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## How lived-in landscapes could help rescue the planet: An interview with Tony Hiss

Shawn Johnson, University of Montana



In his recent book, *Rescuing the Planet: Protecting Half the Land to Heal the Earth*, author and scholar Tony Hiss challenges us all to think big—really big—when it comes to the future of conservation. If we hope to have an impact on issues as daunting as climate change, species extinction, and habitat loss, our ideas must of necessity be more audacious than ever before. An excellent place to start, Hiss argues, is with radically increasing the amount of land protected around the world. He sets 50% as the target humanity should be aiming for by the mid-21st century, a huge jump from the current figure of roughly 15%.

But how do we reach this goal and why is its achievement so important to the future of life on the Earth? And how might lived-in landscapes, in particular, contribute to its realization? To answer these and other questions, the *Living Landscape Observer*, a newsletter and blog focused on the practice of landscape conservation, invited Hiss to discuss his book with Shawn Johnson, director of the Center for Natural Resources and Environmental Policy at the University of Montana. Their wide-ranging conversation, which took place in a webinar, is presented below. The text has been edited for length and clarity. To view the full recording, please visit <https://livinglandscapeobserver.net/archived-videos/>.

▲ Part of the Western New York Wildway, the newly championed, still-intact, and biodiverse 1.1-million-acre forest south of Buffalo, NY. WESTERN NEW YORK LAND CONSERVANCY





**Shawn Johnson** I am fascinated by the work the large landscape and stewardship community does and believe the questions that it raises are critical. How do we work more effectively across boundaries, sectors, cultures, and silos to shape the future of our communities, working landscapes, and wild places in ways that result in better outcomes for people and nature? I have personally found that the answers are diverse and vary by context, but that they rely on making connections and sharing knowledge that build bridges, foster healing and hope, and lead to creative problem-solving. These issues and questions are at the heart of Tony's writing, including in his latest book, *Rescuing the Planet*.

So, Tony, welcome to today's conversation and thank you for being here. I'm interested in learning more about some of the motivations behind your book. Were there some driving forces that motivated you to capture and share the stories that you included in *Rescuing the Planet*, things like your travels and your connections to people? What were you seeing and hearing at the time? I am curious to know if there were some stories that you were starting to hear that you wanted to capture and share because you hadn't heard them told in other places.



**Tony Hiss** I think what got me started was beginning to feel the plight of the animals. So many wonderful animals were disappearing, and, for others, their abundance was diminishing in a shocking way. And things had gotten so bad that, by the turn of the century, we had to invent a new word, *endling*, meaning the very last of its kind. I found that appalling.

I realized that this is the third aspect of the post-World War Two environmental crisis. The first one being the poisoning of the atmosphere; the second one being the heating of the atmosphere; and then, this one, the annihilation of the animals and the parallel diminishment of the other kingdoms and realms of life: plants, insects, fungi, and more. I thought it might be useful to bring together all the available information about this third crisis, which is always getting overshadowed by the others. Also, I wanted to share the fact that there's a solution that is already being implemented.

Getting started, I managed to strike up an acquaintance with the biologist E.O. Wilson, the most eloquent and eminent champion of biodiversity. He was beginning to talk about protecting much larger swaths of landscape, and, I think, being deliberately provocative. They call it a "BHAG" in the business world, a big, hairy, audacious goal. It's not too big to discourage people, but not too small that it gets solved right away. The most eminent example of this idea being the effort to put a man on the moon in the sixties, which worked. So, in conversation with Wilson, I came up with a phrase, "half-earth." The science seemed to be supporting the idea, that it wasn't just being audacious.

We've saved something like 15% of the world's land so far. Indications are that if we stay at that level only about a quarter of the species would survive long term. Whereas, if we bumped it up to 50%, maybe 85% to 90% of the other species would survive, not everything, but close to it. So, the solution was clearly not a matter of excluding people from landscapes because, by the 1980s, it had become clear that the national parks set up on the basis of excluding people from parks, except as visitors, weren't working. They were, in fact, losing species.

So then, how would you do something different? I got in touch with another wonderful biologist, Reed Noss. He had figured out that if you take UNESCO'S World Biosphere Reserve model of a core of protected land surrounded by a buffer of slightly more human use, that you could unpeel these buffers and stretch them from one core to another. That way you could create a mansion out of separated rooms that were connected by corridors.

All this was being confirmed by biotelemetry. For the first time, scientists were able to tag some of the big animals and find out what happened when we couldn't see them. It started with radio telemetry, which meant you had to stay pretty close by. The poster child of all this was "Pluie the Wolf." In the early 1990s, just at the time when we could start picking out signals from collared animals by satellite, she was tagged [by wildlife researchers] near Banff National Park, up in Canada, during a pouring rainstorm, hence the name "Pluie," which means "rain" in French. They figured she might move 50 or 60 miles. They knew wolves moved around a bit, but then she disappeared off the listening apparatus, and they thought, "Oh, well, battery must have gone dead, back to the drawing board." Months later, they got a call from someone in NASA [the National Aeronautics and Space Administration] in Montana, saying, "Picked up your wolf's signal. It's down here." Astonishingly, over the next 18 months, she traversed a territory that was something like 40,000 square miles through three US States and two Canadian provinces. And suddenly, we had this astonishing picture of the immense amount of land that a single species of predator could occupy. That was then followed up by learning that the herbivores also migrated great distances on an annual basis.

So, this new approach was being confirmed, and since every landscape in the world except national parks and Antarctica is lived in, that meant that it's everyone's work to do something about it. That's what got me started and it was exciting to be able to write about it at that moment when so much new data was coming in and informing what we knew.

**Shawn Johnson** I love hearing what was on your mind, what you were seeing, and the conversations you were part of at that moment. You have the ability to help us focus or refocus through your writing. You're really good at saying *let's take a look and recognize those things that are no longer working or worked in a different context and now look for a different path forward and have that path be informed by important conversations and important insights.*

I remember back to a report that you helped to co-author in 2014, following a large landscape conservation convening in Washington, DC. And you shared at that time a quote that still sticks with me, that "people may need to take some time to assimilate the ascendancy of a new insight, a permanent expansion in the perception of landscapes." Even just that reframing, that refocus, has been something that's stood with me since that time. You went on to say, "When you gain that new capacity, wherever you set your sights, if someone gives you a telescope, what will you look at first?" And I really like that because it's not just building awareness, but saying, *Alright, I'm empowering you, the reader, with this insight, with this information. What are you going to do with that? And how can you, as an individual who's living in a community in a place and a landscape, take an action that's going to support better outcomes?* So, my question along those lines is: What are the really important insights that you hope readers will take from this latest book?

*It's not just thinking at a new scale, a larger scale, but it's being able to sense and see patterns of unity within biodiversity. A "bio-unity," so to speak.*

**Tony Hiss** Well, as you said, it's not just thinking at a new scale, a larger scale, but it's being able to sense and see patterns of unity within biodiversity. A "bio-unity," so to speak.

An old hero of mine, Benton MacKaye, the father of the Appalachian Trail, seems to be one of the first people who recorded this sort of insight. About 100 years ago, the summer he graduated from college, MacKaye celebrated by bushwhacking up one of the Green Mountains in southern Vermont with a pal—no trails in those days. They got to the summit, shimmied up the tallest tree they could find and, swaying there, MacKaye said he was overcome. Sixty-five years later he

remembered it vividly, and called it a “planetary feeling.” Meaning that he was in a single place that stretched from one end of the Appalachians in Maine down to the other in Georgia.

A new hero that I got to know while working on the book was Vladimir Ivanovich Vernadsky. A man who, in 1926, wrote the first really solid book about the biosphere itself. Interestingly enough, he’s equally revered in Ukraine and Russia. The Ukrainian National Academy of Sciences is named for him and, in Moscow, there’s a subway station that bears his name as well. There is also a crater on the dark side of the moon named for him. Vernadsky began to reframe our sense of where we are; we think of ourselves, thanks to gravity, as living on Earth, but he pointed out that, in fact, we live within a life zone, the biosphere, which stretches beneath us and over our heads, on and under the land, within and beneath the water. Most of the species live in this belt between the top of Mount Everest and the bottom of the Mariana Trench in the Pacific Ocean. That’s only a distance of about 12½ miles and, as one English physicist pointed out, if you put it down flat on the ground, you could drive across it in 20 minutes on a decent road.

The biosphere is ancient. It has this extraordinary abundance. It’s enormous if you think of it as going around the Earth, but it also has this built-in thinness from top to bottom. So, vulnerability is part of what it is and always has been and we have to begin to think in those terms. But Vernadsky didn’t stop there. He also pointed out how this life zone has been shaped by and sustained by life itself. We now know that living creatures made half the oxygen in every breath we draw. We’ve recently discovered that more than half of all species live underground. Well, the clear implication is that there is no such thing as vacant land. There’s no such thing as an empty lot. It may not have human uses on it, but it has life in it. And the challenge now is what I would call “all-species design.” If we’re going to add what we need to a place, how do we do it without displacing or disrupting the life that’s already there? How do we do it in company with them?

**Shawn Johnson** I’m wondering if you could just speak a little bit more directly about the role and value of lived-in landscapes and their contribution to broader conservation and stewardship. Often, we think about wild places

▼ The continent-spanning Great Green Wall Initiative in Africa, linchpin of the newly formed Mega-Eco Project Alliance. THE GREAT GREEN WALL INITIATIVE





or national parks or protected areas, but for us to have the impact that you're speaking to and actually feel that sense of connection with and that sense of care for all living things, it is going to require us to think more and more about lived-in landscapes. So, I would be curious to hear if you've got any general thoughts around the role of lived-in landscapes, or if there were any specific people or stories that really came to mind.

**Tony Hiss** Well, I think the message is that every acre counts. Wherever we are, there's something to be done. If we live in a city, we can think about extending the tree canopies. If we live in the suburbs, we can think about the wonderful work of someone like Doug Tallamy and the idea of the "Homegrown National Park." That's the idea that across the country homeowners can start restoring bits of suburban lawns to pollinators, thereby setting up so-called "pollinator pathways" that bring bees and butterflies from one backyard to another.

And of course, the wilder areas where there is an abundance of land are lived-in landscapes too. I met a lot of amazing people from these larger landscapes as I toured the North American continent and had a chance to visit what's probably the continent's most extraordinary landscape, the boreal forest in northern Canada. In that immense region there are, in addition to traditional national parks, a newer set of vast conserved areas, Indigenous protected areas, administered and staffed by Canada's First Nations. Some of these IPAs are at least ten times the size of Yellowstone.

I think the message is that every acre counts. Wherever we are, there's something to be done. If we live in a city, we can think about extending the tree canopies. If we live in the suburbs, we can think about the wonderful idea of the "Homegrown National Park."

I would now also include people I've met since the book came out, including a group up in western New York State, headquartered in Buffalo. The Western New York Land Conservancy, a regional land trust with an excellent track record—saving something like 12,000 acres over the last 30 years—recently became the champion of an outstanding, threatened, nearby landscape two orders of magnitude larger than anything they've ever worked on before. Since its loss would be incalculable, without missing a step they're taking on a new goal for the next 30 years: Planning a strategy to protect the WNY Wildway, their name for the 1.1-million-acre, biodiverse mega-forest south of Buffalo.

Then last October, I got invited to the University of Pennsylvania for the first-ever meeting of the so-called Mega-Eco Project Alliance. These are people from around the world, working at the very largest scale, often involving landscapes that cross several international borders. Things are popping and it's the only way forward.

**Shawn Johnson** The overall arc of this conversation has struck me, and how much of it is building awareness, building understanding, building on those accomplishments and insights of different places and different people. And I think just for my role with the Network for Landscape Conservation and being at a university, I really tend to be focused on what it is that we're observing and learning. How are we growing and evolving as a community? And yet sometimes that's just incremental. And what you've done in this book is to be really provocative and audacious in saying, let's set this goal of protecting 50% of the Earth by 2050. And I'm just curious to hear you connect the dots between where we are, and setting that kind of clear, audacious goal for the future. Where did that come from? How do you think we might get there? And do you have anything to add about the specific role of lived-in landscapes?

**Tony Hiss** Well, I think we're on our way because it's going to be a cooperative arrangement. People are present in all of these different landscapes, however much they're lived in or not lived in. There's a kind of bucket brigade extending from cities to suburbs to countryside that keeps us all connected through the work to be done wherever we happen to be. And I think that effort is now well under way. It's a global undertaking.

At the Montreal Conference on biodiversity a couple of years ago, 193 countries (with the exception of the US and Vatican City) signed an agreement to protect 30% of the world's land by the year 2030. If we've found ways to protect 15% to 17% of the Earth's land in the 150 years since Yellowstone became the first national park anywhere, we're now talking about doubling that within the next seven years or so. It's a huge goal and that's just a first step towards a larger goal of 50%. But I think it's very much accomplishable. Just because so many people are stepping up wherever they are—and that's stretching us as a species, definitely. I think we're beginning to engage some rusty muscles. We're turning to another part of the mind; it's not so much a new talent, but a built-in capacity that we haven't quite known what to do with ever since we settled down as farmers and didn't need to think about nature at every moment. It's a wider kind of awareness—what Benton MacKaye called a “planetary feeling”—and it allows us to focus on so many factors at once: both what we need and what other species need at the same time. No one group or institution can accomplish this. Governments can't do it by themselves. Businesses can't do it by themselves. Nonprofits can't do it all, and land trusts can't, either. But if we all work together, in a way we haven't before, we can start thinking of the landscape not so much as a resource but as an active partner in the business of life.

Every local action strengthens the whole and if people don't know where to get started, there's this idea among birders of a “spark bird.” Some bird that grabbed their attention at some point in their life and wouldn't let go, and after that they just had to keep on looking. It doesn't have to be a bird. It can be anything at all. I think maybe what's happening as we begin to extend this part of our awareness will turn out to be the secret blessing of the Anthropocene. The Anthropocene, we're told, is a curse: the indelible sign that we've set our ugly mark on the planet. But we're also the first species able to be aware of the biosphere as a whole because we've stuck our noses into so many different corners of it. And maybe that's turning us into the first species that can begin to think with clarity about our own needs and all its many needs simultaneously.

**Shawn Johnson** I love this idea of the landscape as a life partner in thinking about those integrated and simultaneous needs of people in the biosphere.

*Ed. note:* You can read more about the ideas in *Rescuing the Planet: Protecting Half the Land to Heal the Earth* in an article by Tony Hiss titled “Rethinking Boundaries in a Half-Earth World,” published in 2023 in *Parks Stewardship Forum*. It's available at <https://doi.org/10.5070/P539159900>.