

A TEI Project

Interview of Laura Allen

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COLLINGS

All right. Today is July 10, 2014, Jane Collings interviewing Laura Allen at Eco-Village. Why don't we just plunge right in since we're speaking about water. And would you be so kind as to tell me when and where you were born.

ALLEN

I was born in Arcata, California, and I grew up—we moved when I was very young to a place called Freshwater. It was a little bit in between Eureka and Arcata. It was kind of a semirural road. We had neighbors, but it was there was a pasture and then a house and a pasture and forest around, and we had a neighborhood water supply.

COLLINGS

I see.

ALLEN

So there was an artesian well that fed a big tank, and that supplied the water to maybe ten or twelve homes on our street. And my father was the kind of caretaker of it, not originally, but over time he kind of became the person taking care of the water, so I remember him—if a neighbor, if they, like, left their hose running all night or if a pipe broke, it would drain the tank down, and the spring filled really slowly, so then there would be no water. So the houses that didn't have their own little backup supply would turn on the tap, and nothing would come out. So it was this very direct feedback of if you waste this water, it's actually going to run out, then you have to wait for it to refill.

COLLINGS

Oh, that's so interesting.

ALLEN

So as a child, the water supply was very local and it was obvious when we had an impact on it.

COLLINGS

Right.

ALLEN

And then I moved to—I went to college in Berkeley, so I went to UC Berkeley and studied environmental science. I graduated and I was living in a house with seven other people, and I'd been a renter the whole time and I had never seen a water bill. And at this new house we all were living in, we got a water bill and we were like, "What is this? We have to pay for water." That was a shock. None of us actually knew where the water came from, so it was a big wakeup call that, "Wow. I don't have any idea anymore where my water's coming from, where it's going, how much we're using." So that water bill was an awakening.

COLLINGS

Right.

ALLEN

And in our household, we are responsible. Well, okay, we're raising a lot—like, where does it come from? So we did a lot of research, we learned about it, and then we thought, well, we should at least be using this water again, because I lived in Oakland, and that water comes from 93 miles away, there's two dams, there's this huge impact on the river system, and then it comes to our homes, and then it just gets dumped into the sewer plant and out into the Bay. So our response was, "We should at least reuse this water," and we built, like, the worst greywater system you could ever imagine, the very first greywater system. It was very poorly functioning, but over time we improved it and improved it and improved it, and have been doing that ever since.

COLLINGS

Just backing up, how is it that you were living in this rural area? Was it farming community or—

ALLEN

No, it wasn't. So it's in Humboldt County, and I went to the schools in Eureka. Where we lived was maybe seven miles out of town, so it wasn't totally rural, but people had horses and cows. I mean, the economy there is more centered around logging and fishing, or it used to be before both those economies aren't doing well. There's a lot of timber, and it's right on the coast. There's a little bit of farming, but not much.

COLLINGS

And was it like a liberal community or a conservative community?

ALLEN

Well, it's funny, because Eureka and Arcata are just, like, seven miles apart, and Arcata is extremely liberal as a university. It's had people on the city council that were, like, identified as anarchists, like, very, very liberal. They voted to not support the Iraq War. They have an extremely innovative wastewater treatment plant. They were one of the first that used a natural treatment plant. And then Eureka, where I went to school, is extremely conservative. Our mascot in high school was the Logger. You'll see trucks that have, like "I eat spotted owls for lunch," on the bumper stickers.

COLLINGS

Oh, gosh.

ALLEN

So these two towns are very close to each other, but extremely different. So you kind of have the two—

COLLINGS

So you got a sense of how you wanted to approach things and also a sense of who you needed to bring the message to, I would imagine.

ALLEN

Yeah. I mean, growing up, I went to schools in Eureka, so Arcata was not as familiar to me, though I'd go there sometimes, but I was more, like, all my peers were from the Eureka area, so it was more in the "I eat spotted owls for lunch" kind of school, so it was more, like, the people I associated with and how I identified, like, didn't agree with that for sure, but weren't quite sure, like, what is the alternative. And my family was very environmentally conscious in certain ways, in, like, we had a garden, and they were—

COLLINGS

And were they unusual in that respect in the community?

ALLEN

No, no. That community has a lot of extremes, and people all live close to each other, so you personally know people from all the extremes.

COLLINGS

And had your family always lived there, or did your parents move there for a specific reason?

ALLEN

My mother grew up there very close to Arcata. I think she was maybe young, in elementary school when she moved there, so it's a very nice place to live. And my father grew up in the—his older time in Walnut Creek, which is close to the Bay Area, and so they wanted to move there, but when they first were married, they lived a few other places to get jobs. It's hard to get jobs there. They're both schoolteachers, so it's not—

COLLINGS

So they got school-teaching jobs up there.

ALLEN

Yeah. They taught for a few years in other parts of the state before they moved there.

COLLINGS

And do you have siblings?

ALLEN

One brother.

COLLINGS

What does he do?

ALLEN

He works for Gallo winery.

COLLINGS

Oh, interesting.

ALLEN

So he does kind of computer stuff.

COLLINGS

So you got this kind of early, as you said, education about water husbandry. Why did you decide that you wanted to go to UC Berkeley?

ALLEN

I was attracted to, like, the Bay Area in general, like, I wanted to live in Berkeley and I wanted to study environmental science, so it seemed like a good fit.

COLLINGS

Right. And who did you meet in Berkeley that you sort of started to do things with? You said that you moved into a house and—

ALLEN

Yeah, and that was actually after. First, friends that I kind of was interested in, similar music, that kind of thing, and then I started volunteering with Food Not Bombs. It's an organization that cooks food and pick up food from farmers' markets and grocery stores and things, and cooks meals and serves them for free in a local park, and it's very—it has this really organic model, like, anyone can come, like people who eat the food can then go and clean, help, like, wash the pots and stuff, so it's very easy to participate and it feels—it's really not a charity model in any way. It's a very empowering model, like, people can support each other and people can just reuse food. It's just this really great, super replicable model that it does happen all over the country. And so I started doing that and I met people that had more politics that I was interested in, that I kind of had these ideas of, but I wasn't very developed, and my political views of the world and environmental views as well. So I learned a lot from the kind of greater Bay Area community. As well as in school, you learn a certain aspect, but it was more I learned a lot about other things from people.

COLLINGS

So what was the difference between what you were learning in school and what you were learning from your community involvement?

ALLEN

So environmental science at UC Berkeley is not a very—what's the word? It didn't feel very environmental to me. It was pretty disappointing overall. It was a lot of science classes and a lot of classes that were kind of gearing people to work for some—be like the token environmental consultant or whatever for some corporation. That's kind of how I felt. So I had a few group of people, a small group, where we had shared views, and we, like, at the end, we had to fight our department to get our theses (sic) printed on recycled paper. For an example, it was, like, very frustrating, like, "Why are we even talking about this? We're environmental science department, and you're going to print on virgin paper." There was, like, four of us. We were like, "This is crazy. We have to print on recycled paper." So that's just an example. It wasn't a very environmental department, even though it was called environmental science.

COLLINGS

And when did you graduate?

ALLEN

I graduated in '98, and I also worked for a recycling collective on campus and a composting collective, so we were recycling the campus' paper and bottles and composting from the dorms.

COLLINGS

And would you say that this was sort of the beginning of those kinds of activities at Berkeley or—

ALLEN

No, I think there's always—Berkeley—there's a lot of departments, and there's, I think, a lot of tension or disagreements between students and faculty sometimes or administration or, like, they're not always in line, and it's a big school.

COLLINGS

And what kinds of things did your friends in the program go on to do? Do you have an idea?

ALLEN

Some teachers, and some people actually went to, like, waste management, like, recycling, like, professionally.

COLLINGS

But in general, it was kind of more of a corporate track you were suggesting or—

ALLEN

That's how I felt. I'm not really sure what everyone did, but it didn't feel—there's another department called environmental science policy and management at Berkeley that was—I probably should have been there, but as an eighteen-year-old, I didn't really know what—

COLLINGS

Oh, I see.

ALLEN

Like, there are different—I went to one that probably wasn't the best fit for me, though it was fine. I mean, I learned a lot of things and got a degree and—

COLLINGS

Right. So while you're in—1999, you said you graduated in—

ALLEN

Eight.

COLLINGS

Eight. 1999, founding of Greywater Guerrilla Girls.

ALLEN

Yeah. So, going back to the house I lived in, so this was the year after I graduated from college. We, getting our water bill, like, “What is this, and why are we doing this?” and then building a greywater system. And for my job, I was working for a solar energy company and taking a plumbing class, because after college, like, I didn't really know how to build things, or, like, I knew a lot of book knowledge, but I wanted to be more practical.

COLLINGS

Oh, that's interesting.

ALLEN

So I was working for a solar energy company and then taking a plumbing class at a community college, and so I was excited about, like, plumbing and fixing things and learning about the house, how the house is built. And so the water bill was good timing, because it was like this intellectual, like, “Ooh, this is not right. We don't agree with this,” and then, “What can we do?” So the plumbing class was helpful to have the confidence to do that. My housemate, Cleo Woelfle-Erskine, he had worked in New Mexico doing blackwater systems, so, like, reusing all of the wastewater, so he kind of had the idea, like, we can reuse this, and I was like, “I'm taking a plumbing class.” So we just put those two things together and sent our shower water out to the garden.

COLLINGS

How did the owner of the house feel about it?

ALLEN

Oh, it was a total slum house. Like, our absentee landlord—there was a hole in our roof, it would rain in our house. The bad part was, like, the house was in

bad shape, but the good part was we did not feel bad in any way for altering the plumbing or not knowing—

COLLINGS

Yeah.

ALLEN

Yeah. It was the perfect house to experiment on because—

COLLINGS

Oh, that's wonderful.

ALLEN

Yeah.

COLLINGS

So that was the first step. You started using the shower water in the garden, but things sort of went from there, because—

ALLEN

Yeah. So then we—it was great, and we were like, “This wasn’t very hard,” like, “Why isn’t everyone doing this?” So we wrote a little—it took a little while, but we wrote—it’s called a fan ‘zine, called The Greywater Guerrilla Girls Learn to Plumb—no, The Guerrilla Girls—I forget. There was part writing about the political side of, like, water, like where it comes from, where it goes, like, all the history of dams in the West. And then there was the, like, “This is what we did at our house,” and some of the plumbing and greywater things, and it was very—it was fun, easy. It was, like, printed at the copy store, and people really liked it, and we taught some little workshops at our—we had some local skill shares, and people were interested in it, so we kind of kept—then we kept learning more, which is very important, kind of refining things.

COLLINGS

And how did you distribute the—

ALLEN

The ‘zine?

COLLINGS

The ‘zine.

ALLEN

So there’s like a whole network in the ‘zine community, like, people—like, at the beginning, we probably just gave them to people we knew, and then it had our address, so people would write—or maybe it was our email, and they’d mail three dollars and we’d mail them the ‘zine. Like, we had requests from, like, Australia. Just it kind of gets out there into this network. There’s like ‘zine gatherings and it’s this whole network. So I don’t actually know how it got all over, but that ‘zine really went far.

COLLINGS

Really?

ALLEN

Yeah. I don't know exactly how.

COLLINGS

And why was it important—was it important that it be Guerrilla Girls?

ALLEN

We were all women at the time, so Cleo, who I mentioned, he was a woman at the time and now he's a man. We didn't plan it that way, but that's how it ended up.

COLLINGS

Was there any kind of feminist subtext to what you were doing?

ALLEN

Yeah, empowerment. Yeah, for sure.

COLLINGS

Were you the only woman in the plumbing class, by the way?

ALLEN

I wasn't, no.

COLLINGS

Oh, you weren't?

ALLEN

No. There was several women, maybe four.

COLLINGS

So what was the next step then, after getting all of this information out there?

Where were you headed with this venture?

ALLEN

So we moved to a different house and we did different systems and kept doing, and then we did little talks and tours, and the interest, like, was very strong. And we eventually got tired of going to the copy store and making copies of the 'zines, so we said, "We should really turn this into a book." So Cleo and I worked on a book. It's an anthology. It's called Dam Nation: Dispatches from the Water Underground, and others. These projects were always a group of people or several people. The people kind of changed overtime. So the book, Dam Nation, we worked with a—we had a publisher, but it was kind of, like, we presented an idea, and they said, "Great." So we worked on this book and expanded it and included more international, like, dam-removal projects and dam-construction projects and included composting toilets and rainwater harvesting.

COLLINGS

And why were you focusing on dams in the anthology?

ALLEN

Well, dams are kind of a single, like, giant structure that have caused immense damage to ecosystems, to communities dependent on having healthy rivers, and

a lot of Native American communities have been really damaged from dam construction and the whole—salmon has been such an integral part of people and fish in this country, everywhere that there's water, and dams are really extremely destructive to fish and all of the organisms that live in the free-flowing rivers. And then internationally and nationally—it's happening more other places, because here we've pretty much dammed almost every possible place, but other places they're still building dams, and it's displacing millions of people, I mean just huge negative consequences. The benefits are, arguably, you could get the same benefits in other ways that aren't so damaging to communities and cultures and the environment. And they kind of epitomize, like, the large, one-size-fits-all, like, Western colonial mindset of, like, "We'll just control nature." Like, "Just put a dam. We'll get the power, we'll get the water." Like, "Who cares what's going to happen to everything that did depend on this river?"

COLLINGS

So you were getting sort of the word out to this community, or were you advocating policy or a course of action?

ALLEN

Well, I think it's important for people to change. It's possible to right now go home and make some change in our homes, and making a lot of changes. Like in the homes I've lived in, we reuse our water, we have composting toilets, we don't waste the water in that way, and if a lot of people do that, that is a different way to engage in the water system. So it's important. Many people don't understand how we participate in this extremely destructive system, and how we can pretty easily do it a different way, though just by a few homes or even a few thousand homes, changing how they engage in the system, it's not going to take the dam down or restore the river, so there's the whole restoration side, too, which we need to, as communities, be stewards of our watersheds. And so in our homes we can be stewards by these small systems, and then as a community level we need to do the restoration because there's been so much damage done. And then policy plays in. Like, there are definitely policies that need to be changed. At the beginning, we didn't really focus on policy at all. For, like, the greywater, we called ourselves "guerrillas" because it wasn't legal.

COLLINGS

Yes, yes.

ALLEN

And over time, we're like, "Well, actually, we should really try to change this, because only so many people are going to do things when you have to be guerrillas about it. Guerrillas, not the hairy animal, gorilla. [laughter] So it

needs to be legal. It doesn't make any sense for these things to be illegal. So then we got involved in the policy.

COLLINGS

So was that kind of a discussion within the group about perhaps changing course, or was that a fairly natural transition?

ALLEN

It was a natural transition, yeah. And when there was the drought, there was—so then our group for—between 1999 it was like the 'zine, and we were very extremely grassroots and still in our learning phase, and then over time we learned a lot more, and maybe in—I'm bad at remembering the years, but it might have been like 2005 or 2006, Christina Berteau, who's a licensed plumber and very environmentally conscious and had done a lot of natural building, she joined our group, so we got our plumbing skills kind of improved, because I'd taken a class, but I am not a licensed plumber. And we did a lot of workshops. There was a drought. In 2008 and 2009, we were doing workshops like almost every other weekend, like, we couldn't do enough, and people wanted to have greywater systems, and it was still all illegal. So there was this huge number of people wanting to do this, and the state saying this is illegal, and that was a tipping point.

COLLINGS

And were people wanting to do it to save on their water bill, or were they wanting to do it for philosophical reasons?

ALLEN

Well, when there's a drought, there's multiple reasons. The biggest reason, I think, is environmental awareness, like, people understand that water is precious, and in our state we don't have—

COLLINGS

So this was the audience that you were connecting with?

ALLEN

Yes, this is the audience. It doesn't make any sense to be sending this water to the sewer. There's all these negative sides to it. It's like recycling. Like, why would you throw recycling in the trash when you could recycle? But it's much more direct.

COLLINGS

That's a really good way of putting it.

ALLEN

Yeah. So we're recycling water in a very affordable, simple way. All you have to do is change your soaps, and then the water is a great irrigation supply. So we had a lot of press. At first, the press started out saying like, "Breaking the Law to Go Green." That was one of the titles that irritated me to no end, like,

that was their focus, like, “These people are kind of like rebels.” Like, “They’re breaking the law to save water.”

COLLINGS

Yeah, it makes the article fun.

ALLEN

Yeah, exactly. So that was kind of the vibe of the press at first, like. And then there’s this extreme drought, and then it was like, “Wait a minute. Why is this illegal?” So then they started to ask the questions that I thought were much more important, like, state doesn’t allow people to reuse their water, like, that kind of thing. [telephone interruption]

COLLINGS

Okay.

ALLEN

So the conversations that the—kind of the media conversations had shifted to, “Why is this not allowed? Why does California have these outdated regulations?” Like, we’re in this extreme drought. There’s rationing most places on the state. Like, “Why are people not allowed to send their washing-machine water to water their plants?” So there was a lot of pressure, and then the governor declares an emergency, most places had these mandatory reductions, and there was a Senate bill that required—so it’s a little bit confusing, the codes, because it depends on what state you live in, and there’s local influence, so it’s hard to say in general in a national audience, like, how greywater’s regulated. But in California, greywater’s regulated in the state plumbing code, so a Senate—so that legislation can’t change the plumbing codes. That’s a building code. But they can require the person responsible to change it. So there was a legislation that required—it actually took it away. It had been in the Department of Water and—I’m forgetting the name. It was a different department that didn’t regulate the home, residential homes, and they had been kind of known to be very conservative and not supportive of greywater at all, and so the code that they had had was extremely restrictive, and people couldn’t follow it in an affordable, reasonable way. So the legislation took the code away from them and gave it to a different department and said, “You need to rewrite this code. You have a timeline, and you have to involve the stakeholders.” So that started this code-writing process that happened specially for greywater. It was outside of the normal timeline that they used. So they were required to write the greywater code. So Greywater Guerrillas, we were a stakeholder, and many other people, and we kind of used our position as being really well connected with a lot of homeowners and renters and people who lived in California to tell them what was going on, because people don’t know about plumbing codes, so we told them this is going on. So the meetings that happened were very full, like, they said more people

participated than had ever in any code rewrite in the past. They had hundreds of letters, there was media coverage on it, like, just the process was really different. It was much more involved with people—the stakeholders really are people who live in the state that need the water or use the water, but normally the stakeholders are, like, the manufacturers of these parts that if the code changes, you have to buy their particular part, or the building officials. Normally it's a very pretty narrow group not involved with people.

COLLINGS

The actual users of the—the end users of the water.

ALLEN

Yeah. So they were very well attended and engaged participants and a lot of pressure, general state pressure, to make it legal. So those combined factors resulted in a code that was much better than before, and you could even build a system following guidelines with no permit, which was totally different. In the past, you had to spend, like, hundreds to thousands of dollars on a permit, and now you could do something with nothing. So that was great. It was like a huge success for Greywater. That was in 2009. And the other thing about that was it required—the code went into effect immediately, so it was like, “Now you can do this.” Sometimes, like, other states, they'll write a code, and it'll be like, “2017 you can do this.” This was like, “Immediately you can do this.”

COLLINGS

So what were the arguments for the original code? Why was the original code written as it was?

ALLEN

So greywater, the concept of like having different waste—it's called wastewater. I mean, “wastewater,” that term is inaccurate, like, water is not a waste. You can pollute the water, and then you have polluted water to deal with, but it's not wastewater, but “wastewater” is the term used for anything leaving our homes. So you rinse a carrot, that's wastewater. You flush the toilet after you go to the bathroom, like, that's the same type of wastewater under the way water's classified. So it doesn't matter if the water's practically drinkable or if it's flushed down the toilet, which is totally not drinkable, it's all considered wastewater. So calling it greywater, which is separating fecal matter, basically, out of the other water streams, it kind of challenges the notion of indoor plumbing because plumbing is not supposed to be separated. It's all supposed to combine one pipe and go away to the sewer plant or the septic. So when you're talking about taking the stream of your shower out of that and going to your yard, it just kind of breaks the creed of the plumbers, and it's like a psychological, like, challenge to people who work with, quote, unquote, “wastewater.” So it's hard for many people to understand—or not many people. It's hard for people from that industry to accept, like, actually this is different,

and it's not going to kill anyone, you're not going to get typhoid or cholera or that kind of thing, which before we had sewer plants, you know, there were major problems with disease and contaminated water. So there was this fear, like, "Oh, that's wastewater. It's dirty. You can't reuse that. It's dangerous." The fear of disease is a huge driver, which is interesting because there's no evidence, like zero evidence, zero cases of illness, like, absolutely no evidence in any way that people are getting sick from reusing their water. There's a potential, like, if someone is—if they're sick, they wash off, they get germs in the water, someone else goes and drinks that water, which it's going to be hard to do if it's going into your soil. There's this hypothetical potential for disease transmission, which is kind of silly because you're also talking about people that are in the same house who are, like, sharing glasses or touching the doorknob or, like, maybe hugging, like, people—these are people that are in the same house, like, mostly it's a family, so they are much more intimate than the concern of, like, getting a germ out in the garden soil. But that is a big driver, fear of disease, fear of lawsuit. So, yeah, fear. And then just backing up a little bit, we have an existing sewer system that causes millions of documented cases of illness every year, because you're dumping sewage, which includes the toilet, into a water body where people swim, and it's not always treated all the way, so there's literally millions of cases of illness from this legal system, and there's zero from greywater system. But fear of illness and fear of lawsuit is a major driver, which it's hard to—yeah, it's very misplaced.

COLLINGS

So when you were at these hearings, what kinds of narratives were the opposing side bringing forward?

ALLEN

Yeah, it was really interesting. So the state health department, which you would—they are the ones that understand health and are very concerned about public health, that's their job, they spoke in complete support of the new regulations, saying that limited water supply is a health risk, contaminated water is—like, there's these other risks with our water supply that are much greater risk to public health than reusing your own water in your own house. But there'll be like a building official from some town who has—or these were all men, so he would be a building official, is not a public health official, is not trained in public health, will be talking about how this should absolutely not be allowed because people are going to get sick, that kind of thing, whereas—

COLLINGS

So it was mainly about fears of illness?

ALLEN

Fear of illness. There's also fear—without a permit, there's fear that people are going to do something wrong, which is a fear they're going to mess up their

plumbing or do—yeah, fear of doing something wrong. But we know that having these restrictive guidelines, it doesn't make people do better systems. It makes them ignore the law at all. There's an estimated 1.7 million unpermitted systems, so we have in our state a lot of evidence that having a restrictive code does not mean people are going to build these very safe systems. It means they're going to ignore them, and it means there are not going to probably hire a professional, because a lot of professionals won't want to do that, and it means they won't be able to go to an agency or a water district or anyone for support. It just means they'll ignore it and not build a safer system.

COLLINGS

So when you went into this rewriting of the code process, did you feel going in that you were going to succeed, or did it seem very daunting at first?

ALLEN

At first it seemed daunting because—so I don't know how much I should talk about codes, but there's a lot of very—well, like, California's required to start with this other code called the Universal Plumbing Code written by a private—by not a state. They're a private company/nonprofit who then sells the code. The country has many states follow this Universal Plumbing Code, and then others follow this other one. So they were required to start with that and they had a greywater chapter, which was horrible, like, just terrible. So the first meeting, we were very discouraged, because it was, like, practically the same as the old one. But they got extremely strong feedback that this code doesn't work at all, and California adopts it, so they were trying to tell us, like, "Don't worry. Don't be upset," like, "We will change this, but we have to start with this starting point." So this was this terrible starting point that was then adopted. So then the next one, when they did the first draft, it was much better, so then we were feeling more encouraged, and they were listening. We had a group. We kind of organized a group of people around the state who worked on greywater, and so we'd take a draft and we would edit it and send it to everyone, and so we got kind of the combined edits of everyone involved who actually knew about greywater. The other problem is people don't really understand it, so they will put, like, some little tiny line in the code, and it sounded like a good idea to them, but the implications of that when you're trying to build a system can be extremely negative, and they don't really know, because most of these people have, (a), never seen a greywater system; (b), they just don't have the experience to understand what a line of text in a code translates to the real-life application. But this group of people, regulators, they were very open. They listened. It was pretty amazing to really see how they listened to the people that did it, because they have a job and they know a lot of things, but they knew they didn't understand, like, how this played out in the field, and so they took the feedback of the people that worked in the field. So

we had these emails going around, and the code was long. I mean, so many details. It was a big effort.

COLLINGS

Yes. It sounds like quite a triumph in the end.

ALLEN

Yeah, it was. Then, so California has—the code cycles are every three years. So then three years later, which recently just happened, they have this other draft, and it went back to—like, it was a big back step, so then everyone had to be, like, “Wait a minute.”

COLLINGS

Why was there a back step?

ALLEN

Because they again started with the Universal Plumbing Code, who revised their chapter—it’s called chapter 16—who revised their chapter 16 and incorporated some of what California had improved it, but didn’t do all of it, and so California took that and started it again. We said, “Wait a minute.” So you can’t triumph and then leave. Codes are constantly being changed, and the people writing them are usually not the people building these systems. And being in our country, we have these groups, like, who write the Universal Plumbing Code as well as this other code, the ICC, International Code Council, this other entity, and these entities are not environmentally progressive. They’re business-as-usual, they’re driven by industry, they are totally disconnected from kind of grassroots. Like, their codes are not meant to solve problems with our environment. They are meant for other things.

COLLINGS

What are they meant for?

ALLEN

My opinion is they’re meant to prevent a lawsuit, they’re meant to make companies who sell the products wealthy. I mean, if a code writes you have to do this thing, and only one company makes that thing, oop, I guess every single person in the state has to buy that one thing. I mean, that totally comes into play, so they’re influenced by people who can fly around to meetings in their suit and their— you know. So they’re very driven by these big corporations, companies who sell products, and those people can go to all these meetings and say, “Oh, but if you do that, then this weird random thing could happen. That’s dangerous.” And then they’ll say, “Oh, we’d better not do that,” and change the code. So people who are in the room have a big influence, and who can be in the room at all these places it’s these—yeah.

COLLINGS

Well, have the drought conditions created pressure as well as what your group was doing?

ALLEN

Definitely. And it would be best if, like, the—IAPMO is the company that writes the code that California has to start with. They're like a kind of a non—they sell the code to the state. They make the Universal Plumbing Code, so they are becoming more—their codes are improving because of the pressure, but they're, like, behind. They're lagging behind. So when you have this, like, you're trying to drag along this code that is very old, it's outdated, it's not progressive, the focus is not to make safe, legal, affordable greywater systems, when that's what you're always having to start with, it's definitely a barrier. So other states don't have that, but that is the situation of California. Now there's more groups involved who are engaged in these code meetings.

COLLINGS

It's continual spadework, it sounds like, where you just have to sort of keep at it, and the battle is never won.

ALLEN

Yeah.

COLLINGS

So let's just kind of go back a little bit to the very earliest days of Greywater Guerrilla Girls. Who were the people in the group? Let's just kind of get their names out there and say a little something about them.

ALLEN

So, Cleo, who I already mentioned—his name was Clea at that time—and I and our housemates at that house, there were a lot of—I don't know if everyone wants to be named on the Internet, so I'm not going to say everyone's name—

COLLINGS

I see.

ALLEN

—but our house was very involved in different levels. Annie, who was the illustrator for Dam Nation, actually, Annie was a little bit later. It was mostly our household at that point, and Cleo and I were—

COLLINGS

In the very earliest days?

ALLEN

Yeah, the very earliest days. And Cleo and I were kind of the main people, like, you know, cutting the pipes, but our household was supportive and involved in different ways. And then in our new house, when we had moved, we had a slightly different group of people, but our household was always involved, and then there was other people, like Annie was involved at the next stage and did all the illustrations for Dam Nation and was involved in all the workshops and things at that point. So then the group kind of shifted. Well, Cleo moved to Montana, and Oscar, who was also involved, moved away, but when Christina

came into the group and Andrea Lara, they're both active in the group, and the three of us did a lot of the workshops at that point, and that was in, like, 2008, 2009, 2010.

COLLINGS

And who came to the workshops?

ALLEN

Mostly homeowners or renters who wanted to make some changes. There were a lot of people. People were engaged in—they were either just aware, environmentally aware, like, wanted to save water, or a lot of them were involved in other organizations that—

COLLINGS

So it would not be sort of the suburban large-lawn crowd?

ALLEN

No, no. And we got people coming from all over. Like, we did them a lot in at first mostly the Bay Area, and then we had people fly from L.A., and then we did some tours down to L.A. and San Diego and did workshops down here in Southern California as well.

COLLINGS

But it was within a specific cohort of perhaps young people who are environmentally conscious?

ALLEN

You know, there was definitely a mix of ages, more people under fifty than over fifty.

COLLINGS

You said as you got involved in the code-rewriting process, you said that you were involved with a lot of other groups who were giving feedback on the code.

ALLEN

Yeah.

COLLINGS

What were those groups?

ALLEN

So those groups, there's Art Ludwig, who lives in Santa Barbara, and he's written the book, *Create an Oasis with Greywater*, so he's kind of seen as—I think some people have called him the grandfather of greywater or the—something. He's not that old, but that kind of—he's been doing this for a long time in California. And this man Steve Bilson, who has a company called ReWater, and they do really high-end systems, he did, in Santa Monica, the NRDC's building. They have a big fancy greywater system, and he did that. So he's more of kind of the high-end complicated, but complicated in the right

way, because they're systems that are automated and they water whatever, lawns and things.

COLLINGS

Right. So this is an instance of not an individual house.

ALLEN

Yeah, more commercial scale. And we're very focused on the simple, low-tech, affordable systems. There were groups—there was a group in Santa Cruz called Ecology Action that was really involved. There were some cities who were promoting water conservation, and after the code—and they were wanting the code to change, so they could be—

COLLINGS

And which cities were those?

ALLEN

San Francisco, they were coming to the meetings. In Sonoma County, some of the people were from their environmental health department. The meetings were in Sacramento, so they were a little bit more—more people from Northern California came than Southern, though there were some Southern California people.

COLLINGS

So you said that once the new code was written, it was effective immediately.

ALLEN

Yeah.

COLLINGS

What happened the next day, do you know?

ALLEN

I'm not sure the next day. [laughter] But what happened was, well, a lot of conversations. What happened very quickly is agencies could promote this, especially the kind with no permit, because permits are—they're a barrier in so many ways, and one of the ways they're a barrier is people don't want inspectors coming to their house. They're worried people are going to see their illegal shed conversion or their whatever. There are so many reasons people don't want an inspector, especially—if they're building a new house, then, yes, everything's getting inspected and all that, but when people have their house, they've been living there, they don't want—so there's this fear or mistrust or dislike or whatever. So agencies could promote this without having an inspection, and a lot of times, the water district or someone like the water conservation person would come, but that's a totally different person coming, so they would—like pre- and post-inspection, it's very common for, like, lawn-removal rebates. Like, they want to make sure people are actually doing these things. So agencies started to rebate them, do classes.

COLLINGS

Wonderful.

ALLEN

San Francisco did the most extensive program. They created a manual on greywater and free classes for San Francisco residents.

COLLINGS

Oh, terrific.

ALLEN

Yeah, they really promoted it more. Even though San Francisco's one of the harder cities, because they've got a lot of hills and tiny houses and big buildings, I mean, there's a lot of logistical barriers for San Francisco residents, but the city still promoted it very well. And Santa Rosa did a lot of promotion of greywater, and they're a little more suburban, so most of their water users can install a greywater system. They did classes and gave away kits. And nonprofits. Daily Acts in Sonoma County, they worked with City of Petaluma and City of Cotati, so that started happening pretty quick.

COLLINGS

Wow. That's terrific.

ALLEN

Yeah.

COLLINGS

Say a homeowner is going to convert to greywater. What do they do? What's the first thing that a typical person does in their home?

ALLEN

The first thing they typically do is their washing machine, and that's a system that you can do with no permit, because you can access the water from the drain hose of the machine, so the machine is pumping out the water. Usually it's pumping into a utility sink or a standpipe, and you can, like, look and, like, see the water getting pumped out. So you just grab that hose and you connect it to a valve that allows you to control the direction of the flow. So you plumb one side of the valve back to the sewer or septic, and if you turn the valve one way, nothing has changed, like, you haven't touched your plumbing, you haven't changed anything about your house, nothing. And then the other side, that's when you make the change, that goes to your landscape, so you direct a new pipe that's going out to the yard, and then there's some design involved, like how much water, how much do your plants want. I mean, they have to make some thoughtful small calculations, but basically they just send the water out to their plants. Trees are great, bushes. The biggest plants are easiest, and then they buy the plant-friendly soap and do laundry, turn the valve, and they water their trees or whatever.

COLLINGS

And if they don't have a washing machine, what would they do then?

ALLEN

So, showers or usually showers and sinks, it's a little more complicated, it can be because you have to access the plumbing of the house, and so technically that does require a permit, though kind of a funny note about that first code change. The first draft that they approved allowed you to install a single fixture, like one shower, without a permit, but then that was taken back, because other, like, building officials were like, "What? You're going to let people do something to their house without a permit? No, way." But there was a time from August 4th, 2009 to January 27th, 2010, where it was legal to install one system with no permit. So you do need a permit unless you did it during that window. [laughter] So you're cutting into your plumbing, you put in this diverter valve, and then one side goes to the sewer septic and the other side goes to the greywater system. So it will be more usually a gravity-flow system if your yard is downward sloping or small and flat, or you might have to pump it if you have a hill.

COLLINGS

And what kind of feedback were you getting once all of the cities were getting out all this information, people were making these conversions? Were you hearing back at all?

ALLEN

Mostly what I hear from is people who have questions. Another barrier, which continues to be one, is the lack of local installers. So Greywater Action—we changed our name to Greywater Action to kind of be more inclusive of a wider audience and have our ideas heard more, because we started having a lot more contact with agencies and we wanted them to listen to us. Listening to Greywater Guerrillas, people are like, "What?"

COLLINGS

Yes.

ALLEN

So we wanted our name to be more inclusive for a wide audience.

COLLINGS

And you changed the name in 2009?

ALLEN

2009, yeah, after the code change.

COLLINGS

After the code change.

ALLEN

Yeah, after the code change. I got a little bit sidetracked.

COLLINGS

Oh. Well, what were you hearing—

ALLEN

Oh, feedback. So—

COLLINGS

—back once people were starting to do this?

ALLEN

“Where can I buy the valve? Where can I get this part? Who can I hire?” Like, on this still I get emails every day, practically. “I live in x town. Who will install a system?” So the people that are handy, they get this info, they can just do it, but the people that they need a little support, like, who do they call? They call their plumber and the plumber tells them, “Greywater’s illegal.” And they’re like, “No, it’s not. I read an article.” You know, people have so much misinformation still. Or their plumber gives them a quote for, like, \$20,000, and they’re like, “I just want to send a pipe right out to my—.” So plumbers are very good at replumbing a house, but to get a little bit of water to the plants, usually plumbers aren’t really the best tradesperson. It’s more like a landscape contractor or a landscaper. But plumbers are often the first person that get asked. So, yeah, lack of local installers, that’s a lot of—so we developed a class, a five-day class to try to train people to be installers, and we’ve trained over 100 people around the country, but really every single town needs an experienced greywater installer to help people who want to get support.

COLLINGS

Yeah, definitely. And what’s covered in the five-day class? That sounds like a lot of time.

ALLEN

It is and it could be, like, twice as long, easily.

COLLINGS

Really.

ALLEN

Yeah. We do, like, overview different kinds of systems, site assessment. We teach people how to estimate irrigation need of plants, how to determine soil type, and that helps you determine how far to spread the water out, because you don’t want greywater to puddle up or run off. It should soak into the ground. It should never be visible. So how people can design to avoid those problems that can occur with improperly designed systems. And then, we actually—the last day of the class, they build a system. So the third day, they go to their, quote, unquote, “client.” We find homes that want a system and want to work with us, so a group of, like, four or five students go to their client’s house and they do a client interview, decide this estimate. So we take them really, like, through the actual process. And then the next day in class, part of the class, they’re making their materials list, drawing their plan. We set up a greywater store. They get all their parts. And then the last day of class, they go and they build a system. So start to finish, and they really see what is entailed in a system. That’s their final.

COLLINGS

And were you getting any feedback from people about how delighted they were with how it was working?

ALLEN

Yes. Well, usually when people are, like, emailing me, if they're delighted, they often, like, postpone that email, but if they want a system and they can't get help, that's the kind that people are more likely to write. But we went back. We did a study—it must have been two years ago—and we revisited a lot of these systems that had been installed at that time in 2009, or earlier or a little after, and people were overwhelmingly happy with their systems. So we kind of had to go out and get the positive feedback by going to actually asking them.

COLLINGS

And what kind of feedback were you getting from the cities? Was there a real dent in water use?

ALLEN

No, not—well, undetermined. A couple of things. So in San Francisco, they had an issue with outreach, like finding the right people that will fit the need to participate. So, like, city programs, they want it to be really well—lots of people to do it. So I think they felt their program was kind of a neutral—like, it wasn't terrible. I mean, people did it and most people had installed, find no problems, but they didn't feel like it was taken up by enough people.

COLLINGS

To make a dent in terms of water use?

ALLEN

Yeah. In Santa Rosa area, Sonoma County, they found that it was more affordable for them. It was cheaper to do these classes than it was to buy new water. So they did some economic analysis and they actually said that, "Yeah, this is great." And they're still doing it, and they've expanded now. They're doing it in Spanish. The other thing is there's a lot of contributing factors for saving water. Like, if a home installs a greywater system and a new person moves in, you're not going to see water savings, though had the greywater system not been installed when the new person moved in, you would see their water bill go up. So it's quite complicated to really see what is saving water in a home because there are so many factors. So it's not as simple as, like, "Oh, yeah, all these people saved water."

COLLINGS

Well, I think it's very interesting when you say that in Santa Rosa they found that it was more cost-effective to promote this idea than buy more water, and I'm wondering if you think that we'll be seeing more and more of that kind of thinking.

ALLEN

I hope so. I think a problem is that is not how a lot of agencies operate. Like, they're not accustomed—this is decentralized. They're very used to the centralized model, so when they want more water, they're, like, "How much does a d_____ cost? How much does it cost to do tertiary treatment for our wastewater and do a nonpotable reuse-type program?" They don't say, like, "How much does it cost if 10 percent of our [unclear] repairs to install a greywater system?" And the other thing is, when you look at, like, a city like Los Angeles, the low-hanging fruit is not greywater; it's getting rid of these extremely water-wasting lawns. Like, that's the low-hanging fruit. So in a water agency, they are going to look for the low-hanging fruit first, though we need to be planning ahead. And for the people that already got rid of their lawn, they already did all their efficiency upgrades, the greywater system for them is a big way to save water and have a landscape where they can grow food or shade or habitat. But a water agency, they aren't often, like, very, like, looking down the line, like, "Okay. Once we make this hurdle, we're going to do there." They have to work with their local city, and the building department may be extremely conservative and be a huge barrier, so they're, like, it's not always as simple. Though in some places, some cities can work it out. Like, San Francisco has worked it out because they're very forward-thinking and they're looking at these large-scale reuse systems, so they really had to sit down with their building department and work out the issues that—

COLLINGS

Well, when you say that the lawns are like the low-hanging fruit, is there not a concerted effort to direct greywater to feed those lawns, rather than—

ALLEN

It's a great—people who are ready to do lawn—so greywater not appropriate in a—to irrigate a lawn with greywater, you'll have to spend, like, \$20,000 to do it right, like, quote, unquote, "right." And so to irrigate five fruit trees, you could spend \$200 if you could do the work yourself. Or maybe you spend \$2,000 to do a—so lawns, just kind of general, we say you can't water a lawn.

COLLINGS

You can't water.

ALLEN

It's not that you can't. It's just that it's—

COLLINGS

Not with greywater, not with anything. Just get rid of it.

ALLEN

Yeah. Unless it's a park and then, like, thousands of people use it, sure, have a lawn. But if it's the lawn that no one ever goes on, the lawns that have, like, the fence around them, and they're, like, bright green, yeah. So those are the—but one really great thing about greywater is when people—and we're not quite

there yet. I've been in conversations with people who are in these programs, so people are ready to remove the lawn, they can do the sheet mulching, they can plant their fruit trees or their perennials or whatever it is. It'd be great to do the greywater at the same time, because then they do all this, and now their yard is totally watered with greywater. But the programs that promote that aren't quite—like, it took a while to get those programs up and running, and to now add this other thing, it's just not quite there yet, but I think in the future, definitely, because it's a great time to do a system. If you have a lawn, you should get rid of it and put in the greywater.

COLLINGS

So in terms of this effort that was made right after the code change, looking over the whole state, how would you rank the cities that you work—you mentioned Santa Rosa. Would that be the sort of highest achiever in this area?

ALLEN

I think so, because they really have worked. Their building department is onboard. Their water—they've developed a program that's very well suited for their population. So, yes. And San Francisco also, though they have a little more of a challenge, I think, but they have worked really hard to get the health department, the building department, and the water agency—it's called SFPUC—all on the same page, which was no small feat. They've worked really hard on that, and they're also promoting these large—like, their new office building in downtown San Francisco is recycling all of its water onsite, which is—I mean, it costs a lot of money, but it's this giant project in a giant building.

COLLINGS

So these are sort of demonstration sites, in essence?

ALLEN

Yeah, and they're rebating up to, I think, \$250,000 for these big projects. So they are really promoting them. And the residential greywater for them is they have fewer homes that use a lot of outdoor water than, like, Santa Rosa, where people have more landscape, but San Francisco's definitely—and they've been very engaged in policy, so they're knowledgeable. So Santa Rosa, San Francisco. Los Angeles has made some progress, though it still has a long way to go. [laughter]

COLLINGS

So, 2009, you change your name and you said it was because you wanted to work with these agencies.

ALLEN

That's one reason, just to have a more widespread—

COLLINGS

And you changed it from Greywater Guerrillas to Greywater Action for a Sustainable Water Culture.

ALLEN

Yes. And we also at that time had started working with another person, Gemma Bulos, who, she had a nonprofit that did international water work, and so we at that time were having conversations about, like, if we brought this to the international audience, like, having the word “guerrilla” in your name, it doesn’t—

COLLINGS

No.

ALLEN

No. It’s like [unclear].

COLLINGS

It doesn’t translate.

ALLEN

No, not at all. It’s kind of funny. It was like tongue-in-cheek, yeah, but—

COLLINGS

And very nineties.

ALLEN

Yeah. And it was not meant to be serious. So, yes, there were several reasons that we wanted a different name.

COLLINGS

And so what kind of international outreach did occur at that time?

ALLEN

Well, her organization was our fiscal sponsor, so that was kind of when we gained, like, official—or didn’t gain—we had some kind of official—like if we worked with her organization, so they were our fiscal sponsor, but we actually never really did the international projects. It was more of, like, “How would this work?” And she does these projects, like, water projects, like, a lot of rainwater harvesting and water catchment, but we haven’t actually done that.

COLLINGS

Yeah. That’s on the “to do” list.

ALLEN

Yeah.

COLLINGS

So what has brought you down to the Los Angeles area?

ALLEN

Starting in, I guess it was 2008, we’d gotten a lot of requests to come down to Southern California. So several times Christina and Andrea and I had come down, and Cleo, come down, different combinations of us had come down and done workshops and presentations. And then in 2000—when was it? Well, my husband was looking for a job, so he’d finished his schooling and his, like, postdoc, and so he was looking for a permanent job, and we had our list of,

like, possible moves. Stay in the Bay Area was, like, top choice, and L.A. was on the possible move because it had big need for water reuse. The Eco-Village, where I live, loved being able to be part of this community. So there were reasons that it was on the potential move list, so he got a job at USC, and we decided that we would want to move here, and so my work could continue relatively easily and we liked Los Angeles, so that's why. We moved January 2011, '12.

COLLINGS

Okay. Let me pause for a second. [recorder turned off]

COLLINGS

Okay. So you said that you thought that L.A. was a worthy place that needed you. So what kinds of things have you done since you've come down to L.A. in this area?

ALLEN

So since I've been here, continued workshops, not as many, because one of the main projects—right now I've been writing a book, and it's been pretty time-consuming, but have done workshops here at the Eco-Village, several of them, but general workshops, like, I call it the—it's an evening presentation for people just wanting to learn about greywater. It's called "Drought-Proof Your Landscape." So, teaching people about their options, like general costs, which system fits in which situation. So I've done several of those. And then the other training that I've been doing is called "How to Design and Install a Laundry to Landscape Greywater System." So it's the washing-machine system, no permit, pretty easy, relatively speaking, pretty low cost, relatively speaking. And so this class really teaches people, like, step by step, like, "This is what you do first, second, third. This is how you estimate your quantity of greywater. This is how many plants you can water. People sketch out all the parts they're going to need for their inside portion, they sketch out their landscape portion, and then they get all the parts in these kits, and they actually put it together. So by the end of the class, they know exactly what they're going to do in their house. And, like, those classes, there's one on Sunday and so totally full, having to cut them off, like, "Sorry." It's totally packed. The last one we had people coming from, like, the desert, like, pretty far away, because there's a big need for this and demand. So, doing those workshops. I've also collaborated on workshops with Leigh Jerrard, who he has a company called Greywater Corps, and we've done things together, some trainings and future planning. I've been in dialogue with—so what I didn't talk about is we actually formed a different group to focus on the policy change called the Greywater Alliance, and it's a network, so it wasn't actually a—no formal structure, but that was a way we could bring people together in the—this was in the Bay Area, who worked—some people worked for our water agency. All of Greywater Action members were actually

in it and others, and to have kind of a voice of, like, this is what the Bay Area Greywater Alliance thinks. So we presented our comments from that.

COLLINGS

Was this formed specifically to deal with the code?

ALLEN

Yeah, to deal with the code. And since then, other Greywater Alliances have formed. So when I first moved, I started some initial, like, starting the Southern California chapter, but there's a lot of busy-ness that happened, so it hasn't progressed much farther, but that's sort of a future, like, way to engage with whatever comes up, just to have a stronger group that's engaged in that. So I have been in dialogue with some of the agencies about some—sometimes they had questions. Sometimes it was around, like, composting toilets, which is other work, like, when you don't want to use water, toilets can be waterless, which is great for many reasons. So, dialogues around that, dialogues around rebates, talking with other people doing the greywater here. I've gone and presented to a—different people have asked me to come and present about greywater. And then we've done the five-day trainings here, so train—two of them, training people, training about forty people who want to be greywater installers, and then building those systems. So here at the Eco-Village, we have a lot of greywater systems, built-in workshops.

COLLINGS

Let me ask you about how Eco-Village is dealing with water. What kinds of systems do you have in place, and what is the thinking around water here at Eco-Village?

ALLEN

Well, we want to reuse water as much as possible, and when the building is constructed, you have what you have, so there are some barriers here, like. the showers are all pretty much inaccessible, not entirely.

COLLINGS

What do you mean?

ALLEN

The plumbing of this building is lower than the landscape, so we would have to be pumping and we want to minimize pumping. So we haven't really—we've focused on the sinks. We have a lot of sink systems. In California, kitchen water is not considered greywater, though it should be, so that's something that I've been trying to change, though unsuccessfully.

COLLINGS

As opposed to the washing-machine water?

ALLEN

Yeah. Kitchen sinks is classified the same as the toilet, which—

COLLINGS

Is it because of dealing with meat or—

ALLEN

It's bacteria in the water, though the question that I have is if that bacteria's so dangerous, what happens when it's on people's counters and their knives. Like, you wash a raw chicken, you have touched that chicken, you have put your knife on it, it's on your wooden cutting board, but now when that's in the soil, it's too dangerous to allow people to reuse that? Like, that doesn't make any sense, but that is the reason, bacteria. So they're not considered—some states do consider it greywater, there's several, but California doesn't. So here we have—kitchen water is very easy. We have several systems, and Lois calls it pre-legal. We do some things pre-legal, and they're [unclear].

COLLINGS

What does that mean?

ALLEN

It means, like, Greywater Guerrillas, all the greywater work, it was pre-legal. At the time it was illegal, but something that should change, because there's no reason for it to not.

COLLINGS

Pre-illegal?

ALLEN

Pre-legal. It's not illegal; it's pre-legal. She always says that about stuff. So we have some pre-legal things here.

COLLINGS

Like what?

ALLEN

The kitchen-sink systems, yeah.

COLLINGS

And how do they work?

ALLEN

They work, like, in my apartment there is a valve right under our kitchen, and I can turn it and send the water to the landscape. It's all subsurface, so no one's touching it, no one can even see it, it's landing in woodchips by some perennial plants. So the water flows out, it's divided up, it irrigates, like, four plants. Outside we have a tree tomato. It's this kind of tall tree, looks like this big, tall bushy thing with these fruits hanging down from it, called a tree tomato. So those are accessible because they're higher up, so you can access the water. And then in that building we have several washing-machine systems that go and irrigate different things. That's an eight-unit building right over there. And in the main building here, we have two laundry facilities, and they were not very ideal for greywater because of the plumbing configuration, they're in the middle of the building, and because a lot of people use them who may not want

to use the eco-soaps. So we first did, when I moved here, we built a platform and put a new machine outside, so it has a little roof. But we just created an—put it right where the plants are, and then anyone who wants to use greywater, they just do their laundry there. We have a recording system of—because it's not coin-operated, so people do their laundry, they record their name, we have a big bottle of the plant-friendly soap, and then we have that water for our garden. So that kind of made the most sense. And since then, we've actually done the system upstairs on the upstairs laundry, because some people who live in this building, there's people who are—we call them long-term renters. They aren't part of the community and they may not want to use the right soaps, and there was concern that if we have a valve, someone might leave it in the wrong position, which totally could happen. So how we fixed that was we put an automatic motor on the valve with a switch and a timer. So for the upstairs laundry, if you want to use the greywater, you have to turn the timer and you set it for, like, forty minutes, the length of the load, and then you do your laundry. The timer sends it to greywater and then when the timer goes off, it switches it back to sewer. So the next person does their laundry, it's going to the sewer.

COLLINGS

That's sounds like a great system.

ALLEN

Yeah.

COLLINGS

Now, are you the one who put most of these systems in place? Because the last time I was here, which was maybe seven years ago, I didn't hear about this.

ALLEN

Yeah. So we started doing them here in 2008, I think, or maybe it was 2007. Well, the first time we came to L.A., we didn't install anything. The second time, we did. We did a workshop here and installed—

COLLINGS

So you're the one who brought greywater to Eco-Village?

ALLEN

Yeah, more or less. Joe Linton had one system in his apartment before, but it was not really the best way to irrigate and that kind of thing. He had to do a lot of manual involvement in it, maybe not a lot, but the systems, we try to make them as maintenance-free as possible, so they're designed where they just always go to the plants and don't rely on someone to be moving hoses around or anything. So Greywater Action has done pretty much all the systems and workshops.

COLLINGS

Is this something that would be easily translatable to apartment buildings?

ALLEN

No, no. Apartment buildings are harder because usually they have very small landscapes, and the plumbing, like, every apartment, the toilet mixes right in with the shower and then it goes to the next apartment, so it's often hard to get the greywater separate. Sometimes the commercial—if they have a laundry facility, that can be used, and if it's a lot of water and a small landscape, it would need to be a drip irrigation system, so you have to have a filter, which just means the system's more complicated. And apartment buildings, the permitting requirements are more involved, as they should be, and if you have a pump and a filter. And the more complications, the more chance there is for something to not go right.

COLLINGS

Right. So you're really talking about single-family—

ALLEN

It's the easiest. The greywater at the commercial scale would just look different. It should happen, or maybe not greywater, maybe it's all of the wastewater. They're blackwater recycling systems. Maybe that would make more sense depending on the context, but all buildings can recycle their water. The way they do it is going to look different depending on the scale.

COLLINGS

So how do you view the political landscape in Los Angeles in terms of bringing your message to the city council, for example, in the way that you were working with city councils in Northern California?

ALLEN

Well, since the state code has changed, a lot of the barriers have been removed. There's a man in the building department, Osama Younan, who contacted me when I lived in the Bay Area, because he was having these questions about permits, and so we started having dialogues, like, long before I moved here. So in the building department, they want it to be possible for people to have legal and affordable systems, and they understand that there are these barriers with permits. So he has worked more closely with Leigh Jerrard and some other people, Melanie Winter of the River Project, to streamline their permitting process. I was involved in the earlier stages of that conversation, and they have continued that. So it is better than it was, but there's still room for improvement in L.A. The other thing is—so the building department gives you the permit, and there's all these different cities in L.A. Like, if you say L.A., like—

COLLINGS

True, yeah.

ALLEN

So every building department, you might have—and if you just have one building official that's conservative-minded about water, then whoever lives in

that city is going to have a very hard time, which, unfortunately, is a common situation.

COLLINGS

Why is that common?

ALLEN

Because someone who's done their job for, like, thirty years, they really don't want someone to come in and say, "Oh, no. Don't do it that way anymore. Now you can do this whole other thing." For thirty years, they'd seen greywater as sewage, dangerous. "You have to put it in the sewer." "No, that's illegal." So they've been doing that for thirty years, and now someone's saying, "Oh, no, you don't even need an permit or just an over-the-counter permit. Sure, they can just put it into the woodchips." It totally challenges what they've known, and people in those jobs don't often have a lot of time for education, they don't get time off to go to some new workshop, like, they're really entrenched in what they've been doing. So commonly—and then when people are in charge, they don't want some homeowner telling them that they can do this thing that they never thought you—yeah. It's just a common problem.

COLLINGS

Yeah, it is.

ALLEN

And it's a big problem. There's been situations where one building official can just put the brakes on, like, a whole program from happening, because the water department's on board, "Yay, we're going to rebate it," and all this. And then the building official's like, "What? No, you can't. In this town, I'm going to require that they do this, this, and that."

COLLINGS

What was that situation?

ALLEN

I shouldn't say any names, but it's happened more than once, actually. One city, they were going to require a backflow preventer on every home that had a greywater system, even if it didn't have pressure or a connection to potable—there are situations where you need to protect the city potable supply, but that's not when you have a gravity system that's totally disconnected. I mean, it makes no sense whatsoever. They were going to require them, and it adds, like, \$500 cost plus an annual inspection, so that's an enormous barrier. So that city stopped their rebate program because people weren't going to do it. It was doomed to fail. And then I think they waited, like, two years, and then that person changed their mind. Now they are letting it happen. So sometimes just time. So [unclear] another city recently. This is really funny. I mean, it's not funny. I laugh because some of the things they come up with are just—they make absolutely no sense. So plumbing of a washing machine has to be in a

two-inch pipe by code. The landscape system that I've described uses a smaller pipe because it is not the plumbing; it's an irrigation system. The machine is pumping out the water. Like, if you look at your machine, the drain hose is, like, about an inch in diameter, so with the system you just continue that, so you go into a one-inch, and it's slightly pressurized. It goes to the landscape. So this city now is requiring people—they can't use a one-inch size. They have to go back up to two-inch, which means the system just won't work. You can't do it that way. It doesn't work. And their reasoning is a washing-machine standpipe, which is the sewer connection, has to be two-inch, even though the machine has this drain hose. So that's just an example. And that is going to mess up their whole program, because people can't install the system that way. They have to do this other thing. That's one example, and then there's endless examples like that.

COLLINGS

Give me another one.

ALLEN

Another one. Well, this is a slightly different example. A city will say, "Okay, you have to get your greywater permit from the building department, but you also have to get a permit from the health department, plus you have to get a permit from the grading." So some cities will have five permits. Is anyone going to get five permits? No. All that means is no one is going to get one permit. So it's called, like, double or triple permitting, and that's another really common problem.

COLLINGS

So how do you combat this?

ALLEN

Talking to them about it. Something that has been—when the water agency's on board, that can be helpful, though not always. Having city council supporting it, that can be helpful, but not always. Really doing a pilot project, like in San Francisco we did this. There were a lot of kind of concerns that were unanswered until we got a permit, we found—finding, like, the right home to be the demonstration project. So we found a home that was a totally straightforward system. The homeowner was really on board. He was an architect, he could talk, he knew how to talk to the building officials. And we basically tried to make it as affordable as possible, because before they had been mentioning all these slightly more complicated expensive things. And so going through that process with them, they really got to see, like, what you're talking about, "This is what it looks like. Okay. No, that's not dangerous. Oh, that's not dangerous. None of this is." "Okay. This is actually really simple." So when they see it, sometimes that helps, but having a real house do it. But then when the triple permitting, that's something that the departments have to

work out from each other. And one may be the health department can just say, “Okay, we don’t actually need to be involved in—.” But they have to say that if it’s been a precedent that they were involved.

COLLINGS

Are you seeing any generational shifts in the time that you’ve been working on this, where a new crop of people are coming into these jobs?

ALLEN

Yes. I don’t see that, but I’ve heard that, because since I don’t work in an agency, I don’t really—mostly I work with the people who want to make this legal and affordable, and through them, I hear their challenges with others in their department, so I’ve heard that is happening. Once people switch, turn over, it can be a lot easier.

COLLINGS

So that’s something very positive, then, probably?

ALLEN

Yeah. It takes time sometimes.

COLLINGS

Yeah. And then, of course, as we get farther and farther into what appears to be a rather persistent drought pattern, or perhaps not even a drought, but the actual real climate here, as I’m sure you well know, it’s been suggested that the wet years of the past were the anomaly, and that now this is the normal climate for this area.

ALLEN

Yeah.

COLLINGS

All done. [End of July 10, 2014 interview]

1.2. Session Two (September 5, 2014)

[Session Two for this interview has been sealed]

1.3. Session Three (September 5, 2014)

COLLINGS

—Allen on September 5 [2014]. So one of the things that—you mentioned something interesting about the psychology that was being addressed in the Tillman project, that a part of the engineering was there not to address sort of a scientific biological fact with regard to the water retrofitting, I suppose you could call it, water-filtering system, but you said that it was there to address psychological concerns about this notion of toilet to tap. And I was just noticing in your book, the book that you worked on called, *Dam Nation*:

Dispatches from the Water Underground, that you use the term “fecaphobia,” which I thought was a very interesting term.

ALLEN

Yeah.

COLLINGS

And you said that it had to do with the idea in the public mind that bodily wastes are potentially so dangerous that it completely forecloses the possibility of any kind of widespread ecological sanitation system.

ALLEN

Mm-hmm.

COLLINGS

And you’ve made a lot of difference in your work with greywater and received a lot of support. What about blackwater? What can you do in that area? In your book you have a section titled, “You Can Have Your Porcelain Bowl and Compost Too.” How do you see that? How do you address that?

ALLEN

Well, there’s a few ways. Like, blackwater, which is water from toilets—in California, actually, kitchen-sink water is classified as blackwater, though the reason is not based on health and sanitation. Blackwater is traditionally just all of the wastewater or just the toilet. And because it has fecal matter in it and because it’s in water, it’s a huge problem for the environment, for, like, public health, for environmental health because of all the nutrients, but it can be reused. One of the easiest ways—well, people who are on septics, there’s systems that actually just treat the septic-tank water to irrigation quality, and then you just directly irrigate with it. So it’s sort of like fertilized water, and there are systems that irrigate. They’re not allowed in California currently, but other states like New Mexico, it’s a totally accepted technology, it’s fine, so you can reuse treated blackwater. And then in California they’re having a few more systems. They’re kind of large scale and they’re basically like a small wastewater treatment plant in the bottom of a building, and it treats the water to irrigation quality, and then it irrigates with it or flushes toilets with it, so that’s non-potable reuse. So it’s non-potable quality, but it still can be reused for, like, toilets or irrigation. And the codes are sort of changing around that, but it’s still quite tricky. But my personal opinion is we shouldn’t be making blackwater. It doesn’t make any sense to use water as the medium to transport feces. It causes a lot of problems, it’s more complicated to reuse it, where we could just compost it directly, or have a—they have these microflush toilets where they’re foam—it’s like a pint or a few ounces of—there’s like ones that are just a few ounces of foam to kind of move material. It’s not a lot of liquid so it can still compost. And California doesn’t have a composting toilet code, so the code requires that every habitable dwelling have a flush toilet connected to a sewer

or septic system. So kind of because that's a requirement, people who want to have a composting toilet in their home aren't allowed to replace their flush toilet. It doesn't mean you can't also have a composting toilet. They can't, like, stop you from having one, but you can't, like, build a house or remodel, and say, like, "I don't want that flush toilet. I want a composting toilet." So there is a psychology, like, in our country, people are generally fearful of human waste, and there is a reason to treat it cautiously, but there's no reason to just view it as complete waste. Like, it is not a waste product at all. Like, it can be reused. Right now it's causing all these problems. So going back to the composting toilets, people realize different—either they just maybe grew up more rurally and did have the composting toilet, or they come from another place where it's more accepted, or they realize, like, "This is crazy. Why are we, like, defecating in potable drinking water?" Mostly, when people travel and they see, like, how hard it is to have clean water, and come home and they're like, "[unclear] my toilet bowl." That's often an awakening for people. But there's a large number of people who want composting toilets and have kind of overcome that psychology of, like, it's gross, and when you think about, you know, what is gross, like, the sewer system, that's really gross, like, mixing everybody's feces together and then, like, dumping it in the ocean, bay, where people surf and swim. I mean, there's so much documentation of the problems with that system versus, like, just composting your own family's, quote, unquote, "waste" in your home. But going to the codes, so there's no state code. State by state, other states have codes. So in some places, it's easier to get a composting toilet permitted than a greywater system in California.

COLLINGS

Is that right?

ALLEN

Yeah, other states. Some states only allow greywater. If you have a composting toilet, too, they allow these sewerless rural buildings to be built. So California is pretty behind in terms of the composting toilet. Oregon recently had a new code that has allowed composting toilets, but now allows site-built toilets. They're more affordable, with some testing just to make sure they're actually composting. And one kind of recent—it's not a finished code, but—so the group IAPMO, which is the plumbers' group, they create what they call a green supplement, and the people working on that are much more progressive in learning about "new," quote, unquote. These are not new technologies. These are ancient technologies, like greywater and composting toilets. And they actually requested to have a composting toilet code because they don't have one. So they, this past year, contracted with a group in Oregon called Recode that's working on legalizing sustainability to create a draft code that they could use, because they didn't think that—they don't know about greywater—even

though they should not have written a greywater code, they felt like perfectly fine writing this horrible greywater code, but they realized they can't even write a horrible composting toilet code because they don't know anything about them. So, luckily, they asked a group that does know a lot. So that group can be stakeholders across the country as one of them, and we created a code that would be going into IAPMO's green supplement, which isn't, like, required by anyone, but just to have something in there is pretty—it's like a humongous step forward—

COLLINGS

It sounds like it.

ALLEN

—with composting toilets. And, yeah, it's a huge step forward. So we created a draft code. It was based on research and experience. Like, there were people from really across the country in this group, and Recode presented it to IAPMO's Green Supplement Committee, and they were positively felt about it. It's in public comment, so there is that big unknown of, like, what are other people who aren't really thinking about these water-conservation topics going to say about it, but we're hoping that they—just because they don't know any—very much about it, they won't really be able to, like, mess it up, basically. And so in the near future, there should be a code in the green supplement, which then states will be exposed, because everyone sees it at least, like, at the state level and regulatory level, and they can at least, like, “Whoa! There's a composting toilet supplement.” Like, then they'll have that conversation, “Should we adopt it?” And that's a really important conversation to have for states like California that has nothing right now when people want one, and they're just—they're basically just told, “No,” period. Like, “You can't do it.” And then in some rural places if you're, like, building a little cabin, the local person might be like, “Oh, sure. You have to buy this expensive one, but, yeah, you can do that.” So there is a little bit of wiggle room in some very specific rural applications.

COLLINGS

So everything always goes back to the code?

ALLEN

It does, or you just ignore the code completely and hope you never get caught, which is what a lot of people do.

COLLINGS

Pre-legal.

ALLEN

Pre-legal, yes, which you have to—for the R&D, that's—yeah. Art Ludwig has this whole—he's thought a lot about this of how all of this R&D that IAPMO actually does and puts in their green supplement, like, fifteen years later, is

done illegally by people for free doing their R&D. And he's trying to get it, like, funded or, like, get, like, permits where you can do experimental things more easily as long their sustainability is the driver behind them. So there's a huge need for that, but it's currently not really—

COLLINGS

And how does IAPMO gather this information? How does that come into the—

ALLEN

They have committees. This one, they actually paid Recode to do it, which I don't—this is an abnormal way. They don't—it was only because they really don't know anything—well, they did not have the skill. Anyone who felt like, “Oh, I can write a composting toilet code,” that's the only reason they did, which was really good, because Recode is grassroots, they're connected, they know who across the country's working on these issues, they convene people. And they had, like, someone from the SFPUC, who is a plumber, because they're so progressive, who could really represent, like, the agency side, and then they had installers, they had educators, they had a range of people. Because normally IAPMO, they, I think—and I have never worked with them directly. I believe they just have a committee who does it, and it's made up of people who are mostly inspectors, plumbers, like, people on their—

COLLINGS

So I guess what I was thinking was that it seems like your work is really caught between these competing forces. You have, on the one hand, lobby groups who are looking out for manufacturers, and you have engineers who can be trained quite conservatively, plumbers' unions. And then on the other hand, you're bringing in really new ideas to this group that are sort of coming from the wants and needs of individuals. How do you—I mean, these are two very different kinds of elements. How do you negotiate that?

ALLEN

I think there's a big disconnect between the people who write codes and the people that implement them, and with greywater, it's huge. Like, they just don't understand the implications of that. And so when you have an intimate understanding of how the systems work and have, like, gotten permits and seen what inspectors who aren't familiar, how they try to change it, and how that can really mess up the design and just make it not possible, then, like, I'm in a good position, and then I understand what the code writers, like, their concerns. Or just having the understanding makes you in a good position to be able to edit a code or critique it or make suggestions. But the code thing, it's like more like we just have to—you just have to do it if you want it to be available. Like, it's a huge barrier, and finding people to—like, if it's a place for public comment, letting them know what the public thinks, because sometimes they're just so disconnected, they don't really know. They don't know people want to do it.

They might think only some, like, hippies in the woods are interested. When they actually get all these emails from people in all these urban areas and across-the-board architects, engineers, homeowners just saying, like, “We want this to be legal,” it’s good feedback that they don’t always get.

COLLINGS

So once again, it always come back to the code. The code provides this kind of middle ground, where through the public comment, you can get these other views in to the code writers, the engineers, and what have you, and allow for systemic changes.

ALLEN

And the code—like, water agencies, they should be totally funding greywater education, and some of them are, but they can’t—it’s impossible for them to educate or fund something that’s illegal. So, like, for lack—I mean, just to enable them to promote it, it has to be legal, so you have to—I mean, I would like to focus more on, like, how to make this a [unclear] widespread, and folks—you know, water agencies is a really key place, because they have money, they already do education, like, they can just add greywater into what they already do and reach a bunch of people. But then so they can’t—so if the code—so you have to make the code fit that, and that’s where the laundry system, like, no permit is—it’s huge. You have to have it where there’s—yes, there’s guidelines, but you can’t have fees and inspections. Like in Santa Monica, to get a greywater permit, it costs around \$1,000 with three inspections.

COLLINGS

I see.

ALLEN

Like, what that means is no one is going to get a permit unless they’re building a new house and have to and they’re already spending, like, tens of thousands in permits. But that means that anyone doing a retrofit is never, never going to get a permit in Santa Monica, and that’s all it means. It doesn’t mean it’s safer. And in L.A., they fixed it where you just need one permit, and it’s still going to cost several hundred dollars, which can double the cost of a simple system, if you can build it yourself, but it’s better than \$1,000 in permit fees.

COLLINGS

So as well as fighting the battles statewide, it has to be fought city by city.

ALLEN

And right now I’m in this discussion, like—because Greywater Action, we get emails from people, and I got an email from in a man in Livermore, which is the Bay Area, saying, like, “My water district told me I can’t do greywater.” And he quoted his water agency, and it was like, “We don’t support greywater because of,” blah, blah, blah, blah, blah, just like these really uninformed

reasons. And I was like, “Who’s your water district?” And he’s like, “Zone seven.” So I [unclear] an email to the person at zone seven saying—like, quoting his email and saying like, “Is this really your stance on greywater?” And she’s like, “I don’t think so,” and then she’s forwarding around. So just being able to be like, “This man who’s in zone seven got this totally negative response because he wants to do greywater, and he writes me, Greywater Action, and says like, ‘Is this true?’ Like, what can I tell them?” And then I know people in most of the agencies, so I can say like, “This is what your public is being told. Is this true?” And they’re like, “No.” And so now it’s all, like, going through their agency, but just people don’t have that direct route all the time, and since Greywater Action, we work with the public and we work with agencies, like, we can be that kind of conduit to—yeah, because, I mean, I’m hoping that they will say like, “No. Who said that?” And then finally they’ll be like, “You can’t tell people that,” and then he’ll stop saying that, because it’s very damaging.

COLLINGS

So once again, we’re back to the notion of the personal contacts.

ALLEN

Yeah.

COLLINGS

How do you replicate that in other areas and parts of the country? Because when you talk about the Bay Area, you’re talking about years and years of contacts.

ALLEN

Years, yeah. With conferences, like, they have—contacts happen quicker, because just knowing someone once, having their email, and they know what you do, you can say, like, “Hey, your agency—.” You know, that’s actually the level I know this person at zone seven. I barely know her, but I’ve been—we’ve been speakers at the same conference, so I know she represents them. What we recommend to people is building your own personal experience is, like, an absolute must. You must have your own greywater system, or your parent or whoever, your friend, someone. You have to be able to bring them over and show them, like, this is not complicated, this is not scary. Even if it’s illegal, like, you have to have that—finding the way to do it, like, [unclear] for you, whoever you are, wherever you live, but having that personal experience, because they don’t—you can send them a thousand pictures from California, but if it’s in Colorado, they’re like, “That’s not Colorado.” Like, we just had this—Colorado just had this terrible [unclear] greywater code process, where they didn’t have thousands of pictures from Colorado, and they didn’t really care what California was doing. So you need to have the local examples and develop those relationships, like, find the person in the agency that is open to

listening and be—inform yourself deeply, understand their concerns, and be able to, with an informed viewpoint, address their concerns. And, like, there's a valve at the backwater—backflow-prevention valve that is really necessary in certain situations. In most, it's not. It's very expensive, and places that don't know will just require them every situation, and it's a huge problem because it adds a lot of cost and it's only needed in very specific types of systems. And so that's one thing where—I mean, I've had that conversation so many times. People are like, "My agency wants a backflow-prevention valve, and it's, like, an annual fee." It's this huge burden on the homeowner. And so you have to understand, like, what it does, why they want it, why your system isn't applicable, and be able to talk to them in an informed way and in a friendly way. That's another problem. People get antagonistic. There becomes an antagonistic relationship, and then no one moves on either side. So just having people develop those friendly relationships.

COLLINGS

Because presumably it sometimes gets antagonistic because the people who want to do this perhaps have an antagonistic view of government in the first place.

ALLEN

Yes, or they'll find, like, one inspector will come—I mean, sometimes they're so rude, like it's—sometimes they're just so uninformed and so rude. If you polled it, it's kind of—but to be able to be like, okay, and now I'm going to go find the right person. I'm going to say, "I want to talk to your boss." Like, this is what I want to do, and bring them [unclear] whatever, just to find the person who will listen, but if they're not listening, there's kind of nothing. Or if they really don't listen, then you go to city council. That's something that we had success with, of finding—it wasn't that they wouldn't listen. It was that it wasn't a priority, and they were like, "Yeah, yeah. Change of state code. Bye," kind of. I mean, because they felt like, "Our hands are tied. What can we do?" And so then we went to a friendly city council member who is environmentally conscious.

COLLINGS

And which city was this?

ALLEN

We did this in Berkeley and Oakland, and all it did was—they just called the meeting, and when a city council calls a meeting, like, people go, they got the right people, so we got, like, the high-up people, and we all sat down and talked about the issue, and, you know, they're not going to force—I mean, they can't and they won't ask the city staff to do something illegal or compromising to the city, but they can say, like, "Hey, you really should look at this," and then they can really just get that focus where they will look at it and think about what can

we do and how can it work for us and—we did that before the code was changed, so we did really see the boundaries, like how constrained they were, even though they came to the meetings, they were like, “We do support this. This is the problem. This is why we can’t do that.” So it was very informative, and in states that have different codes, like, there’s going to be different boundaries for them within their state code. And so finding city council members, that’s a really good—just to have the meeting and just get the right people to sit down, and they’re going to be nice. If they’re not nice to just the homeowner, they’re going to be nice—well, you know, they’re—it’s different when they’re with staff and city council people.

COLLINGS

Right. In public.

ALLEN

In public. And water district, you get a water district rep, you get the building department, whoever, health department, whoever it needs to be, and then everyone hears the concerns, and you can talk about it.

COLLINGS

So to do this work, you need a lot of technical knowledge, scientific knowledge, public relations skills, knowledge of how agencies work together in government structures, a lot of good people skills.

ALLEN

Yeah.

COLLINGS

That’s quite a package. [laughter]

ALLEN

Yes, it is.

COLLINGS

How have the drought conditions affected the work? I mean, in the time that you’ve been doing this, the conversation, the background has changed. When you began, it was sustainability as a good idea.

ALLEN

Yeah.

COLLINGS

And now we have a situation where there are real concerns about how much water there really is.

ALLEN

Public interest is very high. Like, our classes have been filling up, and when we don’t have one on the calendar, I just get emails, “When’s your next class? When’s your next—?” Like, over and over. There’s a lot of interest.

COLLINGS

People are concerned about saving money on their water bill?

ALLEN

No, they're concerned about saving their plants, and they know—and people who are concerned about the health of California want to reuse water, because they—because we don't actually pay for the water itself, like, the molecules of water, we pay for maintaining infrastructure, that's really—the saving, it does save money, but it's not high enough for it to be a driver yet, because we don't really pay for water yet. But there are rebates in places, there's incentives, there's restrictions. So that's a big driver. When people are told you can't water or you can only water twice a week, they're like, "Well, if I do a greywater, then I can keep my fruit tree happy." So that's a big driver. More agencies are—like, at eleven, actually, I have a conference call. It's with—in half an hour; it's totally fine—with Cal American Water because they want to do an incentive program, and they have staff, whatever, interested. She came to one of our workshops. She told me afterwards, "I work for Cal American. We want to do this. I want to figure out what's best for us." So I sent them, like, different options of what I've done other places, and she talked to her bosses, you know, kind of the regular way things happen, and they're interested and they want to figure out how it would work for them. So that's a drought piece.

COLLINGS

That's an example, yes.

ALLEN

That's an example. And all these other agencies have just on their own, like, done it. Like Benicia, you know, they're in general Bay Area, they look at Santa Rosa. They're like, "Oh," and they just do exact—more or less. That happens a lot, like, little ones who don't really have—they don't need to and they don't have the resources to, like, do a big research project. They just, like, "What did they do? Okay. We're going to do that," because they have a staff person who thinks greywater's important. So that's happening all over. I don't even know how many little districts have done that, but I know a lot have. And people—like, the kind of big push right now is, like, brown is the new green. You've seen those pictures. The agencies are all trying to get people to let their lawn go brown, because lawns—and greywater really offers—like, you don't— a brown lawn, yes, it's better than a green lawn, from my point of view, but a brown lawn is ugly, it's, like, ecologically dead, it doesn't support life, it's not productive. And if you do greywater, you can have, like, several fruit trees instead of a brown lawn. You can just—it's a more positive, like, proactive thing people can do.

COLLINGS

Yes.

ALLEN

And I would like to have it be, like, brown is the new green and greywater—I don't know what the little slogan would be, but, like, why have a brown lawn? You could have a productive landscape during drought. Just water by your washing machine and your shower.

COLLINGS

Right. Absolutely. So shall we leave it there then?

ALLEN

Yeah.

COLLINGS

Okay. [End of September 5, 2014 interview]

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