Trees, Birds & Buildings:

How They Connect & How We Can Help with Architect, Isabelle Duvivier

Episode 119

Isabelle Duvivier:

LA is a biodiversity hotspot. That means it is one of 36 of the most rich and endemic life in the United States. If you look at the rest of the country, all of these different areas only have one species, or two or three species, that are endemic to that area. Endemic means that they exist only in that place. And as you move to the West Coast, you can see it gets greener and greener. And then where it really gets vibrant is over here in Los Angeles. We have the greatest biodiversity of anywhere in the United States.

Christina Barsi:

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Sun Ezzell:

And I'm Sun Ezzell, and you're listening to the Magic Mountie podcast.

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We bring to you the voices of Mt. SAC, from the classroom to completion.

Speaker 4:

And I know I;m going to achieve my goals, and I know people here are going to help me to do it.

Speaker 5:

She is a sociology major, and she's transferring to Cal Poly. Come on [inaudible 00:01:20]. Psychology major. English major.

Sun Ezzell:

From transforming part-time into full-time-

Speaker 6:

I really like the time that we spent with Julie about how to write a CV and a cover letter.

Christina Barsi:

... or just finding time to soak in the campus-

Speaker 7:

I think of the natural environment around us as a library.

Christina Barsi:

... we want to keep you informed and connected to all things Mt. SAC. But most importantly, we want to keep you connected with each other. I'm Christina Barsi, Mt. SAC alumni and producer of this podcast.

Sun Ezzell:

And I'm Sun Ezzell, learning assistance faculty and professional learning academy coordinator.

Christina Barsi:

And this is the Magic Mountie podcast.

Christina Barsi:

Ever wonder how you can add trees to your neighborhood? Or how to bring your energy bill down? Or maybe how to attract more birds and butterflies to your yard? Our speaker today is Isabelle Duvivier. She's a Los Angeles architect by trade, but has a passion for sustainability, and in particular, trees. In honor of Earth Month, we hope you learn a little more from Isabelle about how you can get involved locally around this endeavor. Enjoy.

Speaker 9:

Mt. SAC is honored to be able to present you Isabelle Duvivier.

Isabelle Duvivier:

Hi. Well, thank you so much, Dafna. It's great to be here, and great to be here with all of you. So my name is Isabelle Duvivier, as you heard. I'm an architect here in Venice. I studied architecture at Berkeley. I actually started my education as a mathematician and then as soon as I got my first B minus a Berkeley, I said, "That's not for me." and I jumped to architecture because, for me, it was a great blending of different skillsets. I'm going to talk today about my newest passion, which is the tree canopy of Los Angeles. And I'm going to morph in a little bit about how I've blended my love of nature and buildings into the current work I do.

Isabelle Duvivier:

As I said, I started mostly as an architect. I designed green buildings. I was a green building designer before it was cool. In fact, it was really uncool back in the day. So I've been doing innovative work. There's a green wall project we were one of the first greenhouses in. We were the first LEED platinum in Culver City. And that next house over here, this is a house I designed in Venice.

Isabelle Duvivier:

But we also did garden designs. Every time I could change schools, I would do a garden design for a new school. So it kind of launched me into getting more involved with landscape and the blending of landscapes and buildings. And then, interestingly enough, I had a hobby as environmental education, and that got me a job with the city of Santa Monica, where I made this educational map about watershed quality and how it gets worse and worse as it gets towards the ocean, and then the impacts of the water pollution on the animal critters in the ocean. And this was designed for the Santa Monica Pier Aquarium, but it was funded by the city of Santa Monica.

Isabelle Duvivier:

And this launched me on the little side career into map-making, which is where Dafna comes into it. I spent, I don't know, probably two years, maybe three or four years, working with Dafna. She was the GIS technical help behind the creation of a whole series of amazing maps. This was called a watershed map. This is a map that looks at the watershed of the Ballona Creek. All of the pollution in this landmass drains to, at the end of Ballona Creek. So this started a map-making career that led to this map, which is the work I did with the city of Santa Monica. This map maps green businesses across the entire city of Santa Monica, as a way for them to promote green businesses.

Isabelle Duvivier:

Now remember, this was early on. This is before green was really kind of cool. This was in 1999. And at the time we even had things like thrift shops on our map. We had environmental buildings. Now you couldn't even fit them all on a single map. But the one thing I wanted to show you that was on the map is this little indication about street trees. Santa Monica was interested in street trees well before anybody else was, I would say, in LA county. In the year 2000 they decided to start a new program, the Millennium Program, where they planted a large number of trees. And so this map locates those trees that were planted as part of their commitment to reduce global warming. And it also locates all of their trees that were significant. So, bigger than 60 feet in height or thicker, at breast height, than 30 inches.

Isabelle Duvivier:

And so I wasn't really interested in trees per se at this time. I was really interested in environmental education. But I got really interested in trees when I moved and I tried to get trees planted in my parkway, and I ran up against just horrendous bureaucracy. And so I decided to get much more involved, and I joined this group. This is the Community Forest Advisory Committee. I am now the representative for my council district. I'm in council district 11, C.D. 11. There's 15 different council districts in Los Angeles.

Isabelle Duvivier:

So yeah, I'm on CFAC, the Community Forest Advisory Committee. And it's really hard work. I'm a volunteer. We're all volunteers. This is the current situation around tree equity in the city of Los Angeles. This was research that was done with Loyola Marymount University, Tree People, and LA county. They used aerial photography, satellite photography, to map canopy coverage in the city. And so you can see the great disparity between some neighborhoods and other neighborhoods. And then the two maps over on the right are showing you... The one on the bottom is where I live, and you can see that it's similarly low canopy compared to where you guys go to school.

Isabelle Duvivier:

So part of what my job as a CFAC rep to do is to help bridge that gap. Here's some other things that are happening right now in the city of LA with tree canopy decline. This was actually a study that was done by Travis Longcore when he was at USC. It looked at canopy coverage using satellite photography at the time, between 2000 and 2009, and their research found that across the city, tree canopy... Or, actually, it's not tree canopy, it's green cover, declined by between 10 to 40%, depending on what council district you were in. Their findings demonstrate that it was principally due to mansion-ization. So people building a bigger house on a small lot, or building a two car garage instead of a one car garage. And that was 10 years ago. So really it's gotten much, much worse since then.

Isabelle Duvivier:

Now, the problem we're facing is that we, as you all know, we're in a terrible drought. It's been going on for quite a while. We had a few years of rain, but the drought continues. Climate change is upon us, and we have more heat. But what I want to say is really important that you may or may not know about is that there are more and more invasive species that are coming over. And because our trees are already stressed out by heat, and our winters aren't quite as cold as they used to be, the beach isn't quite as foggy as it used to be, and they're hotter days in general, the trees are stressed out so much that we're seeing a lot of trees die.

Isabelle Duvivier:

And then on top of all of that, the city of Los Angeles is really, you got to love them, but it's totally a very dysfunctional city. They cut the budget for the Urban Canopy Department, the Urban Forestry Department, about 20 years, they cut it amid that last budget cycle. And then they moved departments all around. And so now all of these different departments deal with tree canopy, and they don't really talk to each other. So you have the Bureau of Sanitation. They do tree planting, and they do the biodiversity port, which I'll talk a little bit about. So they deal with trees. The Urban Forestry Department, they trim and remove dead trees. The Bureau of Engineering gives permits for removing trees. Planning gives permits for removing trees, and sometimes for planting trees. Buildings and Safety oversees the permitting process of trees. Public Works is the general body that oversees Urban Forestry and the Bureau of Street Services that review trees. And I could go on and on, but you can see LADWP, City Plants, and then the tree planting partners. So these are all the folks in the city of LA that deal with tree removals, tree trimming, and tree planting.

Isabelle Duvivier:

And so when I first joined CFAC, it was really so confusing. And after four years, I'm finally starting to figure it out. But then there's also a lot going on, for example, with driveway widenings. When a single family home goes in, they put in a larger garage and then they have to increase their driveway, which means that a street tree has to come out. The city does automatic road widenings, which means trees come out. There's what's called a sidewalk repair program that repairs the sidewalk where it's been damaged by a tree. And many times they can't save THE tree. They can't meander around the tree. So there's really an abundance of concern that we have for our trees.

Isabelle Duvivier:

And then now that the homeless crisis is upon us, the general housing crisis is upon us, we're seeing an enormous number of trees ON private property being removed for bigger homes, for apartment buildings we have in the city of LA. We're updating our housing element, which means we're up zoning many of our neighborhoods. And we don't have any guidelines to protect mature trees on site. We have what's called a TOC, Transit Oriented Communities, which allows buildings to be bigger, taller, and they remove all opportunities for tree planting.

Isabelle Duvivier:

So now to switch over to a more positive note. LA is a biodiversity hotspot. That means it is one of 36 of the most rich and endemic life in the United States. If you look at the rest of the country, all of these different areas only have one species, or two or three species, that are endemic to that area. Endemic means that they exist only in that place. And as you move to the West Coast, you can see it gets greener and greener. And then we're really gets vibrant is over here in Los Angeles. We have the greatest biodiversity of anywhere in the United States.

Isabelle Duvivier:

But part of the reason is because of our geography, because of the ocean, because of the mountains, the desert, the Santa Ana winds, the earthquakes. So we have a great amount of biodiversity. But we're also losing biodiversity faster than any other state in the union, except for Hawaii. And part of the reason is, is because we have so much biodiversity, and it's such a popular place to live, that we're really developing very, very rapidly without a lot of guidelines.

Isabelle Duvivier:

Just an example of that is that cougars, so mountain lions, the mammal that I've always been so proud to say live here, that really defines how wild we Californians are, cougars are now found to have deformities due to inbreeding because the access ways that they have to traverse various swaths of open spaces are in decline. Those areas are getting smaller and smaller and getting more isolated, making it very difficult for them to breed with other species, other genuses of the same species. So these are all interesting issues that we're facing.

Isabelle Duvivier:

One researcher, a gentleman named Eric Wood from Cal State LA did some really interesting research. And also one of his students was working in my yard, which was really fun. His research shows that, they studied tree and bird relationships. And they came up with these two diagrams and show which trees birds prefer and which trees birds have void. So if you're someone like me on CFAC, or someone in the city who plants trees, you're interested in seeing this. And not surprisingly, most of the trees that we're planting right now that are part of our tree planting palette are not very favorable to birds and butterflies.

Isabelle Duvivier:

For example, we plant a ton of Crepe Myrtle. It's the number one species here in LA. It's a terrible little tree. I mean, it's pretty, but it's small and it's not very... It's not really wonderful. And then all the native species get really high scores, Coast Live Oak, California Sycamore. The reason these ones aren't higher is because there aren't more of them planted. But if they were more planted, these would be terribly high. The other species that are very favorable are Chinese Elm and Carrot Wood. They're not natives, but the birds really love them. And Sweetgum, which the city no longer plants. Sweetgum, they're liquid amber, they have those really amazing fruit, which some of you may collect around Christmas time. I used to always collect them and string them to make wreaths or something like that. They're really bumpy, and if you step on them, you hurt your feet. And that's the reason the city doesn't plant them, is because the fruit is spiky. But they're just beautiful fruit. But the city plants a lot of these unbeneficial ones.

Isabelle Duvivier:

So we're working with the city to try to get them to plant trees that are more beneficial to birds and butterflies. The city of LA is also doing this amazing work called, the Wildlife Pilot Study, where they're looking at the Santa Monica mountain area and they're developing guidelines to protect projects that are built up there, to protect those projects so that animals can still co-exist in the Santa Monica mountains. So with things like coming up with lighting guidelines and window treatments so that birds don't crash into windows, and trash enclosure guidelines so wild animals don't get into trash cans. So we're really excited about these new guidelines. They're very slow to manifest, but the fact that they're doing it is really terrific.

Isabelle Duvivier:

And then, this is the work out of the LA Bureau of Sanitation. And they're doing just really fabulously terrific work. It's so exciting. I can't explain it as well as any of those scientists can explain. But they've divided the city up into, I believe, it's 16 ecotopes, or sub regions. And those sub regions are based on vegetation, geography, micro climate, biotic character, and land form. Yeah. And then they're coming up with plant pallets, hopefully, for those different ecotope regions so that you, a resident or a homeowner, could say, "Well, I live in the Santa Monica terrace ecotope, and I want to attract the El Segundo Blue Butterfly, which is an endangered species. What plants should I plant? What tree species should I plant?" So they haven't quite come up with a plant palette yet, but they are working with some graduate students to produce that.

Isabelle Duvivier:

So what they're going to be doing is this report is going to be updating the data every five years. And this was the initial findings. So the mayor's goal is to have no net loss of biodiversity. So presumably every five years, the numbers will go up, not down. So we're hoping that the mayor may change his goal so rather than being no net loss of biodiversity, it would be net increase in biodiversity over five years. But no net loss is already a great start.

Isabelle Duvivier:

The city of Los Angeles has finally started a tree inventory. This was work that was CFAC was instrumental in making happen. The city's tree inventory was very, very dated. And now they've finished about 30% of the overall tree inventory in the entire city of Los Angeles. And then for each neighborhood council area, they're coming up with this really cool little sheet that shows you how many vacant spots they have in that neighborhood council area. How many, this is how many broadleaf trees are in Lincoln Heights, for example. And how many palms. This, Lincoln Heights, has 9% palms. It has 14% vacant lots. It has 65% broadleaf, which means deciduous. It has 5% conifers. And I don't know what others are. Maybe that's palm. No, it has 9% palms. And then it shows the number one species here, it's the Mexican Fan Palm. This number two species is Southern Magnolia, London Plane, and so on and so forth. So they're doing this by each neighborhood council. So this will be really interesting, and this will help us really grow our urban canopy.

Isabelle Duvivier:

Also thanks to CFAC, we hired our first city forester officer. This is Rachel Malarich. She bridges all of those different departments I talked about that exist, that deal with trees in the city. So her job is to bridge all of that different departments that deal with trees. And right now her main goal is to come up with a revision to the protected tree ordinance to start to help us reduce our tree loss from development. And then Rachel Malarich, who is another terrific person at the city of LA does these Growing Vibrant LA Community Chats that happen every... I think it happens every quarter. The last one I went to was December 8th. And this woman from a group called City Plants. So this is City Plants. City Plants is a nonprofit organization that works for and with the city of Los Angeles. They're mostly funded by LADWP.

Isabelle Duvivier:

Now you might ask, "Well, why does a LADWP fund tree planting?" And the reason is because trees shade buildings, and LADWP is trying to reduce the average homeowners energy usage. So by planting trees, you're reducing your carbon footprint. You're reducing your energy needs. So City Plants is responsible for planting most of the trees in Los Angeles right now. They have two programs. They have... And I showed you here what their website looks like. They have a Yard Tree Program and a Street Tree Program. These are amazing programs. The Yard Tree Program is, if you're a resident of Los Angeles, you can go to their website and you can order up to seven trees for your property. Now because of COVID, it works a little bit differently. You have to actually go to one of their events and it has to be scheduled, but you can get seven trees per site.

Isabelle Duvivier:

And then the Street Tree Program is even more magnificent. The street tree planting program is, if you sign up for a tree, and you can also be an apartment dweller, you can live in a condo, a house. You just need to have a spot in your parkway. All you need is to give the city permission... Or, the city needs your permission... No. You give the city permission to plant the tree and you agree to water the tree. That's all you have to do, is you have to promise the city that you will water the tree for three years and they will come out and they will plant the tree in the parkway for you. So it's a really great program. They also have this really fantastic literature that they have on their website that discusses why trees are good for business, how trees actually, funny enough, they help you reduce your water requirement, and how trees make our lives better. So these are really terrific educational tools you can use. You can just go to cityplants.org.

Isabelle Duvivier:

I wanted to tell you that the only problem, I'd say the biggest problem, with the city's tree planting program is that the species they plant is really limited. So a lot of us who are interested in biodiversity, we go to Theodore Payne Foundation to get trees when we want to plant them on our own property. Theodore Payne is located in Tujunga. Unfortunately, you actually have to pay for the trees. With the City Plants program, you don't have to pay for them. But they have a terrific nursery and they also have great educational material, and they do an annual tour. I've been on the tour several times this year. And last year they went online. And it's a really great place to know about.

Isabelle Duvivier:

Now, the reason native plants are so important and native trees are so important is because if we want biodiversity, we really need to have more native plants because native birds and butterflies have lived for millions of years with our native plants. And so our native birds and butterflies are not familiar with, and haven't created any kind of relationship with the non-natives.

Isabelle Duvivier:

So I was telling you about Eric Wood's research on birds and tree species. One of his students did research on birds and tree species and she used my yard as an example. And it's thanks to my native trees that she counted all of these birds in three half-hour sessions at my house. So I can really... Now, I don't know my birds very well. Many of them look all the same to me. But she was teaching me a lot about them. And it really is true that native trees attract greater, much greater, abundance.

Isabelle Duvivier:

So locally, what we're doing, and I'm hoping you might be motivated to do something like this in your community, is we've started a small group called Verdant Venice. And then an associated committee of the Venice Neighborhood Council, which is a local representation at the government level. And what we've been doing is we've been planting trees in front of low-income housing projects. So this is a Section 8 housing project in our neighborhood. This is a really little narrow parkway. It's only... It's not even three feet. And we ordered trees, and we planted over... Now, it's over 200 trees in our neighborhood.

Isabelle Duvivier:

One of the other things we're doing is we're taking concrete away from these Sycamore trees on Venice Boulevard. The Sycamore trees were planted in these concrete... It's called agro perm tree wells, so people wouldn't trip and fall. But now the trees are so big that the concrete is starting to choke them. So we do about 15 trees once a month, and there's about a hundred trees on Venice Boulevard. So we're about halfway done. It's really hard work. We do field trips. We go to nurseries, we learn about trees. These are some ideas of what we're doing and things that you could do. We do these tree walks where we go out with our community and we learn about trees. We do tree care events.

Isabelle Duvivier:

So I remind you that I'm an architect, but my hobby is trees. And so now what I'm trying to do is figure out a way to merge these two. And so I've been developing guidelines for how to build density with biodiversity. And then something that I'm doing a lot of research on right now is, how do you build buildings with habitat in mind? And I have friends that are looking at building their houses for building nests for bats. I know they're doing that in Europe.

Isabelle Duvivier:

So what can you do to promote biodiversity in your apartment, on your balcony, in your house? Well, you can plant native plants. You can register your garden with the National Wildlife Foundation. That will actually help the city because the biodiversity index, one of the indices that they use to see the improvement over time, is they use... I'm sorry. They use the iNaturalist website. Not the National Wildlife Federation. The National Wildlife Federation, what they're doing with them, is they're trying to become the biggest city in the country to have the most registered wildlife gardens in the city.

Isabelle Duvivier:

As I was starting to say, the biodiversity team is using iNaturalist to log observations in yards. So if you see an interesting critter in your neighborhood, you could register it on iNaturalist, which is a website, an app. It's really easy to use. Another thing you could do is to not use gas blowers, or encourage the property owner, or your gardeners, the neighbor's gardeners, to use electric blowers. And this is something that would be super beneficial, would be to leave the leaves on the ground, because the leaves are where a lot of critters need to burrow. They go for nutrients. They lay their eggs. Trees need their dead leaves on the ground to support their life cycles. And then, we over mow and over prune. So if you see somebody over pruning a tree, figure out how you can educate that person about it. Butterflies use mud. So it's always nice to have some soil, bare soil, and a little water on that, and providing on-site water.

Isabelle Duvivier:

I hope that was helpful. Thank you so much.

Christina Barsi:

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