

## Dr. Terre Satterfield: “Culture is a Co-Production”

### Season 2, Episode 7

#### *Small Planet Heroes* Podcast

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**\*This transcript has been lightly abridged for optimum coherence and flow.**

**Kai:** Hello. I'm Kai Chan. I'm a professor and Canada Research Chair at the Institute for Resources, Environment and Sustainability (IRES) at the University of British Columbia. And I'm a co-founder of CoSphere, the Community of Small Planet Heroes. And today I have David Boyd in the studio with me as a *co-host* this time. David?

**David:** Delighted to be back with you, Kai. And I'm *also* a professor at the Institute for Resources, Environment and Sustainability, and a long-time fan of Professor Satterfield.

**Kai:** To know Dr. Terre Satterfield, our guest today, is to love her. She's a professor at IRES of Culture, Risk and the Environment, and she is the most deeply and broadly trained environmental social scientist that I've *ever* met. But we're interviewing her today because of her contributions that are both crucial and foundational to justice in the context of social and ecological change. Understanding the way that she has contributed in this space is *really crucial* to understanding transformative change in the way that we understand it, not in the way that it might be used to justify injustices. And we're going to get into all that. But it all stems from this idea—sort of this conversation, the podcast—all stems from this idea of transformative change that emanated from intergovernmental bodies like IPBES, the Intergovernmental [Science-Policy] Platform on Biodiversity and Ecosystem Services.

**David:** And so Terre is trained as an anthropologist with graduate work at the University of New Mexico, and I have many questions about what it's like to be an anthropologist and how that shapes your view of the world and the work that you've done. Terre is also the author of three books, one of which was *Anatomy of a Conflict*, looking at the old-growth forest controversies in the Pacific Northwest. Another book on nature's values, and another book a reader—well, what's nature's worth, and then a reader on environmental values. And also, as Kai alluded to, a mentor to more than 30 doctoral students at UBC, more than 10 Master's students, a whole bunch of postdoctoral fellows. And I think in addition to all of that academic work, Terre has also engaged with First Nations and Indigenous communities around the world in advancing their interests, and I think that's something that we'll also—I'm super curious about hearing more about.

**Kai:** We should say that Terre, her name sounds like T-e-r-r-y, but it's actually T-e-r-r-e, so like the earth, and I think that's fitting. We should say also that David is among the Ph.D. students that Terre mentored, and that I am a *faculty* member that I would say was mentored by Terre. So today we're going to talk about the way that Terre's contributions have helped to transform how we understand environmental values, ecosystem services, and justice in relation to the environment. And as David said, we'll talk about how she has championed Indigenous efforts for sovereignty, for compensation, for sustainability, and then, in a little bit of self-reflection for this department that we all share, the Institute for Resources, Environment and Sustainability, we'll talk a little bit about how she led that department to a stable and a *crucial* position in the Faculty of Science at the University of British Columbia.

**David:** But if I could just jump in there, Kai, because one of the things that amazes me about Terre is how many *different fields* she's been involved in over the course of her academic career. So you mentioned several, but there's also biotechnology, nanotechnology, carbon capture and storage, fortress conservation, risk analysis. I mean, I've literally never met anyone who had their finger in so many delightfully tasteful pies.

**Kai:** Yeah, and I hope she'll bring some of those into this conversation today.

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[Medley of *Small Planet Heroes* theme song]

*If there's a pit in your stomach from the way that we live  
You want it to change, something's going to give  
We've got stories that'll give us a glimpse  
Of better ways to reconnect everything  
We're small planet heroes  
Small planet heroes.*

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**Kai:** Terre, welcome.

**Terre:** Thanks, Kai.

**Kai:** We're going to start off with a question about where you started. So you took some time off before your Ph.D., and then you came back and you decided to study anthropology. So tell us a bit about that. And also, like, why? Why New Mexico? Why Keith Basso?

**Terre:** Good answer in that name right there. But you know, there's so much happenstance in a career in the end. You know, I didn't have a—you know—really a notion of academic work. I didn't have a plan to do that work. I started my undergraduate here at UBC, and there was a—it was actually a physical anthropologist who nudged me in my last year towards New Mexico because these crazy things. I had a dog: I needed to go somewhere that I could take a dog. I wanted to be somewhere that had a really good department but wasn't stuffy, you know. Those were my priorities, you know, just a good learning environment. So I went down there, and it was really central to anthropology in those years. Still is, both archeology and cultural anthropology. Keith Basso, Louise Lamphere, Philip Bock, just really a stellar faculty there. So I went down there and I just thought I'd died and gone to heaven. Really, honestly, it was a fabulous graduate experience. And it was fabulous because it just made anthropology alive in the sense of a central priority of really deeply understanding people who think nothing like you. That's its basic premise: to understand worldviews and perspectives of those that are so unfamiliar that they shake you up in a way, and that's a good thing. And I also think that at the time, anthropology itself was changing, taking on the brutal histories of colonialism. It was also bringing everyone into space that was not largely looked at by the rest of the social sciences. So I kind of, I continued to drink from that trough, so to speak, for all of my career even though I deviated a lot from methods, the sort of longtime in-place methods. Ethnography—that's so central—is still my sensibility, but not something I can always do or *want* to do because I want to bring anthropology into other places rather than stay within that field. And I could say, in a lot of ways, that's what I've done.

**David:** But Terre, I'm super-curious about how that anthropological perspective informed work in areas

like biotechnology, nanotechnology, and carbon capture and storage?

**Terre:** Yeah, in some ways it didn't, you know, other than in a general, pervasive way. I would say my values work is very informed by that. But then right after I was finished my Ph.D., I was still living in Oregon when I was winding up that dissertation that became the book you mentioned, and I had this incredible good fortune to get hired by a place called Decision Research, and there are a bunch of scholars of risk there, perceived risk. And that sort of exploded into its own area, concurrent with the more conventional biodiversity valuation, et cetera, interests. And at the time, those two fields were a little more aligned anyway. They weren't as kind of separate subfields as they are now. So a lot of people worked in both. I'm one of the few that still does, I guess, but you know, so there's just a lot of luck in a career too. Like the mentorship I got there, the proposal writing skills that got mentored there, that kind of, you know, in particular, Paul Slovic and Sarah Lichtenstein (who has since passed), were, you know, just *phenomenal* scholars, and I got to spend several years there. And so that really opened up that avenue of work, I would say, and yeah, still does.

**Kai:** One of the questions that we've asked everybody who has come on this season in one form or another is kind of a difficult one in terms of disentangling. But it's which came first: your science (or study) or your purpose, because so much of your career seems to be oriented around this commitment to justice in one form or another. Did that follow from the beginnings of your learning in your Ph.D. process or precede it?

**Terre:** Yeah, yeah. I mean, purpose drives the science, I would say for me in most things. The purpose has always been—it began with, in some ways, what seem, in retrospect, modest ambitions. You know, the representation of sensibilities, ideas, values from communities that are conventionally ignored. Or, you know, social scientists are famous for picking communities they see as their heroes and staying there and not wandering out of more difficult space where the constituencies differ profoundly. And how do you work in that space? So the purpose of, that drives all of it, I would say, is the desire to represent the underrepresented in voices, in assessment, you know, in planning and all of those things. So even if they make me uncomfortable—in fact they *should* make me uncomfortable. I sort of believe in getting out of your comfort zone as a central premise of learning.

**Kai:** How does that relate to the critical and constructive perspectives? I want to spend a *bunch* of this conversation thinking about it in those ways. Many of the folks that we've had on in this season, I think, are probably more on the constructive side. You know, we haven't had anybody who is *solidly* a critical theorist by identity, but that was your training as I understand it. And so can you, can you say a little bit about that, like that idea for representation? Does that align well with the critical perspective?

**Terre:** It does. But I would say that anthropology still (or was then, however fully qualitative), was a deeply empirical endeavor still, so it wasn't only critical. But I would also say that somewhere along the line, I developed a sensibility of being critical but also wanting to answer that criticism in some ways. So in the values work, for instance, you could look at these, you know, very heated environmental controversies or assessment problems, and you look at what, you know, those who make the rules, control the rules, and so you could look at the way that was done and think 90% of what matters is missing here, and so that's the criticism. But if you can't answer with, you know, go out of your comfort zone and say, "Well, here's how we might address that," instead of being in a sort of critical-only space, then I'm not interested, I guess.

**Kai:** For me, I think you really introduced me to the critical space.

**Terre:** Yeah, I remember some of those early moments!

**Kai:** Absolutely. We co-taught a course on the human dimensions of conservation, and we dug into literatures about conservation refugees and the many peoples that have been displaced from protected areas in their formation or during their running, often violently. And you know, so the critical is just like bringing attention to that, as you said, but then the constructive is like, as you said, what do we do about that? And your career has really navigated that, right? First, bring attention to the problem and then try to figure out what to do about it.

**Terre:** Yeah, I remember a lot of those early conversations. Like we used to have that kind of script, because I would say, "Okay, let's put this on the syllabus," and you go, "We never read that. We're in some kind of tense conversation with that scholar." I remember Mark Sagoff on individual versus citizen preferences, the whole critique of parks and as a form of colonialism, basically, of, you know, bringing economies and realities into communities that, you know, had no say in that whatsoever but were suffering from that. And those are also conversations that have been significantly improved—or problems that have been significantly improved—over the last 10 to 20 years. Not universally, not everywhere, but you know, you can't go into a conservation situation now and not ask, "What's the state of the communities who live there? What are we doing for the communities who live there? Have they consented to moving? Is their livelihood in place?" And those were questions that were just *not* on the table 20 years ago. [**Kai:** Um-hmm]

**David:** That's so true. I mean, I cut my teeth in the environmental movement with the Canadian Parks and Wilderness Society advocating for more protected areas, more protected wilderness. And it was really through conversations with you, Terre, and reading things that you had co-authored, that I came to a much deeper understanding of the *complexities* of protected areas, and that eventually led me to advocate forcefully for the inclusion of human rights in the Kunming-Montreal Global Biodiversity Framework. So I think that's like a really tangible example of how your work has these tendrils that reach out in ways that you oftentimes may not even be aware of but the influence is there.

**Terre:** Yeah [laughing], I'm not going to take credit for that one, the Montreal Protocol, but I hear you. Thank you!

**Kai:** I remember those conversations that we had in the room, I think, really epitomized the challenging nature of bridging this ridge, you know, *between* the critical and the constructive; where, rather than just residing on one side (and you and I've talked about a lot about this), that whole departments seemed to be on one side or another, right? Either *mostly* in that critical space where, you know, for appropriate reasons (historical reasons) they see their role as being a kind of antidote to a purely constructive view of the world, right? Like not forgetting that there are folks who are going to be left behind or hurt in ways that are *not* sufficiently well understood or represented, and so occupying that critical space. Whereas, on the other hand, we have the mostly positivist or post-positivist sciences like economics and perhaps psychology that are *more* solidly in that constructive space where they don't entertain those conversations about the folks that are *really* suffering from what might seem like progress otherwise?

I remember how this was so difficult for some of our students, right? Some of them were like, "Oh, I really appreciated how the professors channeled these two different perspectives in ways

that really, you know, brought me to a deeper understanding.” And then there were others that were like, “I couldn't make any sense of it because the professors were always arguing!”

**Terre:** [Laughter] Yeah, totally. I think that's good though. I mean, I think that's the essence of interdisciplinarity for us, for the three of us at the table here. Certainly where, you know, we want those challenges, we want those conversations. It's the ability to have them in a department where we all have kind of discrete talents, but we need each other in some sense so—and working that out (or not working that out), deciding to disagree. But yeah, it has been a really good, good and lively thing.

**Kai:** Let's talk for a bit about ecosystem services and your “queasy” collaborations. So, after having taught together in that conservation course, I basically looped you into ecosystem services “stuff.” I was co-leading a working group on cultural ecosystem services and honestly, I wouldn't even have signed up for the role if it hadn't been for you, because I wouldn't have felt like I knew anything about the space, or could appreciate how important and how *deeply* important it was to folks whose voices were not in the room. So I signed up for that and I looped you in and asked you to join our group. And for years, this was your queasy collaboration, and we couldn't even talk about it without you noting, like, the difficulty of that. Can you say a little bit about that?

**Terre:** Oh, I could say a lot about that! And I, yeah, I don't feel as queasy as I used to feel. So that's a good thing. There's progress there, although again, a little fear is always good. Let's see. Well, I think I started with that because it was bundled in my mind. I started that queasiness because ecosystem services is a kind of child of valuation and market valuation, and it's, you know, it's been a very successful way of shaking that up. That by putting things on the table for attention that are, you know, apparently come free to us, from nature into markets—

**Kai:** Yeah, bringing ecosystems into the space where they've been mostly ignored—

**Terre:** Yeah, entirely ignored. And so, on the one hand, there was this, you know, very positive innovation. On the other hand, there's this association with assigning dollars to ecosystems and its association (not that everybody practicing in that field did that). But in fact, we talked a lot about that. But so the initial unease was there, but then over time, it also became useful in, say, environmental assessment contexts, and it also really, you know, you can't talk to an anthropologist about culture and hand them a definition that says “It's education, it's spiritual value, and it's a few other things—”

**Kai:** The way that the list of cultural ecosystem services...

**Terre:** Well, the way that it was assigned. I mean good on them for getting it on, you know, getting it on the table. But, you know, to *my* training, it was like, “Oh, dear, so...”

**Kai:** And the notion that ecosystems were producing that stuff, right?

**Terre:** Were producing that as opposed to thinking of ecosystems from a cultural practices perspective, or a cultural worldview perspective. And also, you know, it *wasn't* a separate category. This idea that culture exists in the mind and *only* in the mind and can travel with people across geographies is just wrong, right? I mean, culture lives on the land. Its practices live on the land. It's a relationship *with* the land. For most people, in most places, it's a—it's a co-production—it always has been. [**Kai:** Yeah] It's a relationship production. And so—

**Kai:** Yeah, and the definitions that we *started* with did treat it as separate, right? Like you had your material services, and then there was this *other* category of the non-material benefits, right? As if we could cordon that off and have a different set of people study *that* problem, right?

**Terre:** That's right. Which also implies that you can make trade-offs that you actually can't make, or other possibilities. So—and we talked a lot about that, especially as it was linked to food systems, right? That was a really key piece, because a lot of that co-productivity goes through local economies, which are food-based economies often, or were for much of human history. So.

**David:** And Terre, it seems like that is also connected to the work that you've done with Indigenous peoples on compensation. And I wonder, how—do you have similar feelings of queasiness, or were those assuaged to some degree?

**Terre:** Yeah, yeah, I probably *never* not feel queasy about that one. But so yeah, it is connected and it's connected in some really fundamental ways. One is that the category of things we call “cultural” that we began with have been elaborated by me (and *lots* of others) in really important ways. So you would never think about something that needed to be compensated without imagining the possibility that relationships to place are really central, or that how you govern an environmental system when that governing system has been going for 10,000 years and maybe it's clan-based, maybe it's territorial-based, but those things are *so, so* bundled, so connected and so central to being: being Tsimshian, being Salish, being whomever. And so.

And then to turn around and say, “Well, how much is that worth?” is *always* a queasy question because *none* of us want to put dollar values on those things. It just kind of transgresses the very thing you do and often, when you're working with communities, you say, “Can you just do that and not tell me about it?” They're queasy themselves, understandably! We know we need to do this for this evidentiary battle that we're in (or something like that), but it doesn't necessarily mean that it's comfortable in any way. On the other hand, to not do it is to make those things invisible, or people make up rules. We think all of this (sometimes referred to as intangible values because they're not strictly physical livelihood things *only*). So the history of the courts is to say, “Okay, we think that's worth *half* of the physical value.” By what logic? You know, so really trying to dig in and bring some systematic practice to that and methods that could apply more broadly. Yeah.

**David:** It feels like we still have a long ways to go. Because I think of examples like, you know, *trucking* salmon to First Nations communities who are unable to any longer fish for salmon because of declines in population, *trucking* water to Indigenous communities because their water supply has been poisoned or contaminated.

**Terre:** Yeah, and, you know, yeah, that raises questions of when the conditions are so dire, you know, compensation *never* makes up for those things. It's just a basis to, you know, sort of refresh possibilities for futures people imagine. But to say that compensation can—

**David:** Is it also not just the compensation but having their voices heard?

**Terre:** Yeah, having their voices heard matters a great deal, but also having—having specific voices heard, because you can talk about clean water and you can talk about degraded ecosystems, but what the loss of those, you know, kind of freshwater systems, or what the loss of those ecosystems mean to people, is *not just the physical stuff*. It's a complete disruption of, you know, society as

they knew it, and so.

**Kai:** So the case of trucking salmon seems like a case of flawed logic, where you're trying to compensate directly for the *material* loss just by replacing the material, right, without recognizing just what you said: that the *reality*, that the *value* and the importance and the *life* associated with those materials involves their being situated in a place, in an ecosystem, and that the action of harvesting those fish is embedded in that place, in that ecosystem, *not* having a fish delivered from a truck.

**Terre:** Yeah, the essence of that is the idea of substitution: "Oh, this is easily substitutable." It is *so* not substitutable in these terms. Trucking in versus a fishing economy that you run and you know.

**David:** That's a very cool anthropological perspective on economics right there! [**Terre:** Yeah, yeah]

**Kai:** And so how much is the queasiness *always* going to be a function of residing on that ridge between the critical and the constructive? Where, you know, the constructive is always going to be looking for a generalizing—a kind of substitutability solution, you know—something that's easy and applicable anywhere. And the critical is always going to be pulling us into the realities of a place, right? And like, "Don't forget about this and that and the other thing," right? And finding a *solution* to that is like that—that's at the ridgeline, in a sense.

**Terre:** Yeah, yeah, the queasiness is the ridgeline for sure. You know, it's sort of the lesser of evils. It's better to try than not. It's usually how it comes down to and often you're competing with *really* bad evidence on things, right? There's no evidence on those things. So any entry into addressing that problem set is—better than nothing. So that sounds like an impossibly low bar (and I don't mean it that way), but it starts the conversation and it makes it harder and harder to render those things that really matter to people invisible.

**Kai:** And you find ways to make it less unpalatable, right? So you don't actually ask folks, "What is the ecosystem worth," right? [**Terre:** No, I would not do that.] You derive that from their answers to much more *appropriate* questions.

**Terre:** That's right. Yeah.

**Kai:** Can you walk us through some of that?

**Terre:** Sometimes it's inferred. Like you can—most people who are land-based or marine-based, for instance, can tell you what species are really important to them; or, you know, somewhat important, but they're *all* important! But some are just sort of central, what we might call *cultural keystones*, and some are relatively—*only* relatively less central. And so, in only that sense. So people have said to me things like eulachon or salmon here on the coast, or particular species of salmon or crab species are, you know, they can't imagine a life without those, whether it's an everyday domestic life or it's a feasting life where major decisions for the community are made and sanctioned through those food systems and through the products of those food systems. Or that certain places or certain species are super-saturated with learning moments for the next generation. So in that sense, you can say, "As long as you can have a conversation about what really *relatively* matters to people, then you can argue for production of those things that matter most." And so it ends up you can have a kind of inferred ranking by that logic, that you can convert to evaluation. You know, people are not going to say, "A is more important than B," and we shouldn't ask that of them. But they will say that "If I have 100 points, I know that I want to assign

50 of those points to this and 20 of those points to that.” And if you have a comparable dollar worth on something, you can look at that in a ratio-like way. So there are a lot of strategies to enter that evidentiary problem. But yeah, I would never ask people how much they're willing to pay for something. That's like, *we can't answer that question: why would we expect anyone else to?*

**Kai:** And nor would you represent the answer as being what the ecosystem is *worth*, but rather what compensation is fair and appropriate, right?

**Terre:** In a compensation—or, you know, it's not all context or compensation. Lots of them are—are assessment and when I first started looking at contexts of cultural assessment, for instance, with Leslie Robertson and Robin Gregory and other people like that, the question there was not what it's worth or not “Should it be compensated”? But if you looked at the convention for assessments at the time, they were sort of, “Will there be any people who will lose some language skills as a function of this product?” Or, again, I mean—language matters *tremendously*, right, because so much comes with it. But I—so I don't mean that. But it was all this idea of culture in the mind and not very much living on the land or water that people occupied, and that made it something you could—made it something substitutable when it was not!

**David:** You mentioned language and that—it reminded me of one of the projects you were working on when I first met you, which was working with the Māori in New Zealand. And the word I remember is *whakapapa*. [**Terre:** *laughter*] I wonder if you could tell us a bit about how you ended up working in New Zealand and what that project brought to you?

**Terre:** Yeah, that New Zealand, *Aotearoa*. My colleagues were Mere Roberts and Manuka Henare. So I had this again, these kinds of happenstance pleasures that come along. Monica was a philosopher and Mere Roberts—well, Mere was a biologist—and so really, they pulled me in for *my* skill-set but I learned so much more from them than the reverse. But so *whakapapa* is just the idea that, sometimes it's translated as “genealogy” but not as we would think genealogy is; so it's everything that comes before you, both in the human sense (so who your ancestral lines are), but also in the environmental sense (what parts of the ecosystem you might descend from). You might be, many people attribute their descent from forests, for instance, or from the god of the sea and so on. So it was a way of organizing the world in terms of relationships between the human and non-human, what we would now call and then called “relational values,” but the way in which people nest themselves in that larger physical world. So their whole organization of the world is not—not ours, certainly. And so that idea is that the ontological order of things is both human and non-human, and is both kind of ecosystem-like in a relational way. So when we were asking people, as we were at the time, about federal policy on genetically modified organisms, one of the most common responses was it doesn't belong, doesn't belong in this order of things, and we don't have a way of managing—*messing*—with that order of things. Or if we do have a way of managing it, there's just very few people who have that knowledge and can do that work. And so it really, really shook up the Crown's idea of what a cultural impact was and what we were really talking about when we were talking about risk and the risk of a new organism in that case.

**Kai:** It's a great example. And you see so many different kinds of cases to David's point from earlier, right? You've got—you've got the cases like with the Northern Gateway Pipeline, where the considerations that you were talking about of the Gitga'at, I think in that case, not being able to imagine a life without herring or eulachon, right, where those *tangible* ecosystem components linked to the cultural practices associated with them are so *crucial* that if there were an oil spill

that contaminated that area (either physically or also from a perception perspective), that it would undermine their lives so considerably. So you've got, like, the one body of work that represents that connection between the material and non-material in that context, and then you've got this other body of work using concepts like *whakapapa* to help regulators understand one, why there's opposition to these new technologies, and how to how to even think about what kind of an impact that is.

**Terre:** Well, first of all, I just have to say that, you know, I didn't go in expecting that idea (like *whakapapa*) to be the central organizing principle. I mean, that's—that was everything that Mere and Manuka and many, many other people taught us while doing that work. So. But I think that sort of back to the anthropological roots, that sensibility that begins with how people see the world and work out from there is fundamental. And the same was true with Gitga'at. They didn't talk about salmon only as food or proteins or calories; it *always* came as a bundle of physical and metaphysical properties that made life matter. So in the knowledge base in those communities at the time and still, I'm sure, just this was, you know, that work was 10 years ago now (a little more than 10 years ago now) was just phenomenal. And so they made it super easy to put those pieces [together]. I just organized their logic in some ways, in—you know—in reference to how environmental assessment thinks.

**David:** I can't help but wonder when you mentioned the physical and metaphysical elements. I mean, those words are *actually in* New Zealand legislation now governing the Whanganui River, Te Urewera and Mount Taranaki. Like it seems like, perhaps the work that you did with the Māori on *whakapapa* laid a conceptual groundwork that the Crown ultimately was able to *recognize* in these future legislative developments to protect the rights of nature.

**Terre:** Yeah, no, it's true. I mean, even at the time we were watching media for (like mainstream media) for how often terms like *whakapapa* or *mauri*, which is kind of the—several definitions—[**Kai:** Life force?] but life force or spiritual essence of things. But *mauri* might also drive the purpose that something has; a tree might become a canoe. So New Zealand is, you know, fabulous for being a relatively small country with lots of democratic experimentation, and also something we just don't have in British Columbia, which is, you have a common language group. You might have some dialect differences from north to south, but yeah, just a really impressive history 150 years old of intellectual scholarship among Māori, not only by kind of anthropologists from the outside, in fact, a lot of *not that*. And so the basis of scholarship that was already there that could then run with these critical moments of contestation: I mean, the GM debate brought the government to its knees. It was a central feature in two federal elections. [**David:** Wow] So yeah, I think it did spark that consideration and experimentation that followed. And the idea of the personhood of a river is key because Māori would say that “I am the sum total of everyone and everything before me, including the river as ancestor.” So, yeah, I think that *definitely* happened.

**David:** Yeah, right in the legislation it says, “I am the river, and the river is me.” That beautiful kind of Māori conception of the human-nature relationship.

**Terre:** Yeah, sometimes that's referred to as the “intergenerational I.” Like we think, “I'm Terre,” I might mention my parents or grandparents, but it doesn't go that far back. And in the world of Māori, it often goes a thousand years back and then back into the environmental world. So that you're *always* carrying both the guidance and the weight of ancestors on your shoulders and are responsible for them is not something we think of very much. But they do.

**David:** Yeah, and I do think that's starting to happen here in Canada, although the linguistic diversity has been a barrier to that.

**Terre:** Yeah but we are having conversations that we definitely didn't have 10 years ago, whether they're about what has value or what should be compensated, or something else.

**David:** Or legal personhood, or the rights of ecosystems, the rights of ancestors, mythical and otherwise.

**Emma:** And now for a short message from one of our conservation allies:

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[Medley of *Waterbodies* theme song, no lyrics, instrumental]

**Colleen:** False Creek matters a lot to me just because it allows me and others to really connect with nature, even though we're living in a giant city.

**Fin:** We're fundamentally connected to the water bodies and the surroundings that we're in.

**Michelle:** Blue spaces in particular are good for our mental and physical health.

**Zaida:** Welcome aboard! I'm Zaida and this is *Waterbodies*, a podcast from False Creek Friends.

**Matt:** The reality is that False Creek is actually quite alive.

**Kai:** How do we navigate the protection of these places that we love?

**Mutumama:** What do you imagine False Creek might look like in the next 10 to 20 years?

**Eli:** False Creek can become a beacon and a place to showcase the conservation efforts that are happening throughout the rest of British Columbia.

**Soudeh:** What it means to be a steward of a land.

**Mendel:** Watch, listen and subscribe to *Waterbodies* wherever you get your podcasts and visit [falsecreekfriends.org](http://falsecreekfriends.org) to learn more.

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**Kai:** So we've covered cases of conservation and of oil and gas development and pipelines and shipping associated with genetically modified organisms. You are quite uncomfortable, in a sense, about the idea of transformative change. [**Terre:** laughter] And I see a connection here now—it's taken me a while to get—which is like every one of those three examples that we've just talked about, there's a *strong* contingent that believed that parks and protected areas were progress, right? That oil and gas pipelines and shipping are progress. There's still a big contingent here in this country that believes that, right? That genetic modification or genetic engineering is also progress, right? And that in the rush for that kind of progress that is supposed to make the world a better place, that there are folks whose views are not being heard or not being understood. And in every one of those cases, you have been trying to help, and I would say, helping folks who *don't* understand, who *haven't* understood, to better understand what is, what is being lost, and what is—what are the harms that are being experienced by the folks whose voices are not being [heard]. And so is your discomfort about the idea of transformative change that—that's like it may be, at least for some, it *may be* that next version of progress, right? That it's like the new thing that we have to charge towards at full speed regardless of the little costs, right? Which may be costs to people that we have been classically—or typically—ignoring for so long.

**Terre:** Yeah. You know, I can't say I don't like transformative change. That wouldn't be true at all, especially right now, but at any time in my life. But I'm afraid of *singular visions* taking over. And so when transformative change involves that, it really chills me to the bone. So, I both don't want to live in the world and fear a world where a sense of urgency (which we are all living with right now), is met with a singular vision of what's right and what the solution is. If we have

transformative change where our goal is to seed the human imagination and the incredible powers of creativity that exist to work at that change from a thousand different paths into some things that will align and some things that won't (and some things that will work out conflicts and some things that won't) into a future that is—that at least delivers on a few fundamentals, at the very least. Obviously an environment in better shape, the well being of populations in better shape, that's great; but I fear transformation when it's the language of a singular vision. [Kai: Yeah] And because every time we've had that, it's been trouble. [David: Yeah] It has introduced all the problems you just noted.

**Kai:** Yeah. I just want to note for folks who are listening that when we talk about transformative change, we're thinking about that space, that rich space of creativity and critical reflection that embraces the *many* possibilities and there are many possible consequences, but it's *worth* noting. It's worth remembering that *so often* these urgent human projects do take on that kind of unifying vision, and that it's worth pausing and reflecting.

**David:** I'm curious if you would have that same aversion to the United Nations Sustainable Development Goals? Ending poverty, ending hunger, water for all, health care for all, gender equality, climate action, protecting biodiversity. Like is that—are the UN Sustainable Development Goals *not* a singular vision of transformative change, or?

**Terre:** Not in my mind. I mean, first of all, there's—how many are there?

**David:** Seventeen.

**Terre:** Seventeen now. Those are goals, right? They're not a singular pathway to a future. You can get to those goals any number of ways [David: Totally] and they're phenomenal goals, right? I mean, hopefully achievable goals, but a *very* high bar. So they intimidate me in that high bar sense of the word because it's *so* difficult to achieve all those things. [David: Right] But do I want that world? Are those great goals? Yeah. I would say that's a vision that's come together with many, many priorities from many, many places to articulate those goals in the first place. So that's the opposite, to me, of a singular vision.

**Kai:** A *huge* participatory process over *years* that gave rise to those. [Terre: Yeah, yeah]

**Terre:** And the wonderful thing about those too is they *are* the language of progress in much of the world now, right? Not so much here, but especially in Latin America. But in the developing world, you can't get into a conversation with an activist or an academic and not have those come up. It's pretty amazing, right?

**David:** Yeah, it's striking how often they come up in the Global South, and how rarely they come up in the Global North.

**Terre:** Yeah. In fact, they come up in [the] short term. What are we going to do about SDG 12? You know? I mean, it's—it's a common language that we haven't taken up and need to.

**David:** Yeah.

**Kai:** I want to pivot a little bit to another trait of Terre's, which is your incredible capacity for empathy. And this gets at my comment that to know Terre is to love her, because anybody who has been around you for any amount of time has experienced that feeling of—I don't even know what word

it is—but that feeling where you feel like you're *genuinely* understood. My point here is to bring that into this conversation, because I, in the planning of this episode, I realized something about both you and your contributions and transformative change that I hadn't really appreciated properly. And it gets to the way that you take that—David said that Terre's an “empathy superstar.” That you take that—

**Terre:** Okay, we're getting *really* queasy here! [Laughter]

**Kai:** Totally! I knew you were gonna—I could see you squirming. But the way that you take that power, that ability and that sensitivity: you take that into your empirical work in a way that I think is both in and of itself transformative in helping people to understand from outside and from inside, and also in a way that I think softens the ridge and makes it *easier* for the critical and the constructive to have good conversation.

I want to read a quote from and tell a bit of a story to segue into this. So I brought up that cultural ecosystem services working group that was in Santa Barbara at a place that's called NCEAS, the National Center for Ecological Analysis and Synthesis. And Terre, you had come down. I don't remember whether it was your first visit. It probably was your first visit in person and we were sitting around this big square table. There were a few of our graduate students there and then Anne Guerry and Mary Ruckelshaus and Ratana Cheunpagdee and others. And we were grappling with this question: How do you get people to *talk* about this stuff that we know is important, that may be linked to the physical, but that also may be partly invisible, you know? And you prepared us for that: that sometimes the most important things, the things that people feel most deeply, they can't actually *just tell you* that that's the most important thing. And you rattled off like what then actually was like a 75% version for an interview protocol that we then employed in Hawai'i and in coastal British Columbia.

That was basically *narrative elicitation*: getting people to tell stories that we could then parse in terms of these different cultural ecosystem services or benefits or values. And I just—I remember looking around the room and seeing people's faces while you were just, like, rattling off these questions, right? As if you had crafted them in your head days before, you know, but like they just sprung out of you. And like, there was just this awe that, you know, they could instantly understand how that could work. And they did work beautifully, right? And so Sarah Klain employed those in the Regional District of Mount Waddington and Rachelle Gould employed them in Hawai'i. And this really was my first understanding of what I'll call *deep elicitation*, that has those dual features of being of service to the research participants as well as to the folks that would be consumers of that research.

And one quote in particular: the quote is from a 70-year-old Hawaiian woman that Rachelle had interviewed about the forest and the uses of the forest. And after the interview, this woman was so happy and so grateful that she went on about how she saw the research team as, and I'm quoting here, “One of God's gifts to our people, to me, to our community, because you would be able to plant the seed for the ‘decision-makers’ in the arena that we don't function on a regular basis. And even if we did function there, we probably wouldn't fare as well. But you would be able to be that stepping stone that helps link us a little bit more closely together. You—I look at you folks as being God's gift, for being a voice. Not *the* voice, but a voice for us; that you can share something of what we have—what we hold of value—that you can share it in such a way so that once the seed has been dropped out there, there's no way that people can say, ‘Oh, we did not

know.” Do you remember it now?

**Terre:** Yeah, I do.

**David:** That's a pretty nice quote.

**Kai:** It's a beautiful quote.

**Terre:** It makes me squirm. [Laughter]

**Kai:** But I'm going to go on because that isn't the end of the story, right? Because what that did that really validated for me (and I think for the whole team), it really validated what we were trying to do with cultural ecosystem services. It was like, “Okay, let's—let's try to be brokers for this understanding. Let's try to be translators. Let's try to bring these considerations in.” But eventually, it dawned on me that we were only halfway there, if at all, right? That like, there's this *happiness* of us being able to help, but then there's also this realization that *actually* that helping is coming from an incapacity. It's coming from a system that is *deeply* flawed because it's not working at all for them on their own, right? That what they have to say in their *own* voices they *know* as a *precondition* for the conversation they *know* will not be heard the way that they intended!

For me, that was the pivot towards the next chapter, you know, which was to try to entrench that relational thinking into the way that we understand value at all, so that we're not forcing folks to pigeonhole their costs and benefits into an economic framework that's dictated in boardrooms. You know, academic boardrooms and think-tanks that are centered around economics around this continent and others, but that turns it over and defines values in such a way that it *resonates* to people, so that they can talk in their *own* language, and we can appreciate—and we can appreciate what they mean by that and what it means to them. For me, you know, I jumped on that project; but for me, it was *you* and this work that we were doing that not only motivated and gave terms for it and concepts, but also provided me this moment of, you know, this teachable moment as to what the task *really* was.

**Terre:** Yeah, I mean, so much I could say about that. But fundamentally, there are these moments in research where you know that it's just so sweet to have a moment where somebody is, you know, able to say to you exactly what they want to say to you, and see that and know that you're hearing it, and knowing that you're approaching it in a way that enables, that makes a space safer and more articulated with the forms they want to speak about things in, not in some sort of robotic way or some other way. So, yeah. I mean, a lot of—a lot of our work lives—I would say my work lives—have been incredibly, yeah, just the *abundance* of moments where you see the sheer delight in someone when they know you get it in some way, or you hear them in some way, or all the things that they've been talking for decades about that matter suddenly become visible when they've been invisible for a long time. I mean, yeah, those are just really extraordinary moments, and we're so lucky to have a few of those in our lives.

**Kai:** And to David's point, things have changed in that respect, right? Like, you know, twelve, fifteen years ago, folks had to funnel their concerns through this academic economic thinking that they weren't comfortable with, and at least in the space of ecosystem assessments associated with IPBES or otherwise, it's become increasingly normal, right, to force researchers to ask questions in ways that open it up, that *democratize* the space of values. And you know, like it's, they're not

always getting it right–

**Terre:** I wouldn't say it's just democratizing; I would say it is how—I'm going to use your T word—it's transforming them, really. I mean, because we did start with problems of representation and definition and the sort of categories and ontologies of value, and we don't have to have those conversations anymore. We don't have to have conversations that place value matters, that historical value matters, that governance value matters, like that's kind of—in our worlds at least—basically a given. And it's a given in biodiversity and assessment, and IPBES and other kinds of context, but it's also a given in the kind of risk side of my work, where I would never now have a conversation. You know, twenty, twenty-five years ago, it was sort of—the narrative was entirely that “People are problematic. They're not tolerant of my engineering visions of the New World. What's wrong with you?” And now the conversation is actually, “If this has no life in the human imagination, and people are not on board for this plan, it's not going to happen.” That it's *not* primarily an engineering problem. It's equally a social problem. So you would design new technologies in reference to what people would like to see and not like to see, for instance. But yeah, so that both those conversations have just *flipped* entirely, I would say. [**Kai:** Uhm-hmm]

**David:** Yeah. And a third related conversation to do with Indigenous people is like twenty-five or thirty years ago, there was—you were lucky if you had consultation. Like even just being heard, and that has evolved so quickly to consultation is mandatory, to consent is now [mandatory]. You know, British Columbia and Canada both have laws requiring Indigenous consent, and even in the federal government's new legislation that tramples environmental law, they *still* retain that requirement for Indigenous consultation and consent. It's a *remarkable* transformation in the way that we operate our society. It's not utopian; it's far from perfect, but it's light years from where we were.

**Terre:** It is a change. It's a change, for sure. It doesn't—doesn't play out in ways that we would like to see quite often. It's still, you know, we're still at the bottom of the hill in lots of ways. But I would say that, you know, for non-Indigenous Canadians who grew up on the idea of Canada the Good and had no awareness of colonialism or residential schools or histories of evacuating people from their lands, or reducing them to two-square kilometres and letting all the other territorial space get free-leased to whatever operators. I mean, we know that now: it's in basic grade-school and high school curriculums. We don't—we don't have to, we can begin from a different place, and that has hope in my mind as well as tremendous suffering and awareness of that.

**Kai:** Back in 2012, you and I wrote a paper, also with Josh Goldstein, about incommensurability, basically, values that deny trade-offs. And we wrote that sometimes trade-offs are *impossible* for people, that they can't grapple with them until they've had a chance to work through them. And in my mind, that deep elicitation, the kind that both expresses what someone is trying to say in a way that others can understand, but also in that way that enriches their own understanding of what they stand to lose or gain and why, that that enables those conversations, not necessarily about trade-offs (which is a very economic concept), but about ways forward, right? So that work of softening that ridge between the critical and the constructive, maybe it's through this deep elicitation, right? Enabling people to be really, genuinely felt, heard, understood, so that we can grapple with that. [**Terre:** Uhm-hmm] What, you know, what is really the suffering there? And how can we actually account for that, rather than just dismissing it—or ignoring it?

**Terre:** Yeah. I mean, that goes back to your empathy points earlier. I mean, personally, any project that doesn't begin with how people make sense of the world and what their language of articulation of certain things is, that's how I got interested in narrative methods, or methodological

experimentation generally, because it has to be driven by that first question, “What is the nature of this?” And you know, you can have a look at cost-benefit analysis and think that—I don't know a human on the planet that talks about the world in those terms—[Kai: Heh heh heh] but if I ask them for a narrative of their history of place, you know, incredible things gush out. And what really matters becomes very visible, and what is commensurable and not commensurable and why becomes very visible, even if I don't use the trade-off word and wouldn't in that context. But yeah, so it has to always be the beginning point of all methodological experimentation, I think.

**Kai:** And not only have you left a legacy in terms of these ideas at global, international, and national scales, you also, as we talked about earlier, you leave a legacy of 50 mentees that now think this way, right? Or that are out there in the world trying to do this work. You love working with students. It's like, it's a key part of your job, right?

**Terre:** Yeah, for sure. I mean, who gets to do this, right! I mean, who gets to meet these incredibly curious and talented beings who come in with a—you know—rough idea of interests, and it takes on a life of its own that is uniquely their signature. And yeah, we curate along the sidelines, but you know, that's just a rare treat in life. [David: Yeah] And so—I *love* research conversations. That's the other part of it. I could have them until I'm, you know, till I'm in my grave! [Kai: Heh heh; David: Yeah] So just the creativity of design and methodological challenges or—

**David:** Terre, I have to interject and say, you do a little bit more than curate from the sidelines! [Laughter] As one of those 50+ mentees, I mean, I came to UBC in 2002, had this crazy idea of doing a Ph.D. on environmental justice, and for whatever reason you accepted me as a graduate student, and—

**Kai:** I can't think of any reasons!

**Terre:** Yeah, I can't think of any reasons. [Laughter] Who gets a David Boyd as their, like, third Ph.D. student in their life!

**David:** But I remember our first conversation talking about environmental justice. And I was just, I was just literally flabbergasted by your *deep* devotion to the principle of justice (which is also something that I share), and also just your extraordinary, all-encompassing view of the field. And so coming back to that ridge metaphor, like, yes, it's queasy to stand on a ridge looking down these two directions, but it also gives you an incredible panoramic perspective. And I can say honestly that I would *not* have made it through the Ph.D. program but for your timely and empathic interventions along the way. So I feel like, if I feel that way, there's probably the other 50 people feel the same way, like we all owe you an incredible debt of gratitude for your extreme not only academic brilliance, but emotional intelligence that helped us get through. So just on behalf of my colleagues, a deep-hearted thank you.

**Terre:** Thanks, David. I mean again, who gets to do this? So.

**Kai:** I know, for sure, I would not be the person that I am without you too. You were definitely one of the people who mentored me in this job, and I needed it. I didn't know what I was going to do as a faculty member. I didn't have the skill-sets that I wanted to do the research that I wanted to do, and you were crucial to that. You were also crucial to all of us being here, and in the sense that you were Director of IRES at a time of tremendous upheaval. We initially, when I first joined, we were a strange department sitting in the Faculty of Graduate Studies, right? That degree-granting institution, and that was a very unstable existence [laughter], got shuttled over to the College for Interdisciplinary Studies (which got eaten apart by the deans of the various faculties), and

when—as you became director—it was time to figure out what we were going to become as the College was disintegrating around us, right? It was uncertain what our futures would be, whether we would *have* a department, whether we would be carved up into different people going to different places. And you somehow navigated that.

And we look back on it, and it was like, “Oh, yeah, we found this home in the Faculty of Science, you know, and they appreciate us, and they grant us these ‘special’ privileges, like our faculty members can go up for tenure under any other faculty that they might want,” right? And I tell people that, academic colleagues at other universities, they're like, “What? How did you manage that?” But it's the same thing, right? It's—you came into the situation, you read the lay of the landscape, you built relationships with folks—and most importantly, with Dean Simon Peacock—but with the whole Dean's Office, and then, you know, and found a way for us to fit in, you know. Not as an oddball unit anymore, I think. I think we've grown into being a place that occupies a pretty *central* role in these spaces.

**Terre:** Yeah, I mean, again, so much luck involved, right? That, you know, Simon Peacock was Dean at the time, and he was just kind of interested, and really had a spirit, and I would say, had (as has subsequent leadership), a spirit of, you know, what does a unit need to make itself work. And we could have gone to Arts, maybe we could have gone to Forestry. There were other units, but he was the one who really saw our potential, because we were such a kind of scrappy, entrepreneurial unit that did all kinds of things but fit nowhere, as you say. So. And we all love that fact. We didn't want to lose it.

So, you know, we just worked out a kind of understanding of what enabled us to flourish. And so, had there been different leadership, maybe I wouldn't have succeeded. But with Simon, it was easy to do, and it was also, you know, wasn't without consequences, but I still think it was the best decision to this day because Science—[the] Faculty of Science is very decentralized—and so they let units do their own thing, and that's *exactly* what we needed to do. And I would also say that we were good citizens for the Faculty as well. We were willing to teach classes that needed teaching in Environmental Sciences, to bring policy and social dimensions of what they did into their curriculum, which was novel and that now, through Milind Kandlikar's leadership on working on the new ENVR curriculum with many others, is starting to kind of allow us to saturate some places we *never* would have had an influence on if we hadn't joined that Faculty. So, you know, so part luck and part, you know, being this scrappy little unit that we were, and just chasing down a space that worked for us.

**Kai:** Yeah, I mean, and it's not just that I think we have thrived (which I think we have as a unit), but also as you're suggesting, that science has changed too, right? That the Faculty has transformed itself in part, to accommodate and to benefit from what we bring to that space. So that science is *not* just this academic study of how things work that is separate from the world and how people interact with it, but that those are part of the same conversation.

**Terre:** Yeah, I would say that's also partly the *zeitgeist* of these times, that sensibility is common, but at least we were a place where they could say, “Oh, we could—we can get that there.” Or, you know, David's taught this, you know, Introduction to Sustainability course. I've taught it for a few years, and students often take it as a kind of, you know, fun elective. And, at the end of the class, there's often a hunger of things they still want in their degree, or then write to their heads of departments to have more of that in their degree. So there has been some seeding of that innovation, but there is also a general environment of sensibility around that that has changed

even in five years, like quite recently, I would say here.

**Kai:** Terre, this has been a *really* important conversation. We knew that we wanted to have you on a podcast. We weren't sure *how* it was going to fit into the season. And I think now we realize that it's actually *absolutely* central, that it would have been a *huge* shame for us not to have this conversation for the *sake of the season*, not only for the sake of just, you know, having this wonderful conversation with the both of you. Thank you so much.

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[Medley of *Small Planet Heroes* theme song]

**Maia:** Thank you for listening to this episode of *Small Planet Heroes*. *Small Planet Heroes* is a production of CoSphere, a project of the University of British Columbia. UBC is situated on the unceded territory of the Musqueam First Nation. Our guest this week was Dr. Terre Satterfield. Check out our show links in the episode description to learn more about their work and other ongoing projects. *Small Planet Heroes* was created by our Executive Producer, Dr. Kai Chan. This episode was edited by me, Maia O'Donnell. Production is by Sam Blackwell, Maia O'Donnell, Emma Jarek Simard and Clare Price. Your hosts this week were Dr. Kai Chan and Dr. David Boyd. Our show coordinators are Clare Price, Sam Blackwell, Maia O'Donnell, Dr. Nancy Kang, and Emma Jarek-Simard. Special thanks to Jai Ranganathan, Bilal Bartai, Elizabeth Ye, Katie Kathiersen, Dr. Nancy Kang, Anahita Seraji, Dr. Sarah Klain, and Zaida Schneider. Our theme song was written and performed by Daniel Forrest. Our interviews are conducted and recorded at UBC Studios. If you would like to join our Community of Small Planet Heroes, check out [cosphere.net](http://cosphere.net). Thank you for listening. If you would like to support us, subscribe to our podcast channel, rate the show, and follow us on Instagram @smallplanetheroes. If you enjoyed this episode, feel free to share it and spread the word. Thank you for listening.

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