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The Ecological Value of Wilderness

An interview with Peter Landres

Rebecca Oreskes



Editor's note: In honor of the 50th anniversary of the federal Wilderness Act, Appalachia caught up with Peter Landres, an ecologist with the federal Aldo Leopold Wilderness Research Institute in Missoula, Montana.

PETER LANDRES IS AN ECOLOGIST WITH THE FEDERAL ALDO Leopold Wilderness Research Institute in Missoula, Montana. The Leopold Institute works with the U.S. Forest Service, U.S. Geological Survey, Bureau of Land Management, U.S. Fish and Wildlife Service, and the National Park Service. The institute is devoted to conducting and disseminating research related to wilderness, parks, and protected areas. We talked by telephone about this year's 50th anniversary of the Wilderness Act and pressing issues facing wilderness stewardship today.

Tell me what you do.

My job is to improve the ecological management of wilderness nationwide.

I work with managers to find out what are the key questions they have in managing wilderness. When I first started this job, I developed a really simple conceptual map. In the center of that map was a big circle that said "management decisions that affect wilderness." Then I tried to think of what are the primary drivers of that circle and I came up with four major areas of research.

The first was law and policy; the second was values that people and society have for what wilderness is and how it should be managed; the third was scientific information—the technical information that would be needed about the condition of wilderness and the impacts of management, visitors, and outside influences on wilderness; and the fourth big box was economics and resources. When I developed that model, I first ran it by a whole bunch of folks just to confirm that it made sense. Then I used that model to choose what I wanted to work on. Of those four drivers that affect the decisions for wilderness stewardship, one that I had really no expertise in at all was economics and resource availability, so I did not deal with that one. But the other three boxes—law and policy, scientific information, and how values drive decisions—I've tried to focus as much effort as I possibly could on.

Who are managers?

They're the people who have the legal and administrative authority to manage a designated wilderness, or an area that is supposed to be managed as wilderness by agency policy.

Peter Landres, who helps the federal government manage Wilderness areas, says that one goal is protecting a relationship people have with nature. COURTESY OF PETER LANDRES

What are some examples of a particular application or project you were working on?

Under law and policy, one of the really big issues I saw when I first started this job in 1992 was the impact of fish stocking on wilderness lakes. As I talked with more people and read more about it, the single linchpin of fish stocking seemed to be the constitutional jurisdiction issue of state versus federal authority of stocking fish in wilderness lakes. So I focused considerable effort on that single question about constitutional authority. And the more I delved into it and researched it and interviewed people and talked with people and read legal articles and court cases, it became really clear to me that the federal agencies in fact did have authority to manage wildlife in wilderness, unlike what was being told the federal agencies by a lot of state agencies. So with another person, I organized a symposium on fish stocking in wilderness. My role was to focus and set the context for the symposium on the legal foundation for federal authority in managing wildlife in wilderness, especially fish stocking. The paper that I wrote set the context for all the rest of the papers' ecological text, and subsequently, we had a full series of publications that came out in the *Journal of Ecosystems*.

An example of scientific information is the concern about invasive plants inside wilderness, and a lack of the ability to understand the occurrence and then the distribution of non-native invasive plants. We have some really, really big western wilderness—we can have thousands and thousands of acres. With a 50,000-acre wilderness, how can you cover that much ground? Most plant sampling techniques were designed to focus on little tiny areas. So I worked with several statisticians and geographers to develop some new techniques to assess big, broad areas and look for the occurrence and distribution of non-native invasive plants and then be able to make predictions from the data that we collected.

For values, let me give you an example related to fire. When I first started my job here at the Leopold Institute, one of the things I was deeply concerned about (other than fish stocking) was fire suppression inside designated wilderness. It occurred to me that there were two primary drivers in fire suppression going on inside designated wilderness. The first was the threat of fire inside wilderness to life and property that was outside wilderness. If there was a concern, based on modeling, that the fire that started inside wilderness would run outside the wilderness and run into something of value, the fire was put out. So we developed a lot of modeling techniques based on science to try to predict where fires would go. The other big part of all that was values.

Even though the agencies all have fire policy, the values of people making the decisions, as well as the community, have a huge impact on what decisions are ultimately made. It's an art, not just a pure scientific rationale for where fires are suppressed or not. There's an art involved in the politics and the risk tolerance of the decision makers. I convened a community working group outside of Flagstaff, Arizona—where there are several Wildernesses fairly close by—that had discussions about how these decisions are made. What's the balance of science information versus the values that individual stakeholders have in driving these decisions?

Let me give you one more example of the values work that treads the line between more science and values. One of the really big issues facing Wilderness managers right now is whether to take ecological restoration actions inside Wilderness. So, let's say there's an endangered species that occurs inside the Wilderness and nowhere else, and—because of climate change, or fire suppression, or even fire—the habitat is changing for that species. There are some really big concerns that there are some actions that could be taken to manipulate the habitat to help that species survive. The question becomes should we be taking those actions inside designated Wilderness? People have very strong values about whether we should or should not take ecological restoration actions inside Wilderness. So, what we're developing right now is a formal decision framework that separates the science-based or technical-based aspect of that decision from the values-based aspects of that decision. We've been really keen on clarifying the values-based part of decisions because oftentimes those are just clouded over—we want to make them transparent so that each agency manager can address them in an open and upfront manner. We want to make the values aspects of management decisions much more explicit, especially for this topic of ecological restoration, which most likely will become increasingly difficult and contentious down the road.

It seems to me that a lot of people often draw firm lines between the science and the values that you are talking about and that as an ecologist you were probably schooled in a scientific approach. I'm curious how your thinking evolved to blend the two—or to at least give voice to both and to be very clear when you're dealing in which realm.

I think a lot of scientists do only look at the world from a scientific perspective. For whatever reason and I don't really know why, but I don't look at the world that way. I made a living as an artist for quite awhile (I made pots and taught pottery in California) and maybe that contributed to

a broader mind frame. I think conservation science in general is now realizing the interplay between scientific information and personal and societal values and politics and resource availability and law—so I think now more broadly conservationists are aware of all this interplay among all these different things. For whatever combination of reasons, when I started this job, I started from the approach that my goal is to try to produce information that pulls together and synthesizes information in a practical way to improve decisions. As soon as I started with that question, I realized I would need to be addressing both technical- and values-based issues to be able to provide practical help to people.

When I look at your work, I see you making a connection between science and ethics. I'm wondering if you could talk about the ethical component of Wilderness stewardship and how you view that in relationship to the work you do.

The ethical underpinnings of Wilderness stewardship are critical to understanding the land. And to be clear about it, to help managers make good decisions.

I would equate the word *ethics* with *values*. I've been using those interchangeably even though to people who have a profession as philosophers and ethicists, there are some distinctions between those. But those are distinctions that I have a hard time understanding, so I just lump all those things together.

One of the very first things that I became aware of when I started working for the Leopold Institute was the understated role of philosophy and ethics underpinning managerial decisions. It seemed to me that there were very few clearly stated goals other than the single equal goal of preserving wilderness character from the Wilderness Act, and that ethics underlies most decisions that people make. My impression, and I'm not sure why I have this impression, was that this ethical underpinning was not clearly stated. I felt that one of my goals was to make this ethical or philosophical underpinning of Wilderness stewardship clearer, more transparent, and then tie that ethical underpinning to the legal and policy language of the Wilderness Act and agency policies for wilderness stewardship.

Looking at wilderness as an ethical and social issue, many people today say that wilderness is irrelevant, that it doesn't address what is really important, that it's a social construct, as if that makes it no good. I'm curious what your reaction is to that.

It's interesting to hear people say that wilderness is a social construct, therefore wilderness as a concept or an idea is invalid. I simply don't understand why that particular view has any validity at all because everything we see in our world today is a social construct. All of our laws are social constructs.

There's this tight interplay between nature and culture, and we can't ignore that. I think that the view that some people have that if wilderness is a social construct it is no longer valid is based on erroneous ecological ideas, as well as cultural ideas. I think the erroneous ideas are, first, that wilderness is pristine. From an ecological perspective, there is no such thing as pristine and there hasn't been for a very, very long time. I remember when I was teaching environmental science at the university level, a job that I had before becoming a federal scientist, I would tell the students there's lots of good data about ubiquity of DDT all around the entire world, including in the fat of penguins in Antarctica. I think that just shows that there's nothing pristine in the world at all. So are we protecting what is pristine in wilderness? My answer is, no, not at all. We're protecting a relationship that people have with nature.

Because wilderness is the relationship between people and nature and culture, the concept and idea as well as the place of wilderness is more important today and more relevant today. Because of the pervasiveness of climate change and increasing development worldwide, as well as in the United States—it's more relevant because wilderness speaks to a particular type of relationship that people have with nature. That type of relationship is founded on humility and restraint and respect.

Wilderness, because of the mandate of the Wilderness Act and because of agency policy, demands that respect and restraint and humility more so than in any other land that we manage anywhere in the United States. Wilderness sets up a standard for us as a society and as a culture to understand why we need nature, how we interact with nature and the fundamental importance of people interacting with nature. When you go back and look at writing of many of the people who were first envisioning the concept of wilderness, they were not talking about an area that was separate from people at all. They were talking about the single most important reason for wilderness was to provide a place where people could feel connected to nature.

It seems to me that somehow during the 50 years since the Wilderness Act that people have really misinterpreted or reinterpreted the idea of wilderness to be separate from people and I don't think that's what Howard

Zahniser [author of the Wilderness Act and one of the first leaders of the Wilderness Society] and others intended. Do you share that sense that that's happened and if so why?

I absolutely share that sense that a lot of people do think that wilderness is supposed to be a place set aside as an exclusive club if you will, for the wealthy. And I think those ideas are just fundamentally wrong.

I think there are a lot of factors that have contributed to how those ideas developed. It goes back to erroneous ideas back in the 1930s of ecologists who first conceived of the notion of protected areas. That all we needed to do was to designate a protected area, and the boundary itself would keep the area intact ecologically. At the time, that made sense ecologically. Now we know that that's not true at all. We know that ecological systems are fundamentally porous and changing over time. So that original idea of the 1930s led to the formation of an organization called Ecologists Union, which led to the formation of the Nature Conservancy—those ideas were key, I think, to the whole notion of creating areas called Wilderness—that we can take an area, we can draw a boundary around it, and it will be protected. That was what was taught in universities up through the early 1970s. So the people who were responsible for developing agency policy and management of wilderness—those outdated ideas formed their core values of what these areas are.

Another stream of thought that influenced the idea that Wildernesses are exclusive little clubs was from anthropologists and environmental historians who clearly showed that a lot of areas that are now designated Wildernesses were strongly influenced by Native American cultures. So the environmental historians and cultural geographers and the anthropologists and the archaeologists helped our country and our society understand that these were peopled landscapes—not all, but a lot of the areas that are designated wilderness now were peopled landscapes. And then those same scientists led the thinking that wilderness was a white Eurocentric idea that excluded people and that wilderness was a place where people could enjoy nature, ignoring the historical underpinning of that landscape. These arguments are true up to a point.

Then other people became involved to take those ideas and point their finger and say, “See, wilderness is just this concept for wealthy white people, for their primitive forms of recreation—so they can feel that they were in the time of Daniel Boone.” But all those thoughts totally ignore what Howard Zahniser and other folks who were in the Wilderness Society were saying at the time that the purpose behind wilderness was for people to feel connected

to nature. There's nothing in the writing of these early people that says that we should ignore the historical and cultural underpinnings of these landscapes.

Now we're going through a reformation in our thinking to celebrate and to acknowledge and respect those cultural underpinnings of these wilderness landscapes. Let's recognize that Wilderness areas can now protect these cultural underpinnings and that some of the places in designated wilderness provide some of the highest form of protection of these cultural values, both the spiritual values, which are intangible, as well as the cliff dwellings and artifacts that are tangible. We can honor and celebrate—that's part of wilderness now.

Given where wilderness is today, what do you think will be the most important issues affecting the next 50 years of wilderness?

I think the single most important thing in the next 50 years is to understand what the cultural importance of wilderness is in our society today, to understand what those values are that wilderness contains. The tendency for most people is to think of wilderness in two ways: one as an ecological refuge and second as a place for people to recreate. There's a third component that is typically ignored, and I think it's crucial that in the next 50 years we understand what this is and how we can protect it. That third leg of the stool is this ethical value of wilderness—what it can contribute to our society. I think that's fundamentally the relationship between people and nature; our fundamental, crucial interdependence on nature and our ability to learn how to treat the land with humility and restraint and respect. I think wilderness, better than any other type of land, can hold that promise to our society for us to learn how to do that.

You and I have spent a lot of time thinking about wilderness issues. What are your thoughts for people who aren't doing this on a daily basis or for their work? Why should they care about wilderness and why should they be interested in the fact that we're coming up on the 50th anniversary of the Wilderness Act?

People should care about wilderness now for the three-legged stool of values that I mentioned earlier. To protect our ecological heritage; to have places that allow us people to connect with nature—and part of that is to escape all the pressures from day-to-day society; and the third leg of that stool is that as a society we have an ethical responsibility to protect, to honor, and to treat these areas with the utmost of respect. That means allowing them to be what they are.

It's kind of like a watch that is composed of all these different parts and pieces and if you take out one of those pieces or parts, the watch doesn't work. That gets back to the statement of Aldo Leopold, "The first rule of intelligent tinkering is to keep all the parts." Wilderness is the place we have the best opportunity to keep all the parts.

I think the 50th anniversary of the Wilderness Act is hugely important for the recognition that wilderness gains throughout our society, that people can come together to celebrate the 50th anniversary of the Wilderness Act—it's a time for honoring, for respecting, for recognizing what we have, for learning from the previous 50 years of management to understand what we need to do in the next 50 years to protect those core values of wilderness. So the 50th anniversary of the Wilderness Act is a marker, or a milestone—or a touchstone, really—of what wilderness means to us as a society, as a culture as well as ecologically for the rights of all the plants and animals that live in those areas.

Did you just say the rights? Can you expound on that?

That gets into something I haven't mentioned before: the intrinsic values that animals, plants, and ecosystems have—I would broaden it to the process of evolution: There is intrinsic value in all of these things. Evolution as a process has given us life as we know it, as well as all sorts of products and materials that we use. In my opinion, what we want to do is honor and respect the process of evolution, which means that we honor and respect a fundamental right of plants, animals, and ecological processes to function on their own without being directly influenced by us. This backs into what you asked before about pristine—there isn't anyplace that's pristine. Every place has been affected by people, but wilderness is the best that we've got so far in terms of an area that we can allow to be unfettered by human drives and desires. That's honoring and respecting that intrinsic value, the inherent rights of plants and animals, and the process of evolution in wilderness.

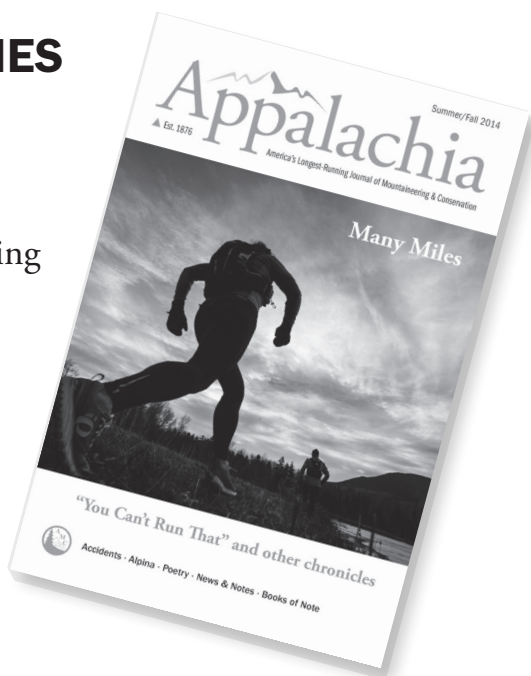
REBECCA ORESKES spent much of a 25-year career with the U.S. Forest Service working on wilderness stewardship issues. She was instrumental in writing the current White Mountain National Forest wilderness plan, served as chair of the Chief's Wilderness Advisory Group and received the Forest Service Bob Marshall Individual Champion of Wilderness award. She currently serves on the editorial board for the *International Journal of Wilderness*. She lives in Milan, New Hampshire.

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