BayAreaGreen
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Maintaining Sustainability Through Change

Questions & Answers

Conversations with Steve Schneider

By Carroll Harrington and Lorna Fear
Photos by Steve Schneider

Stanford professor Stephen H. Schneider, PhD, is a Senior Fellow in the Woods Institute for the Environment, the Melvin and Joan Lane Professor for Interdisciplinary Environmental Studies, Professor of Biology and Professor by Courtesy in the Department of Civil Engineering Science. Internationally recognized for research, policy analysis, and outreach in climate change, Dr. Schneider has been counseling policy makers about the importance of using risk management strategies in climate-policy decision making, given the uncertainties in future projections of global climate change and related impacts. In addition to continuing to serve as advisor to decision-makers, he consults with corporate executives and other stakeholders in industry and the nonprofit sectors regarding possible climate-related events and is actively engaged in improving public understanding of science and the environment through extensive media communication and public outreach. He has consulted with federal agencies and/or White House staff in the Nixon, Carter, Reagan, G.H.W. Bush, Clinton, and G.W. Bush administrations. He and Dr. Root are active members of the United Nations Intergovernmental Panel on Climate Change (IPCC).

Stanford professor Terry L. Root, PhD, Dr. Schneider's wife and colleague, is a Senior Fellow in the Woods Institute for the Environment and Professor by Courtesy in Biology. She is currently investigating the possible ecological consequences to birds and other species as the globe continues to warm. She has received numerous awards, including Presidential Young Investigator Award from the National Science Foundation, National Wildlife Federation, Pew Scholar in Conservation and Environment, and Aldo Leopold Leadership Fellow.

Terry Root and Steve Schneider with the Greenland town of Illulissat in the background.

Photo by Aqqaluk Lynge

Bay Area Green is published quarterly by the Daily News Group covering stories related to the preservation of the environment, human development, education and planetary citizenship. In times of environmental crisis caused by unplanned development we all need direction and perspective. Bay Area Green will give visibility to the sustainable solutions and ideas to start a new civilization project. Among the topics in Bay Area Green you will find local coverage of green projects on your neighborhood and updates on global warming, water, biodiversity, irrational use of natural resources, garbage, energy and the urban environment. These are important issues that we need to have an understanding of so that we can avoid the scary destruction of our natural resources.

"There is still information that needs to get out there, as well as some curmudgeons who hold that scientists should not advocate no matter how they come clean on their values."

On the third floor of the Y2E2 Building, Stanford's greenest structure, we eagerly prepared for the first in a series of conversations with world-acclaimed climate scientist Professor Stephen Schneider. (He starts by telling us to call him "Steve.") His office is tastefully decorated and creatively cluttered, typical for a man of his broad interests and accomplishments. During our chat we were able to capture a fascinating look at the planet through the eyes of an environmental expert with a mile-high perspective:

I am excited to announce that National Geographic will publish my latest book, *Science as a Contact Sport*, and engage me for talks, advertisements, and media appearances. I have written the first two chapters. We're debating whether it should be narrative or historic. Maybe we just run through the order in which things could happen. Either way, we will ask, "Who are the good guys? And how could we have known thirty years ago almost all of what we know now, and still have so much to do?" Many powerful forces have forced the public's attention off point, including the media. In addition to lessons of history, there will be suggestions for action at the end of the book. The first lesson is to build coalitions! I am driven by my concerns for the planet, but it goes further than that. I want to protect our children and seniors, as well as the natural world, which does not vote on our selections of leaders!

Outreach has to be one-third of what we do. We can talk the talk, but we need to promote faculty members who also walk the walk. I'm a tenured professor now, published and all, so the opinions of my fellow faculty members don't have quite as much impact on my career. It's possible at times for me to just say or do what I want. But that doesn't go for the junior faculty at Stanford or other elite universities. They're expected to spend their time on issues that attract funding and fit the disciplinary department's interests.

I believe that scientists should not leave their citizenship at the door of, say, a Congressional hearing room. Unfortunately, that's what has been expected of scientists for centuries—to inform and educate, but not to influence. But in times like these, we need the advice and guidance of scientists and academicians, because they are the most knowledgeable about options and pitfalls. My science is the risk factor—what can happen and what are the odds of it happening—what to do about it is risk management, and that's controversial in science since it is normative-value laden. There is still information that needs to get out there, as well as some curmudgeons who hold that scientists should not advocate no matter how they come clean on their values.

It has been difficult for junior faculty members to take positions outside of what will get them promoted. It's actually dangerous to the careers of some junior scientists to engage in risk management activities. But it's critical. They just need to be careful to identify when they're giving personal views as opposed to sharing the science of risk assessment.

Do you think that having the Woods Institute for the Environment at Stanford makes it easier to get the message out?

Much easier. If a faculty member is half appointed in Woods and half in an academic department, then he or she may not be penalized for taking a controversial position, because others can rationalize that that came from his or her Woods half.

You participated in the December 17 National Teach-in with Eban Goodstein, Co-Director, and shared your thoughts about Obama's first 100 days. What are some of those?

I believe the current administration will rush to change many things under the wire before they leave office. But there's a trick to get around it, which is Obama issuing an Executive Order to simply do the opposite of Bush's last-second environmental attacks. The bad guys will have to spend time in court, and that will block them from doing much else. Meanwhile, we will put environmental protections back in place.

Regarding Obama's first 100 days, he has priorities: one is unemployment and two is subprime financial collapse aftermath; then it's the new infrastructure issue, going for the new green jobs economy. Take my word for it, he will run into a buzzsaw of opposition. They will filibuster. This is why Al Franken is so important. If they get to fifty-nine Democrats, there's an increased probability of getting more filibusters overcome.

Three of Obama's appointments so far have great potential for impact on climate change debate and policy formulation:

Steve Chu for Secretary of Energy has recently been involved with Venture Capital, so he understands the financial part of the equation. He is the visionary theoretician who has also been running the practical Lawrence Berkeley Labs. After doing so for five years, he has administrative experience that will help him as Secretary of Energy. He should consider hiring a great inside-the-beltway

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Ice stream discharge into the Atlantic in Eastern Greenland.

deputy for help getting things done, where he has the least personal experience.

John Holdren, Harvard's Kennedy School of Government, was selected as Science Advisor. If Holdren and Chu are both sitting in the cabinet meetings when climate issues come up, even with inside-the-beltway economy-first people at the table, things will be okay. These scientists are the what-should-be-done types. When the economy-first guys come along and say "Cost, baby, cost!" these two will say "Sustainability, baby, sustainability!" Chu and Holdren are formidable debaters. These guys will be really critical to have in cabinet meetings for the President to hear balanced positions.

Jane Lubchenco, an Oregon State University professor, who's been chosen to head the National Oceanic and Atmospheric Administration, is a good friend. The fishing industry is very unhappy with this selection. Jane believes in controlling their unsustainable catch, to ensure their children also can make a living in the fishing industry. Jane knows climate issues and their influence on species diversity. It is a refreshing change from largely management types in the recent past.

All of Obama's selections will have to go through advice and consent, but there's not much chance they will fail that test. The question is: will Holdren get invited into cabinet meetings? The Democrats and Bush One always brought the EPA Administrator into their cabinet meetings. Obama seems like an inclusionist; these will be important meetings to watch.

The current administration has had eight years to fill the bureaucracy with conservative officials. How long will it take to balance things out again?

That will take six months to defoliate. Specific cases will have to bubble up to the surface. Obama has selected a lot of Clinton Team members. They're great, but most of them are how-to types and get-it-done types. Who's going to have the vision?

I just sent off an unsolicited letter to a transition team friend inside the Office of Science and Technology Policy. I told them that the new National Security Advisor needs to quiet down. He's running around talking about breeder reactors and off-shore drilling—things he doesn't know about. Does he have any idea that offshore drilling primarily makes the world safe for Hummers, and that it buys us just five years, probably less, on a planetary scale? Does he want Mugabe to have a breeder reactor? They're making weapons-grade plutonium in breeders! But this guy is not going to prevail in a debate with Chu and Holdren, so I'm not too concerned.

I have been thinking that Bill Clinton should be the UN Ambassador. He lives in New York and could transform the reputation of America overnight. He's such a good politician.

Still, he might not want to step down from the Clinton Global Initiative. He's raising a lot more money where he is now than he could as UN Ambassador.

You're probably right. That's why Al Gore turned down a lot of opportunities. My rumor mill reports that what Browner's doing now was offered to Gore, and he said "no." That rumor mill might be well informed. Carol Browner is the former Environmental Protection Agency Director who was recently appointed Energy-Climate Czar.

Is the first order to get everyone ratified?

Yes, and quickly so they get ensconced and hire deputies to sort out the bad eggs and appoint new people who will not be a fifth column. I have already been talking with Jane Lubchenco about six scientists in NOAA that she can trust, and others that I believe should be replaced. Why would you want to retain Selective Executive Service appointees who did the bidding for Bush to alter the legitimate science?

After getting approved, they have to pull together their offices and staff. Are they also working meantime on legislation?

Congress is working on a lot of legislation and hasn't been able to get past Inhofe filibusters. But there are a few key Republicans who will probably cooperate: Olympia Snow and Susan Collins, the two Senators from Maine, and one other. Just two will do it. They might have to cut a deal or two that involve some earmarks.

We still don't know yet what has happened with Al Franken.

This will be in court for six months. The Republican Supreme Court may be able to come up with a technicality. Actually, they don't need to come up with a technicality. They can just wait until the last minute and then say the matter must be resolved in two days. That's been done before for Florida.

You were the Think Tank Curator at the eco-sensitive Rothbury Music Festival in Michigan last July with the Dave Matthews Band, John Mayer, and many other musicians. That must have been fun!

I checked out the recycling bins. They had been labeled for landfill, recycle, and compost items. And because many people don't know which is which, the organizers brought in young attendants and gave them free tickets to the concert in exchange for helping concert goers do the right thing. These young people sat near the bins saying "No, Snoop Dog, you have to separate your own garbage." And he did! It was great.

Could you tell us a bit about remodeling your home on the Stanford campus?

It was taken down to the studs. The changes were not made simply for energy efficiency, although that was important. Under the environmental-economic model I went by, everything had to be measured by its impact—environmental, safety, and economic—to understand the true costs.

The wiring had to be redone to reduce the risk of fire hazard; so did the plumbing to minimize risk of leaks, and the structure had to be more securely attached to its foundation. You really need to factor in health, safety, comfort, and scalability to understand the true benefits of retrofitting. We ripped out all the ducts. Ripped out our 50 percent inefficient 160,000 BTU heater, which alone cost $10,000, because it was asbestos clad. So there we were addressing another health concern. In shoring up the foundation, they used a special epoxy that's stronger than the studs. I was glad to have the tests run by the building inspectors. They stressed the structure at forces well over a ton and the home performed admirably.

Perhaps one of the most important upgrades was insulating exterior walls. By sheer chance I was in town and able to watch the insulation crew blow in recycled insulation. Because the interior walls were not yet in place, we could watch the stud cavities fill up in real time! Surprisingly, the insulation crew left without filling the holes they had punched in the plastic vapor barrier to blow in the insulation. If I hadn't been there, we might have lost this vapor barrier. To seal the holes, we were left to our own resources— we taped the holes shut. How do we get building tradespersons trained?

That's where Build It Green comes in.

One of the other major improvements was the installation of a Xenon double heat-mirror in a skylight by Robert Clarke from Alpen Glass in Boulder, Colorado, who had recently done some installations at the Metropolitan Museum of Art. (It's no good to have your windows dripping on your Rembrandts!) Clarke suggested that I tell my energy guru friend Amory Lovins about the fact that that Xenon adds another half an R point—more than the best window in Amory's house. By sheer chance, Lovins was in the Bay Area and in need of a place to stay. I was delighted to show him some hospitality—and the Xenon skylight. He promised to outdo me soon! I hope he succeeds.

It's interesting to note that substantial money is being spent on dedicated infrastructure and education for the new green economy.

It is a marvelous opportunity to create programs that educate a new labor force in green technology. Existing buildings are the low hanging fruit. They're responsible for almost half the greenhouse gas emissions worldwide; however, financing the

work is an issue. We still need to make a business case for sustainability when it comes to small businesses and most residential structures.

You and Terry (Terry Root, Dr. Schneider's wife and colleague) recently spent a week in Greenland. What was purpose of going there?

Greenland is on the frontline of global warming. Terry and I believe that a university relationship with the Inuit Circumpolar Council of Greenland is critical. All we're waiting for now is to find a few hundred thousand dollars to bring Inuit leaders to Stanford to meet the professors and students, then send those academicians to Greenland over a summer. The goal is to gather information that will help the Inuits make their inevitable transition to a melting world. Terry has already set up a protocol for Inuit hunters to track data like the size of hunting parties, the individuals' proximity to each other while hunting, and similar information that will serve as a census for polar wildlife. These hunters really know what they're doing, and we want to capture that knowledge.

I believe current and future developments are mind-expanding. Greenland is still a Danish colony. Their government is stable with an elected parliament, yet they still need a half-billion Kroner grant to function each year. Most of their money is from fish and shrimp, and now they're getting a lot from tourism. They were visited by forty-seven cruise ships this year. Last year it was twenty-two, and the year before it was fifteen, we were told. There were more people visiting as tourists aboard those ships than the entire 70,000 indigenous population of Greenland. Eco-tourism cannot be allowed to further upset the environment. Cruise ships are dumping their waste into the bay and Greenland doesn't have a navy to stop it.

As the ice melts away and exposes mineral resources, authorities will allow international companies to come in and drill and mine. If you're going to bring in Alcoa for instance, the company needs to be required to hire a certain percentage of Inuits to do the work. The Greenland Parliament is now starting to consider this issue. There will have to be a system for monitoring air and water pollution, and it will need to be carried out by an independent party. There's also tremendous concern among the elders as to what this eco-boom would mean for the existence of the Inuit as a distinct culture. The workers who will come in to do the mining could turn out to be Friday and Saturday night drunks. They aren't knowledgeable and may be unconcerned about air, water, and cultural pollution. That's the last thing you need in the Inuit culture. Maintaining the culture of the Inuits is vital to most of them. Although they are a tiny fraction of the world population, they are a big component of a unique culture.

There are other opportunities that can bring harm as well as prosperity. The Inuit will have a tremendous opportunity for mineral exploration, and how they handle it is going to determine the culture's evolution for a long time. We need to keep them informed on the latest science that affects them at the front lines of global melting and find out what cultural changes that implies. Clearly, this is looking like a disaster

(L) Iceberg in the fjord discharging the Jacobshaven ice stream near Illulissat. (R) Icebergs in the same fjord discharged by the Jacobshaven ice stream behind the town of Illulissat.

for the subsistence hunters. As the ice-dependent animals disappear (those are the polar bears, walruses, and seals), these hunters may have to go further out and take whales, and that may not be ecologically good. They don't always have the right boats for whaling either, so this is going to be a real problem.

We need to help people understand the current conditions and start taking them to the next level. A recent City of Redwood City hearing featured a sophisticated presentation by the Bay Conservation and Development Commission showing what would happen in Redwood City as a result of global climate change and the Bay rising.

You can watch the simulated blue coming up into the streets by the Bay. It's going to go up slowly, but then there'll be a storm and a surge. When that comes at a bad time, for instance with the winter high tides, there will be big flooding. It will take a random concatenation of "perfect" situations: thermal expansions of the oceans and melting ice caps raising the sea levels, El Niño, the winter tide. Some of that could happen tomorrow or not for fifty years. What global warming does is increase the probability of occurrence of such events.

What is your prognosis for the near future?

In short, the Intergovernmental Panel on Climate Change (IPCC), which shared the 2007 Nobel Peace Prize with Al Gore, has said warming is unequivocal, and that over the past several decades has been driven largely by our using the atmosphere as an unpriced sewer to dump our tailpipe and smokestack wastes. Getting towns like Palo Alto to minimize their carbon footprint—and then aligning with sister towns and then states—is one important step to get the process started to implement policies to conserve the climate. It is already too late to prevent some dangerous vulnerabilities, but with growing actions from cities to states to nations to international treaties, it is not too late to prevent many really dangerous outcomes that are being built into our children's world unless we make sustainability a main concern of individuals, businesses, and governments in the next few decades. It can also produce a new green economy, so for both financial and environmental reasons, it is time to get on with building the new economy. Let's be doing well by doing good, and with leadership by communities such as Palo Alto, we have a good example.

Carroll Harrington is the owner of Harrington Design and coordinator of Palo Alto Goes Green/Palo Alto Chamber of Commerce. Lorna Fear is an infrared scanning technician, Certified Green Building Professional, Acterra Green@Home Energy-Audit Coordinator, and co-producer of Green Takes…Action! for the Community Environmental Action Partnership (CEAP).

Note: This conversation took place on December 19, 2008.

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