the tune of about $90 billion every year. And yet all of these illegal activities are taking place, and there's simply nothing being done about it except for small NGOs and we try to do something about it. Well, then we're the criminals, we're the terrorists, we're the outlaws. So if the world is hell bent upon self-destruction, then so be it. But we're going to do everything we can to try and uphold those laws and protect as many species and protect diversity and interdependence as much as we can.

Lance Gould: Well, thank you for your commitment to that. And speaking of the work that you're doing to protect species, can you tell us about two projects in particular, the initiative to stop the slaughter of pilot whales in the Faroe Islands, and also your work to protect the most endangered mammal on earth, the vaquita porpoise in Mexico. Tell us about those two initiatives and what's involved.

Paul Watson: Well, the projects I'm involved right now, we're heading out next week to stop Iceland from killing endangered fin whales. Uh, we'll know on Tuesday whether a permit is going to be issued. If the permit is issued, we'll go and block those vessels. We also have a crew this summer in the Faroe Islands to intervene against the killing of pilot whales and dolphins there. For many years, when I was with Sea Shepherd, I was involved. In fact, I initiated the Operation Milagro campaign to protect the endangered vaquita. But unfortunately, that's been taken over by the Mexican government as basically a big greenwashing thing. Right now, I don't have a lot of hope for the vaquita, because once you get governments in there and getting involved and things tend to go to hell, but we're losing species after species after species. And it's, I call it adaptation to diminishment. As things become diminished, we just simply accept it and we move on to something else. Northern cod population crashes, we'll go on to something else. The orange roughy population collapses off New Zealand. You don't see it anymore because we've moved on to something else. We forget what we destroyed and we just move on to destroy something new. Adaptation to diminishment. I mean, if this is 1965, and I were to tell you that you're going to be drinking water out of plastic bottles, and that water is going to cost more than the equivalent amount of gasoline, you would have looked at me like, nobody's going to ever do that.

Paul Watson: But here we are. We have adapted to that diminishment. And and there it goes. I mean, what we need to do, and this is why in 2020, I actually created the Church of Biocentrism. We need to get away with this anthropocentric point of view, this idea that we're the number one species on the planet. We're more important than everything else. We have to understand that we're interdependent with all other species, and if we're going to survive, we have to live in harmony with them. We do not live on this planet without phytoplankton, without worms, without bees, without trees, and without whales. You know, a couple of years ago, I had a reporter from the Fox News Network. He called me up and he said, did you say that whales, trees, bees and worms are more important than people? And I said, yes. I said exactly that. And they said, how could you say something so outrageous, so unchristian? I said, well, I said it because it's true. Because they can live here without us. We can't live here without them. So they're far more important than we are, and if we destroy them, we destroy ourselves.

Lance Gould: Well, thank you, Paul, and thank you all the panelists, for sharing with us more about your current endeavors. Now, I want to get a little bit more granular and talk a little bit more in depth about oceans with with each of you. People living in landlocked states or countries can influence what happens in oceans and coastal areas. You don't have to live on a coast to impact the oceans. So, Kim, I was reading an interview that you had done in which you noted that actions that people took in Oklahoma or South Dakota could impact the Mississippi River and thus oceans, for example. So tell us about that and how we all need to have an ocean focused mentality to prevent oceanic conditions getting even worse.

Kim McCoy: I really augered into that issue with the Mississippi River Delta and the tributaries to the Mississippi. When I drove across the United States in 2019, I drove across through Utah and then through Colorado and all the way around and ended up in the Mississippi Delta. And I asked a person there they were sitting with their with their child and they weren't swimming. I said, why don't you go swimming? And the adult said, well, we used to go swimming here, but we don't go anymore because there's flesh eating bacteria. Yeah. I looked into a little bit more. And upstream, what happens upstream, the mine tailings, the heavy gas and oil stuff that happens, you know, in Texas, Louisiana, and further upstream influences everything downstream. So imagine water, a liquid, be it gasoline, naphtha, whatever it is, diesel fuel, it's a liquid. It either soaks in to the land or it trickles, percolates through and goes into the water stream.

And that that watershed goes downhill and it all ends up in the Mississippi River Delta, ends up in New Orleans, basically. And that delta is in decline. There's a little vignette in waves and beaches. It's called Delta in decline. It talks about that and. There's really nothing one can do upstream that isn't going to affect things downstream.

Kim McCoy: Now, unfortunately, the prior administration in the US redefined what a watershed was. It used to be that you dump something somewhere, and if it goes downstream, that's a watershed. But now it's been redefined. The EPA's arm was twisted, basically, to say any any watershed isn't a watershed unless it's flowing all year around. So that gave a carte blanche to dump whatever you want into watersheds. And unfortunately, the Mississippi has a gigantic watershed, and it's just getting worse. And, you know, just go online and look at all the industries that are affected upstream. I mean, even a book, for instance, is transported in Iowa, I think is a place where books are distributed a lot. And why? Because that watershed, you can ship things by water very inexpensively. So we've been using the waterways, you know, since water wheels and the boat was invented. And unfortunately, as we've industrialized our world, the refuse, if you will, the liquids, everything that flows downhill in a watershed ends up killing off the delta. And we see that not only in the Mississippi River Delta, we see it in deltas all over the world.

Lance Gould: Thank you for that. Emily, we mentioned earlier that you were recently in Antigua for a conference. That was the conference was the Small Island Developing States Conference, or also known as SIDs. There are 57 SIDs countries and territories in the Caribbean, the Pacific, Atlantic and Indian Oceans. What did you learn at this convening, which had a focus on climate change and what is on the minds of the people living on these highly impacted and very vulnerable islands, from your perspective?

Emilie McGlone: I think it was a really inspiring conference. The SIDs International Conference is once every ten years, and at this conference, we were fortunate to have two of our youth leaders. We had Neon Murray and also Khadijah Stewart from Trinidad and Tobago. So for me, the most inspiring part was really listening to the youth. They have so many incredible solutions and also are looking ahead to the future to see how they can support all small island developing states to come together and look at collaboration. I think that was one thing that really also resonated with me from this conference, is that everybody's working together, whether it be from the Pacific to the

Caribbean or in Asia and around the world. These islands are really large ocean states or big ocean states, plus islands. So I think that's something that really stood out as well. There's a lot of serious discussions as well. We had one of our youth leaders, Selina Lim from the Marshall Islands, who was also working on the Non-Proliferation treaty of, you know, oil and gas and looking at how we can really reduce fossil fuels. And I think that all the islands are being extremely impacted by climate change due to sea level rise. And we're looking at possible climate refugees from many of these island nations. So this is a quite serious issue, especially for the youth who think about the future generations. If they're going to have children, what kind of passport would they have? Where would they live? What about their culture and communities? So there's a lot of discussions that we need to take to heart, but I think the collaboration and solution focused youth leaders are really going to be helping to change the status for the future of SIDs in general.

Lance Gould: You raise a really interesting point, Emily, about climate refugees and people from Kiribati, people from Tuvalu, those island nations, many of the islands, in the composition of those nations, are atolls. And it looks like they will be the first to go when rising sea levels get any higher. And so they're already, Tuvalu is already replicating itself culturally on the metaverse. They're in discussions with countries like Australia about where they could possibly go if needed to be. Thank you for sharing that. And any other observations from the conference?

Emilie McGlone: I think as well, you know, we've been working towards the 100% renewable energy strategy, and many islands have adopted that strategy. So coming together with island leaders at that conference, I think was a great step forward for many of the non-profit organizations working together with governments. And it shows a lot of solidarity. You know, we come from an international NGO with special consultative status, with the Economic and Social Council of the UN. There were many UN member states there, but also bringing that bridge of civil society and youth together. I think that's just really what I'm kind of focused on now is how we can collaborate together. These issues are not only something that, you know, SIDs countries are facing, but really as a community as a whole. We need to work on these issues together. So I hope that the conference will take place even as a preparatory conference a little bit earlier than every ten years, because we really need to have urgency on these issues and work together to to highlight solutions.

Lance Gould: Excellent points. Thank you, Emily. Paul, in circumnavigating the globe multiple times, what do you observing about the negative impacts of climate change? You've told us already about phytoplankton. Tell us about, give us a view that you see from the water. That should give us a pause about how the oceans are transforming for the worse. And what impacts are you seeing from the vessels on which you're traveling?

Paul Watson: I think the most significant impact is the diminishment in diversity and the diminishment in interdependence of species within marine ecosystems. There's simply a lot less than there used to be. And of course, that's having consequences of one species diminishing has consequences on many, many other species. And so that's why we're seeing so many species in a state of decline. So that's my primary concern, of course, also, you know, pollution, noise pollution, plastic pollution, chemical pollution. My main concern about plastic is not what you can see. It's the stuff that you can't see, the microplastics and the nanoplastics. And you can see that quite, for instance, in the Albatross on Midway Island, which have been well documented, so many of them being lost every year because of ingestion of microplastics and that. So that's quite a significant problem. The other thing, too, is that I think that people really need to take a good look at what the ocean really is. I mean, it doesn't matter where you live on this planet, you're really right beside the ocean because this is the planet ocean, it's the water planet. It's water and continuous circulation. And sometimes it's in the sea, and sometimes it's in the clouds and locked in ice or underground, and sometimes it's in the cells of every plant and animal on the planet that water is continuously flowing through all of those mediums.

Paul Watson: And for that reason, I wrote this children's book here last year called We Are the Ocean because when people say, what is the ocean? I said, we are the ocean. It's the water flowing through us. And that means every part of it's connected to everything else. So when you when you impact something on land, you're impacting it in the sea and in the sea is impacting in the atmosphere. And also it's impacting each and every living thing on the planet. That's why we're getting the nanoplastics in our bodies from fish and other things. Everything is interconnected in that way, and that's why I think we have to take a biocentric point of view towards all of this and understand that everything is linked and we have to work in harmony with all of these other species,

because if we continue on with this anthropocentric attitude that we're all important, we're the only species that matter, we're simply not going to survive.

Lance Gould: Everything's not only connected, but everything has consequences. So thank you for sharing that. And very much appreciated. Diana, after your historic swim, you founded a nonprofit called Ever Walk, encouraging people to leave their screens behind and get in touch with nature. Pretty much what Paul was talking about being more in touch with nature, having more of a connection between humanity and nature. One of Ever Walk's mandates is campaigning to end the use of single use plastic bottles, something you mentioned a little earlier and you have not used any for many years. Tell us about the campaign and the impact of plastic from your perspective.

Diana Nyad: Yeah, on the one hand, Ever Walk really is about just getting out, discovering yourself, taking a walk, and as Thoreau did, as Steve Jobs did, many people have gone out to contemplate their lives, their future, by walking. But we do a lot of our walks, whether it be in North Carolina or up in near Seattle or here in Los Angeles along the sea. And we stop, we stop to look out. We stop to listen to lecturers such as the guys you have on the on the program today. Because the more you know and the more you feel, the more you feel you can step up and do something about it. I'm sure Emily has worked with Lewis Pugh, who is the patron of the oceans to the United Nations. And Lewis says, as it brings up something that Kim said a few minutes ago, that when he's talking to people in the Maldives, it's easy when they are already considering having their entire nation go underwater due to global warming, when they are negotiating with cities in India to move their entire population to to another country. Imagine that. Imagine if Manhattan went underwater and there are glaciologists who say it will one day, if we continue just the way we are now, Manhattan will go underwater. How are we going to displace and replace those millions of people from Manhattan Island. So you can stand on the Maldives, Lewis Pugh says, and you can easily talk about the rising sea level. They are witnessing it. They're experiencing it. But if you go inland, if you go inland in Europe, to the center of the Black Forest in Germany, if here you go into Nebraska and you talk to people about the rising oceans, they don't see it. They're not feeling it. And as Kim says, it's very quick that that one little single use plastic bottle will not make it into the landfill. It'll be blown out of the landfill. It'll wind up in the rivers and it'll wind up in the Mississippi, then the Gulf of Mexico and into the oceans at large. So I think that it's harder to convince, even though Paul just very

poetically said, we're a very small planet and we're a very small system of waterways, including within our own bodies. But I think that it's a challenge to get people who live inland and have nothing to do with coastal life, to believe that what they do and their single use plastic bottles makes just as big a difference as those of us who do live on the coasts.

Lance Gould: Such an excellent point. And when those bottles do blow into the ocean, we have to rely on Matthias to to get them. So we we're counting on you, Matthias, to to make sure that we capture as much as we can. But global attempts to reduce marine plastic pollution have led to the formation of the Global Plastics Treaty. Tell us more about this effort, how it has stalled, and why that should be more of a concern to all of us.

Matthias Egger: Yeah, sure. So the Global Plastics Treaty, like 180 nations come together to, you know, negotiate a legally binding agreement on how to end plastic pollution, including in the marine environment. So here you already know, it shows that plastic pollution is actually, that the plastic in the ocean is only the tip of the iceberg, right. Most of the plastic we use and we dispose of actually stays on land. And, you know, it's really also a problem on land. And it also has impacts on climate. Because plastics are made from fossil fuels. It has chemicals in them that, you know, are harmful for human health or harmful for ecosystems. And so what the I think the Global Plastics Treaty has an enormous potential to really try to solve that problem at its root. Right. Try to resolve, let's say at the moment we're just exponentially increasing plastic production. If we continue like this, you know, you can also imagine how the oceans, how our environment will look like if we don't do anything about it, it will be just flooded with even more plastics. So you have to control that, and you have to find ways to make sure whatever plastic we produce and use doesn't end up in the environment in the first place. Right? But here comes the point. I've been to two of those negotiations. So there are a total of five rounds. And by the end of this year, you know, we should have the instrument, the draft ready, you know.

Matthias Egger: It's very slow. It's very, very slow process. And right, it's such an important process but it takes a long time until you have 180 nations agreeing on every single sentence in, I don't know how long the document will be eventually. So this is a very long process even once, and I'm still hopeful, even if it's no, we managed to do

that, and it's an ambitious treaty. It might even take years or decades until it's implemented, until we see the results of all of these efforts, right? And so this is really where, you know, it's important to also don't forget about the legacy pollution. We call it legacy pollution. The pollution already out there in the environment, the plastics already in the ocean, on our coastline, in the deep sea, on the surface of the ocean, right? There's already plastic there. So of course we need to stop the source of it. But you also don't forget about plastic that's already there. And if you leave it there, it will fragment. And like I've heard from a few speakers already, actually, what worries me most about the plastic is the microplastics, it's the nanoplastics, because they can go everywhere into your cells, into every single being out there. Right? So we have to make sure we take the legacy pollution out of the environment before it's too late, before we no longer can do that.

Lance Gould: It's such an interesting point. What you mentioned about the about the plastics treaty going over every sentence, 180 nations trying to make sure that they are in complete agreement. That's what I find, as though there are detractors and people who say that the SDGs and the Paris Agreement don't go as far as they can. I'm still blown away by the fact that they were unanimously passed. If one country had objected to any one item in any of the SDG arrangement or the Paris Agreement, they would have been scuttled. But they didn't. And that's kind of remarkable when you think about all the countries, you know, you can't get a bill passed in the US without somebody objecting. And it's kind of remarkable that those two documents or those two arrangements have led the way for whatever they may accomplish. But, Matthias, tell us how science and technology can help lead us out of this dilemma.

Matthias Egger: Yeah, I really like the quote that Dianna gave today. It's like knowledge is power and this is really what it's all about. So at the Ocean Cleanup so far we've removed, I think it was like a 30 million pounds of trash from the environment, including rivers and oceans. That's a big number. Of course. You know, there's much more out there. But besides just the actual taking the trash out, what we do get is we can look at this pile of trash and we go through it and we look into, what are we collecting, where does it come from? Why is it there? You know, who's responsible for that? And with that, we can measure it. And, you know, with power also with the data that comes accountability. Because if we eventually have a treaty in place and, you know, countries commit to reducing their emissions or companies commit to reducing their emissions,

we need to see those products from those countries and those companies going down in terms of quantity in the environment, if not, if you keep collecting them in the middle of the ocean, in rivers all over the world, it's not working. So there comes accountability. And I'd like to ask you a question, Lance, um, just for once, to turn this around, how much of all the plastic will be produced globally per year do you think ends up in the ocean in terms of percentage?

Lance Gould: Could you repeat the question, what percentage of all the plastic,

Matthias Egger: Of all the plastic, how much of that goes into the ocean?

Lance Gould: I would guess 70%.

Matthias Egger: Yeah. See, and most people would say at least more than 50%. It's less than 1%. So really, it shows that, you know, there's so much plastic even on land, if we already see so much in the ocean and what technology and what science can do is it can, it's a Band-Aid, right? It's not a solution to the problem, but it makes sure that we very effectively we close the tap and we make sure there's less and lower emissions into the ocean until we have time to really figure out that enormous problem on land. You know, that will take decades to solve. So it buys us time. It's a very helpful Band-Aid that we can use.

Lance Gould: That is and that's the last question I'm going to answer on this panel, because I was so far off. But speaking of questions, Bart, do we have a question from the audience that you'd like to ask?

Bart Ziegler: Yes. We have a question from, let's see, bringing the questions up. We have some from Brad Ack, who's the CEO of Ocean Visions in DC. For the experts: what are you doing to combat the two biggest stressors to the ocean thermal stress and chemical stress, each of which come from CO2 pollution, which is now classified as a pollutant by the law of the Sea Tribunal. Would anyone like to take that?

Lance Gould: Let me first ask Kim and, Kim, what is being done to combat the two biggest stressors to the ocean: thermal stress and chemical stress?

Kim McCoy: Well, it really comes to how society deals with overabundance. So we are actually an overabundant, industrialized species. And so how we make steel and concrete and how we transport things around, because we have supply chains that stretch around the world now and how we dispose of our current waste and our legacy waste. You know, Bart's been very involved with the 1600 tons of nuclear waste that's just sitting there, high grade nuclear waste, right in the surf zone, basically at San Onofre. And until we deal with the approaches of these overabundances and realize that overabundance is actually a problem, we produce too many plastics. We produce concrete that produces CO2, you know, and there's a scientist at Scripps, Ralph Keeling, who studies not only atmospheric CO2, but also atmospheric oxygen. And atmospheric oxygen is actually, it's decreasing. No one really talks about that. But that's a big thermometer. We're doing things in the wrong way. But until industry starts providing products, I mean, they all talk about increasing their sales. Well, increase their sales of concrete that are produced with lower CO2 footprints, produce steel with lower CO2 footprints, produce water that's drinkable through the pipes that we already have running through our our houses. Forget about the plastic. Until industry takes that approach, where the overabundance are not profit opportunities, but are there to serve the societies which they're part of. It needs to change, those are the action activities I view.

Lance Gould: Paul, did you want to weigh in? Did I see your hand there?

Paul Watson: Well, I just think that ship has sailed in his way over the horizon. The action should have been taken 20, 30, 40 years ago. I mean, the oil industry is well aware of what they were doing way back in the 50s. So I just I just think that there's a lack of interest. People are complacent and they're going to allow- Plastic is a toxic, toxic substance. It's a poison. It shouldn't be in the environment. We shouldn't be recycling it. We should be getting rid of it. But that's not going to happen because industry dictates what governments do. Industry owns the media, industry owns the politicians, and they're going to get what they want. And they don't care if they destroy the planet while they're doing it, because, well, they're going to be dead. They're not really concerned. I mean, I had a debate with a whaling executive from Japan one time, and he actually said that right to me. I said, what about your children and your children's children? And he said, that's their problem. It's not my problem. I have my responsibility is to provide for my family now and my children. Well that's their problem.

Lance Gould: Inspiring words. Well, I have one final question for the panel, which is what do you all see as the most important next step to protect oceans? And let's go to Emily first.

Emilie McGlone: Thanks, Lance. And thanks everybody. I was going to say that also from the Peace Boat side. For us, what we're looking towards is building the world's first eco friendly ship. So that's our goal for reducing CO2 in the ocean. And I hope that can be an inspiration for the maritime industry. We're building a ship with solar and wind power, which will reduce our CO2, but also help transition the maritime industry to a zero carbon emission industry. That's our goal. So even though we have a long way to go, we think that if we can create one example, it can kind of be the Tesla of the cruise ships inspiring other ships to also go carbon neutral, carbon free. And that's what we hope for the maritime industry at large.

Lance Gould: Thank you. Emily. How about Kim? Would you like to go next?

Kim McCoy: Well, I'd say it's really a grassroots process, because I think what captain was saying, Captain Paul was saying is it's true that the ship has sailed, but the people need to have the grassroots operations push to get members of city councils and other things, other entities to pass laws to limit activities. I mean, there's one side you can be violent and, you know, put chains around trees and stuff, but I think there is a possible path to change the laws to restrict certain activities. I mean, we had chlorofluorocarbons that were legal for decades and decades, and that got passed so that nobody manufactures them to any extent anymore. There are things that can be changed. And anyone who's listening, please get involved in activity from the ground up, because it's not happening from the top down. I think we're all pretty much agreed. I mean, I think Emily is there in the top down kind of way. But, you know, I've been on the end of the sensor measuring this stuff for decades and decades. And and industry is not responding. So I think the only way is legal action.

Lance Gould: That's I think we need a top down and a bottom up approach. So I think I think in tandem they really work together. But Diana, how about what would you like to add here.

Diana Nyad: Now I'm going to go with the bottom up approach. And that is that, you know, the youth, young people, whether it be elections or protests, they have passion. They, you know, they're the ones who, you know, want change and insist on change. So it seems to me that fifth graders, sixth graders, junior high school students, you know, they they need to get a primer on what's happening. All of you important people and your important studies. They need to know about this. It's the kid at school who learns about the the devastating ingredients that are in Diet Coke that comes home and convinces their parents to never have a Diet Coke in that home again. And we're talking about now, the next ten years and then the ten years after that, it's those sixth graders, you know, who need to become impassioned and say, that's the work I want to do, and I'm going to get everybody I know and everybody in my family to pay attention to what we're doing with the world's oceans.

Lance Gould: Thank you, Diana and Paul, I know that you have not a very optimistic outlook on a lot of this, but what what would you say would be something that would be an important step that that we could take to protect oceans.

Paul Watson: I think the most important thing we have to get rid of our anthropocentric attitudes and begin to take a biocentric view, like indigenous people around the world have done for centuries, and a few still continue to do it. That is, we do not live on this planet by our by ourselves. But I tell you one lesson that I did learn many, many years ago when I was I was a volunteer medic for the American Indian Movement during the occupation of Wounded Knee in South Dakota in 1973. And we were surrounded. We were being shot at. 46 people were wounded, two were killed. I went to Russell Means, who was the leader of the American Indian Movement there. And I said, we don't have any hope of winning. The odds against us are overwhelming, so what are we doing? And he told me something that has stayed with me ever since. He said, we're not concerned about the odds against us. We're not concerned about winning or losing. We're here because this is the right place to be, the right thing to do and the right time to do it. Don't worry about the future. You have no power over the future, but you have absolute power over the present. And what you do in the present will define what the future will be. So that's where we have to focus our energies on change in the present.

Lance Gould: Wow. Very inspiring. And Mathias, I'm going to give you the last word on what we can do to protect oceans.

Matthias Egger: Yeah. And, I'm a little more hopeful. Maybe it's because I'm younger and I haven't seen it being destroyed for, I don't know, decades. Decades after decades. Only like a decade or two. But I think it's very important to remember the ocean is so resilient. Right. So if there's still hope, I'm convinced. I still hope. But what I what I also don't really like about all this conversation is people asking what is the most important next step? Because what we need to do is we need to do everything and everything at the same time. We need to, you know, look into CO2. We need to look into overfishing is another one, right? We cannot just kill marine life endlessly. There's eutrophication. You know, there's acidification. There's pollution. Not only plastics, there's also other pollutants out there in the ocean. But what we see is also, you know, when you actually study ecosystems and, you know, if you take away some of the pressure, some of those anthropogenic pressures, they can recover. But we need to do now. And, you know, that's why it's not a net zero sum game. You don't have to put all the resources on climate change or all the resources on pollution. Let's do everything at the same time and do it now. And it needs both bottom up as well as top down. And it needs technology as well as activism. It needs awareness raising. You know, we need to handle it and attack it from all possible sides. And I know from all the conversations I have and talking to people, I think that's what happening. So I do remain hopeful. I also understand that, you know, we've done a lot of harm to the oceans, but I remain convinced that it's not too late. And because that future doesn't seem right to me.

Lance Gould: Well, I'm glad we gave you the last word, which is not to take away from anybody else in their in their perspectives. But there's so many invaluable opinions that have been shared today. And I'm so glad to end on a on a hopeful note. I want to thank you all for this fascinating conversation, for sharing your perspectives here today. You all are doing such phenomenal work with consequences that seem bound to have more impact on our future than ever before. That concludes our program today. To rewatch this podcast or to see a transcript, go to the Samuel Lawrence Foundation website in the coming days. The website is SamuelLawrenceFoundation.org. Thank you so much to the Ocean Cleanup, Peace Boat US, the Captain Paul Watson Foundation, Blue Planet Alliance, which is one of the sponsoring partners, and our panelists for their participation in today's event. To learn more about the critical work all participating parties are doing to advance sustainable initiatives and to stay informed about upcoming events and important initiatives, sign up for the Samuel Lawrence Foundation

newsletter. Please also visit the BrooklynStoryLab.Net to learn about the purpose driven work that we are doing globally. Also, make sure you join us for the next Samuel Lawrence Foundation First Friday Series in July, when we will be looking at the massive problem posed by the millions of gallons of radioactive waste stored in an earthquake zone near San Diego. Thank you everybody, and goodbye.