

Verbatim Transcript of Lecture (Transcribed by Pauline)

Pauline Yu: Hello and welcome to the Fall 2020 Evergreen State College Climate Resilience and Justice Lecture Series. My name is Prof. Pauline Yu and I teach marine science at The Evergreen State College; I am joined today by some special guests, who are going to talk to me about the Evergreen Shellfish Garden. I am joined by Emily Wilder and Makenna Medrano. Emily is an Evergreen alumna and Makenna is a former [correction! current] student. So um, and go ahead and Emily introduce yourself, and then Makenna will give a brief introduction.

Emily Wilder: Hi, I am Emily Wilder, I'm also known as the "GeoduckGal" on Instagram. And um I'm totally obsessed with geoducks, so it's pretty cool that I, ya know, got that love at the Evergreen State College, 'cause that's the mascot of the college, so when I was at Evergreen. I graduated in 2016, and when I was there I was uh involved in student government, and in running the Evergreen Shellfish Club. And that was a project started in 2012 by Nate Bernitz and Derek King and it was a, it's an academic shellfish garden down at the Evergreen Beach—they have 2 miles of beach and a 1000 acres of forest, so the most incredible oysters can be grown there. Eh so for 2 and a half years I was running that, and we did, uh you know, midnight work parties uh during the winter in the rain uh every two weeks, and 1000s of students got to eat their first oyster. That changed my life and got me into oysters, so after graduating Evergreen, getting my MBA, I came back to the west coast to help revive the Evergreen Shellfish Farm and integrate it directly into academics. Uh so now Pauline Yu and Steve Scheuerell and Sarah Williams, other Evergreen faculty, they're all gathering together to you know, help make sure that this shellfish farm is an amazing part of the local educational system, um you know not just for Evergreen but for the community at large. So I'm really happy to be here and really happy that this is happening.

Pauline Yu: Thank you, Emily.

Makenna Medrano: That's beautiful. Um, my name is Makenna Medrano and I am a senior at Evergreen um, and I spent the summer working on this SURF project, for um, which is the Student Undergrad Research Fellowship, um and, we started the regeneration of the shellfish garden that Emily helped start. So that was really exciting and we worked with the professors that she mentioned. And I became interested with shellfish a while ago when I heard about microplastics in um, I mean up in shellfish tissues. Um and I met Emily at Cascadia Grain Conference and we kind of had a brief discussion about that, um and she was just like, super interested in shellfish and got me really excited, and kind of mentioned the project to me. And then we met again in Farm to...or actually it was Comparative Eurasian Foodways. She came and she did a demonstration on shellfish for my class, which was extremely eye-opening for me because until then, I didn't really realize the sustainability aspect of shellfish and oysters and their ability to filter the water and improve the environment around them. So that's really what sparked my interests and I was just full- force, I wanted to be the student to get the SURF fellowship for the uh regeneration. Uh and it was tough, it wasn't always easy and we had to go through a bunch of hoops because of the COVID but we made it happen. And we planted 2500 oyster seeds this summer. It was really, really exciting so, and we're still working. And now Pauline, Sarah Williams and myself have been meeting down on the beach and flipping the bags, and that's about it. And it's been a great experience and we hope to see some more student involvement.

Pauline: Great.

Emily: As soon as it is safe

Pauline: Yes

Emily: from COVID, unfortunately. (sighing)

Pauline: Yes, so actually um, we are fortunate that we have been given authorization to um, include small additional numbers of students, so uh we're capping it at um, a maximum number of 3 uh, for winter quarter and uh, hopefully we're on track to have a similar authorization in spring. Um, but yeah, for safety reasons we have to keep it really really small groups but um, yeah, I'm hoping that we'll get a few more folks involved in this uh, through the coming year, and also in the following years once it is safe that we can bring in, um, class groups as well, which was the original uh intent from this summer onward. So um so Emily, thank you for including a little a bit of your past history and um, I also want to um, give you the opportunity to talk about how, uh you know your um, your recent past and present and future you know, brainstorming—I know you had a lot of ideas going into the summer and um, I wanted you to have the opportunity to share a little bit about your, your bigger vision in terms of uh, the Shellfish Garden.

Emily: Thank you. Ahem. So when I was at Evergreen, you know Evergreen helps you figure out your passion, you know, and it helps give you the tools to, to succeed in that, so I really, I fell in love with sustainable food, um, when I was at Evergreen with the help of Sarah Williams, uh my, one of my main faculty members there. And not just sustainable food but like the marketing and psychology around it, and so how do you get people inspired and invested emotionally in something like climate change, um, or you know like, not polluting, and ahem like preserving our waterways. Uh. And one of the best ways to do it is through food and taste and engaging their senses. And so that's really the larger goal with the Shellfish Farm is to get as many students and staff and faculty to be able to experience the amazing sensation of eating an oyster, uh and the nutritious power of it. You know, and there's a reason that there's been this incredible uh, native food for thousands and thousands of years; uh you know shellfish, oysters, and clams. You know we're also growing Manila clams down at the beach, and there are some that have been down there for like 6 years, um and, they're like you know this big now, they're incredible. And there's also the native littleneck clam down there, and horse clam, uhm, and so we get people invested and once they start to care about the beach uh, it helps them get more connected into their own passion. So we're at Evergreen, we're really great at inspiring change-makers and you know a lot of the students who are going to be impacted by the Shellfish Farm, they're not just going to you know, maybe they're not going to go into shellfish but they're going to remember what it, that connection feels like and they're going to find it um, on their own and they're going to go out and they're going to change the world. That's my little ramble, sorry I get really like, for me really, it's this, this emotional thing. Like I, I love Evergreen, and I love Evergreen students so much, and I believe in their ability to change the world. And the more we can do to support them, um, the more we're going to be creating just thousands and thousands of people who want to contribute to social justice and to environmental change, and that's just like, it's the most important thing. So Evergreen really needs help right now, uh, you know like most schools, like most people right now, uh but the Shellfish Farm is going to be a way to, to get people engaged with that, ah and to bring you know, the attention and recognition that our beautiful little piece of the Pacific Northwest deserves, because these oysters that we grow are incredible. Everyone should be able to come and try them someday. Eld Inlet, where Evergreen is, grows such good oysters, (laugh) so it's just really cool. And someday we'll be able to grow geoducks down there—uh they might look a little ugly, it's not quite the right environment

for it, but we're gonna try it. And uh hopefully someday the native Olympia oyster too which is my absolute favorite thing in the world. Ah, it's like this big...this beautiful little oyster shell and I make them into earrings. And Evergreen and oysters are my life. (laugh)

Pauline: Cool! Thank you Emily. So um yeah, so that is the, you know uh, vision that um, we as a group want to help bring about, and you know, and to sort of like make that happen. I mean we're, we've been able to get Makenna to join us, to be a part of that student engagement. And uh, tell us a little bit about your uh, interests. I know you already mentioned that you've connected with Emily through local food projects but um, tell us a little bit more about your uh student interest in, uh you know, food sustainability and local uh, projects.

Makenna: Awesome, yeah I, I would say my focus over my educational experience has been sustainable food production and always kind of circled back to that, just because it is a really important value of my life as well, and I agree with everything that Emily said and she said it so beautifully too. It's just like, the importance of, like, putting value on the place where we are, and you know, localizing the food system too. And I think um, the Evergreen Shellfish Garden has kind of given me this opportunity to really participate in something larger, um and just like, put all of my knowledge that I've gained thus far into something, like, tangible that I can actually, like, touch and be down at the beach and planting these oysters and uncovering the nets from the clams and it's just been a really great experience, for a hands on learning experience. And just the emphasis of the sustainability aspect and seeing how like an adult oyster can filter some 50 gallons of water a day, and then when you think of the number, the amount, OK, times 2500 and then you're like seeing like the water and the area, and the quality um, being improved, which is just a really important aspect for me as well. Um, I work, I've worked in several restaurants in Olympia as well, and have kind of tried I've come to focus on food waste and those other aspects. Um. Which everything's all related and especially when you try to tie it back into climate justice and kind of the way the world is right now, and it's just like the little things that we can do to mitigate these changes, and uh especially yeah, the Evergreen Beach we have this beautiful gift and I want to share it with everyone too. (So it is)

Pauline: Great. I've appreciated your involvement so much—you've been really, uh, enthusiastic all along and really eager to learn, and it's been really great having you, uh involved in it. Yeah (glitch noise) and you know, thinking about all of these components of our connection to the food and the beach environment, which for, you know, just like the forests, we've maintained the beach in a pretty natural state. We've you know, minimally altered it, and all of those oyster shells and clam shells of the animals that naturally occur there, you know they stay on the beach, and then uh, as we bring in the oysters to grow on the beach, you know if uh people are eating them out on the beach, the shells they also stay there just like they do out at the state shellfish beaches. And so that um sort of like, recycles those uh, shells back into that environment for the organisms that live there. And um, studies have recently shown that's actually helpful to their survival so we're, we're keeping, we're keeping it all you know, contained right there. Um I should also add that the um, areas that we have set aside for the clams under the netting actually have a higher um, biodiversity and density of clams than in the areas outside of that, mostly because they're protected from predators. But um yeah, it's a really thriving patch of uh, clam activity and you know I look forward to you know, people getting to have the, the, the fun of getting to dig those up someday when we can have more people back out at the beach and you know, folks can have a clambake or whatever uh, someday hopefully not too long in the distant, in the future. Um so did uh, either of you have questions for each other or for me, or do we wanna sort of, sort of bring things into a close?

Makenna: I had an interesting thing to add when you were talking about the shells. Kind of this is a question for both of you um, as far as like looking at shellfish as a way to remediate polluted water, especially in the sense of nitrogen and um, oysters' ability to take nitrogen from the water and incorporate it into their um, shells and their tissue and if you had any idea of any studies about that or have heard anything (about that).

Pauline: I haven't heard anything directly, but one of the things about the you know, the Puget Sound in general, is that we do get some um, runoff from sort of like, the local urban environment and you know also, there's always some runoff that occurs with farming and what happens with that nitrogen is that it encourages the um, algal blooms in the Sound. And uh, as you may be aware, we do have some very intense recurring uh, algal blooms that occur every summer in the Sound; some of them are harmful, uh some of them are not so bad, but um, the idea is that that filtration done by the oysters, the more oysters we get in the Sound, the more they're going to be slurping up those phytoplankton and feeding on them and incorporating them into their bodies. So that nitrogen runoff, it may turn into algal blooms at first but eventually if we build up oyster populations around the Sound again, and clams and geoduck and all these other filter feeders, that they will slurp that in, and turn that into more uh mollusk biomass. And that does overall help the quality of the water because it keeps it so that the blooms are not as intense. And so yeah it is, um it is ultimately to the benefit of the Sound to restore as much uh filter feeder, whether it's oyster, whether it's clam population as we can because um you know, historically there were so many large populations of those animals and that you know, human appetite has drawn that down, but if we can keep, you know, managing those populations so that we have both enough to eat and enough to keep in the Sound to keep um, filtering that water, then can continue to, to have the benefits of both. We can you know, have our clams and eat them, or have our oysters and eat them.

Makenna: (laugh)

Emily: Have our clams and eat them too! Yeah, I have a couple notes to add onto that um from the perspective of like a shellfish company. Um, this is like why I believe in farmed shellfish so much um and like, why I recommend farmed shellfish, over um you know, instead of getting like wild shellfish uh, because we want more shellfish in the water—like that's the goal and so the more farms you have the better the water's going to be. There used to be so many more oysters, like the population of Olympia oysters is currently 1% of what it used to be and like the geoduck is um, geoducks are actually the largest biomass in Puget Sound, um of any species, like they're, they're the yeah, like if you added all of the geoducks they weigh more than all the orca whales that are in the Sound and all the like everything else uh on its own. Uh but their population is way down, it's way in the center uh of Puget Sound, it's not as much on the beaches, in the recreational areas are pretty like wiped out these days uh and that's, that's kind of a shame. Uh we should have been eating the while, eating the farmed stuff a while back, uh but now there are really great shellfish farms and are more and more growing every day um, to add more filter feeders into the Sound. Um but I also have to talk about you know, while we're talking about filter feeders and them cleaning up the water it's really really really important that I explain to you that that doesn't mean you're eating gross stuff or toxic things or that there's any chance of that ever. Uh you know that freaks a lot of people out (laugh) when they hear a lot of scientists talk about you know (laugh), the amazing filtration impact you know, "50 gallons of water a day, they're cleaning all the s\*\*\* out of the water" Uh oops I'm sorry.

Makenna: (laugh)

Emily: Um but they're, they're really smart, they don't ingest anything that's not algae, um they instead just wrap it in some mucus and send it out to go down into the, um onto the beach onto the sand uh and so they're taking the particles out of the water, but they're not taking it into their stomach. The only thing that they could eat that would be, you wouldn't want to eat would be uh a toxic algae like a red tide. Uh, but if the oyster ever eats that, that would be a time when that beach would be shut down for harvest, so no shellfish company is allowed to harvest from a bay that is currently experiencing any amount of toxic algae bloom, and they're really carefully monitored. Uh the Evergreen Beach has testing sites on either end of our 2 mile beach um and before any oysters are harvested from any shellfish farm that has to be checked. Um and that's really important to remember if you're doing any like recreational legal or illegal harvesting of shellfish from the wild; uh check the waters on that day with the health of Fish & Wildlife Department, make sure the waters are clean on that day. But shellfish farms are really heavily tested um they have really safe products, and they're really delicious. (laughs)

Pauline: Thank you for that food safety reminder that is a really important reminder that um, the safety of our food supply is also dependent on all of us keeping that water supply clean and healthy for both the shellfish and ourselves so.

Emily: And we're in debt to a lot of people for ensuring that.

Pauline: Yeah.

Emily: A lot of care goes into it

Pauline: Absolutely, yeah. This is, this is part of the great work that Washington state does to ensure the safety of our shellfish industry for people and for the shellfish. So, well thank you both so much for this conversation. This was really great and I hope that uh, folks uh got really interested and curious about uh the work that we're doing. And um, when it's safe we look forward to people, uh, coming and getting involved with the Evergreen Shellfish Garden and uh, spreading the word. Um we love to hear about folks and their interest in shellfish. Thank you Emily, thank you Makenna so much for your time today and um for those of you who want to follow along more with the Climate Justice and Resilience Lecture Series, stay tuned to the website, uh, the lecture series continues uh throughout the rest of the academic year at The Evergreen State College. Thank you again for tuning in, um and have a \*shellfish day you both\*.

Makenna: (laugh) Thank you guys

Emily: Bye

Pauline: Bye