



LEAFLET October 2007

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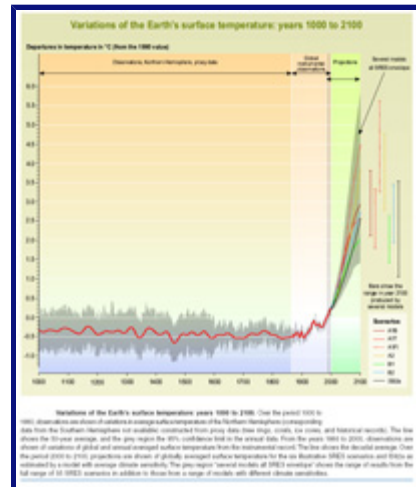
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Planting the Seeds of Change

Image courtesy of Dr. Stephen Schneider, from the [Intergovernmental Panel on Climate Change \(IPCC\), 2001: *Climate Change 2001: Synthesis Report. A Contribution of Working Groups I, II, and III to the Third Assessment Report of the Intergovernmental Panel on Climate Change.*](#) [Click here](#) to see a larger version of this image.

"The Earth is moving closer to several negative 'tipping points' that could – within as little as 10 years – make it virtually impossible for us to avoid irretrievable damage to the planet's habitability for human civilization. It is urgent that we take action as soon as possible." – Al Gore, former Vice-President, August 2007

Global climate change is a monumental crisis of our own making. The path to undoing the damage we have wrought is long, complex, and dependent on collaborations between science, industry, governments, the developed and the developing worlds, and individual citizens. To succeed in saving our civilization, we must change the lifestyles we aspire to, the products we consume, the materials we use and dispose of – in short, the way we live on the planet.



The window of opportunity is narrow – we have anywhere from 10 to 20 years to implement major reductions in greenhouse gas emissions worldwide. To achieve such results will require dramatic shifts in the status quo. The “celebrification” of this issue is key to enlisting public support for difficult choices. Films like *An Inconvenient Truth* and *The 11th Hour* speak to the immensity of the problem and lay out the way forward through individual, national, and international decision making.

Dr. Stephen Schneider, Professor of Interdisciplinary Environmental Studies at Stanford University, has been working to get the word out about dangerous climate change for the past 37 years. Schneider was on Hawai'i Island in August for the [Dissertations Initiative for the Advancement of Climate-Change Research Symposium](#), sponsored by Whitman College and the University of Oregon through grants from the U.S. National Science Foundation. The meeting was facilitated by The Kohala Center, as part of our *Planet Hawai'i* initiative. A major goal of the Symposium was to foster the interdisciplinary skill set needed to effect societal change within the next generation of scientists. Climate experts must learn how to successfully communicate their understanding of changes in Earth's environment, to serve as the basis for concrete and effective societal change.

Schneider, who was featured in the film *The 11th Hour*, granted TKC an interview during his recent sojourn here. Read [Schneider's perspective on global warming](#).

New at Kahalu'u

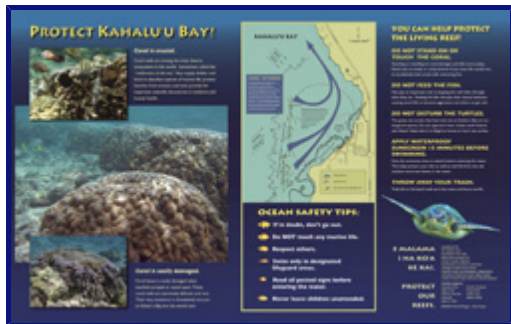


Photo: This interpretive panel teaches visitors about the types of fish which inhabit the coral reef at Kahalu'u Bay. [Click here](#) to see a larger view.

In September, new interpretive signs (**one of which is pictured at left**) were installed at Kahalu'u Beach Park in an effort to halt coral trampling and re-introduce cultural protocols for entering the Bay. [Learn more](#) about the new interpretive signage at Kahalu'u Bay (*Note: Provide a member name and password to log in to the West Hawai'i Today e-edition*).

On November 17, [The Bay Concert](#) at the Sheraton Keauhou Bay Resort & Spa hopes to raise monies for continuing Kahalu'u Bay projects. The entertainment lineup includes comedian Frank De Lima, Na Hoku winners Natalie Ai Kamau'u and Maunalua, Jes' Us with Sam Kama, the Daifukuji Taiko Drummers and Angels of Aloha. Doors open at 3:30pm and show time is 4 -8:30 p.m. on the resort's Hawai'i Lawn. Tickets are \$30 presale and \$35 at the door and can be purchased Island wide at Music Exchange and Big Island Surf Company. [Purchase tickets online](#) or phone 808-887-6411 for reservations.

[Read more](#) about Cindi Punihaole, the force behind the Kahalu'u Bay Restoration Project.

The Changing Face of Hawaiian Archaeology

Photo: Evidence of inhabitation in North Kohala. Photo by [Diane Repp](#).

As we search for locally available sources of food and energy, the tremendous value of traditional Hawaiian knowledge about the land, the water, the weather, the fish, and the plants here becomes increasingly clear. An understanding of the significance of each place and revitalization of traditional knowledge may provide the keys to help us re-localize agriculture and think through sustainable ways to live in these places. We have much to learn from those who successfully inhabited these islands for generations before us.



The practice of archaeology in Hawai'i deeply affects how we inhabit the land today, as witnessed by recent controversy surrounding the alignments of proposed roads in our community. The relationship between archaeologists and native communities is changing, as more Hawaiian archaeologists enter the field. Learn more about the fascinating evolution of the field of Hawaiian archaeology, as it has changed over time, and as it continues to change in response to the need to serve both Hawaiian communities and the larger scientific community. Kathy Kawelu Ph. D., an archaeologist and a native of Hilo, will discuss "The Sociopolitical History of Hawaiian Archaeology" at two free public lectures in October. The first lecture is in West Hawai'i on Thursday, October 18, from 5:00 to 6:30 pm, at the Outrigger Keauhou Beach Resort Ballroom. Dr. Kawelu will present her talk in East Hawai'i on Monday, October 22, from noon to 1:30 pm, at the University of Hawai'i at Hilo, in Room UBC 127.



Photo: Kathy Kawelu, Ph. D.

"As a Hawaiian studying archaeology I am concerned with the relationships between archaeologists and native communities. I'm interested in the changing face of the discipline, in which members of 'subject' communities are pursuing higher degrees. I've strayed away from what most would consider real archaeology, to look into the doing of archaeology, particularly the way it's been practiced in Hawai'i." – Kathy Kawelu, Ph. D.

These lectures are part of the *Puana Ka 'Ike* (Imparting Knowledge)

Lecture Series sponsored by Bishop Holdings Corporation/Kamehameha Investment Corporation, The Kohala Center, Outrigger Keauhou Beach Resort, Hawai'i Tourism Authority, the University of Hawai'i at Hilo Kipuka Hawaiian Student Center, the National Oceanic and Atmospheric Administration, and The University of Hawai'i Sea Grant College Program. For more information, contact Joy Cunefare at 322-0088, ext. 106.

The Return of Cornell

Photo: Cornell 2006 EES students hiking in Haleakala National Park.

The **Cornell University Field Program Earth and Environmental Systems (EES)** is back! Cornell faculty and their students will return to Hawai'i Island for the entire spring semester beginning in January 2008. The EES program provides an outstanding opportunity for undergraduate students to study Hawai'i as a microcosm of global environmental phenomena, to engage in field work side-by-side with some of the world's best scientists, and to grow as scientists and citizens through lessons learned from the culture of the Hawaiian people. At the end of their five months here, most EES Program graduates tell us how their time in Hawai'i has enriched their lives.



"From its mountain tops to the sea Hawai'i is a dynamic classroom that illustrates the vitality of life. Whether fighting to survive the first stages of colonization or struggling to remain rooted in a well established ecosystem, all of Hawai'i's life forms (including its very vibrant culture and traditions) continue to be threatened. That they continue to persevere and, in many cases thrive, reveals the tenacity and beauty of life. Hawai'i teaches us that all processes, to be sustainable, depend on each other. True sustainability requires respect for the world around us - which means understanding and promoting Earth's awesome interconnectedness." – **Dana Linat Shapiro**, 2005 EES Program participant & Fulbright scholar

As a partner in the Cornell EES Program, The Kohala Center helps to connect Cornell students and professors to the community. Students are oriented to the cultural and spiritual landscapes of the island by revered cultural practitioners. Working together, Cornell and The Kohala Center are building research and teaching programs that benefit Island environments. Learn more about the **Cornell-TKC Connection**.

Applications are currently being accepted for the spring 2008 semester on a space available basis. Visit <http://www.geo.cornell.edu/hawaii> or contact Dr. Alexandra Moore at am113@cornell.edu for additional information.

Energy Role Model



Photo: Opuha Dam hydroelectric facility on the South Island of New Zealand. This 7.5 MW plant has been in operation since 1998. Photograph courtesy of **Networks South**.

New Zealand has stepped up to the plate in terms of making a serious commitment to renewable energy. **Prime Minister Helen Clarke** recently announced that her country will increase its renewable portfolio from 70 percent to 90 percent of total energy production by the year 2025. New Zealand is blessed with abundant hydropower and geothermal resources, which it will rely on to meet this ambitious target over the next 20 years.

"I have set out the challenge to our nation to become the first truly sustainable nation on earth...to dare to aspire to be carbon neutral. The long-term benefits of becoming a sustainable nation will spread beyond our national reputation and success in business to benefit all New Zealanders." -Prime Minister Helen Clarke

New Zealand will also attempt to cut its per capita emissions from transport in half by the year 2040, partly through the widespread introduction of electric vehicles. The nation has also resolved to increase its net forest area by 617,000 acres over the next 13 years.

Read the full [media release](#). [Learn more](#) about renewable energy technologies and projects around the world.

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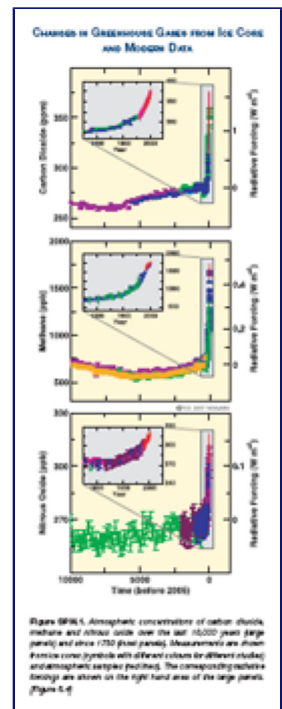
Crank Up the Standards

Perspective by Dr. Stephen Schneider
Based on an Informal Interview with Linda Copman

Image source: IPCC, 2007: *Summary for Policymakers. In: Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change.* [Click here](#) to see a larger version of this image.

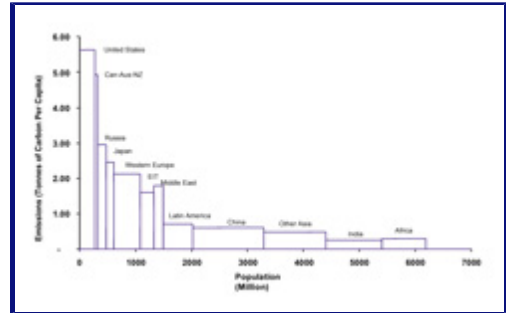
On the Beach is a novel about a radioactive cloud of death that has killed all the inhabitants of the Northern Hemisphere and is inexorably drifting toward Australia. The Australians have three months to live before they will die a horrible death of radiation poisoning. So they go out and they race cars, kill each other, and do dangerous things – because it doesn't matter. That's what's wrong with framing global warming in such a way as to say that if we exceed two degrees Celcius, or if we don't get this problem fully solved in ten years, that's it. Then you end up with the *On the Beach* syndrome. Why the hell bother then, because we missed the deadline? It's not like that.

The EU (European Union) said, "Two degrees Celcius warming over pre-industrial is unacceptably dangerous." I guarantee you at 1.8 degrees it's already bad. At 2.2 degrees the world is not Venus, it's not a climatic pumpkin. It just keeps getting worse. Every time you add another half degree, you don't make matters worse by an increment of half again more damages. It's an increment more like two times more damages. Every time you add more, there is a much higher likelihood that more systems are dangerously affected and that they are more deeply affected. This is not controversial in the climatic impacts literature, and it is a principal conclusion of the [Intergovernmental Panel on Climate Change \(IPCC\) 2007 Impacts, Adaptation and Vulnerability Report of Working Group II.](#)



It's already too late to prevent some dangerous climate change. I would hope that we do a lot to lighten our footprint on the atmosphere in less than 10 years. But if we don't, we don't declare defeat and quit. Even if we don't do anything serious for 20 years, than maybe we'll get 3 degrees warming. I'd rather not have that, but that's a heck of a lot less dangerous than 4 degrees, or a catastrophic 6 degrees Celcius warming, which is where we're headed with "business as usual" emissions. To me, you do as much as you can, as fast as you can. I don't let the perfect crowd out the good. I never frame our window as "10 years or all is lost." I always frame it as it's already too late to prevent some damage, so let's not go further down that trail please. Let's try to slow it, then reverse it as fast as politically feasible.

Image courtesy of Dr. Stephen Schneider, from Grubb, M., 2004: "The Climate Change Challenge 1: Scientific Evidence and Implications," The Carbon Trust. [Click here](#) to see a larger version of this image.



If we're going to lock in on our consumption and they're going to lock in on catching up to our emissions - then what we have is a planetary sustainability train wreck. That's why I don't frame the window for action as 10 years. I frame it as we need a bargain. We can't solve this crisis without both parties really making changes. I don't care if that takes 20 years, we have to get on that track, and fast.

We are going to polarize into stakeholders who are much more worried about climate change policies affecting their bottom line than they are about the future of the planet versus stakeholders who think that such people are immoral and should be voted out and replaced by more ethical people.

The media believe that we need to have "balanced" reporting. They take a study of 200 scientists that was done over three years with three rounds of peer review, and they find two people who were funded by competitive enterprise institutes, give them equal weight, and confuse everybody. I promise you the confusion is not always accidental. Because these special interests know they can't win the debate scientifically, they try to get equal status at the bargaining table through confusion. When you do that, you slow down the political process.

Finally, we had Katrina. We had Al Gore's movie. We have a shift on the part of many corporations, who now realize that this problem is real and they're going to be regulated. They'd like to have some control over the regulations, so they're actually advising the federal government to take steps in this direction, rather than wait for the next Katrina, when they'll get slammed over the head because - even with political power - they won't be able to win further delays in implementing rules to curb their emissions. This kind of catastrophic event has an amazing impact on public consciousness. And that's made it safer for the nearly-extinct species of moderate Republicans to come out of the closet and co-sign bi-partisan bills for climate protection policies. There are now a lot of such bills before Congress. This is historically the best time in the 37 years I've been studying this problem for getting action.

Meanwhile, there's Europe, which wants to move much more quickly. And there's the developing world, which is stuck absolutely in the middle. They're the biggest victims of climate change because their countries are already too hot and they don't have the development necessities - resources, knowledge, and adaptive capacity - to reduce the harm. As a result, they're getting caught both ways. They want to burn fossil fuels and get richer, just like we did, but not just richer in consumer assets. They also want to reduce poverty, to improve health, to have decent housing and decent education - all of which are laudable goals which are built on development. When we come along and say you can't do what we did, and we don't provide any alternative, they're not going to join in. If they don't join, they're going to get caught in the pincer of very large climate change. The combination puts them right in the middle, and they are very angry.

They're very angry because they look at George W. Bush who says this is inconvenient for the American economy, just like his father said the American standard of living is not up for negotiation. Bush produces no substitute when the world's largest economy and largest emitter, up till this year, says to the rest of the world, "go to hell." The U.S. doesn't give a damn about what it's doing to the planet because it's inconvenient for the campaign funders who are the big contributors to the Bush types.

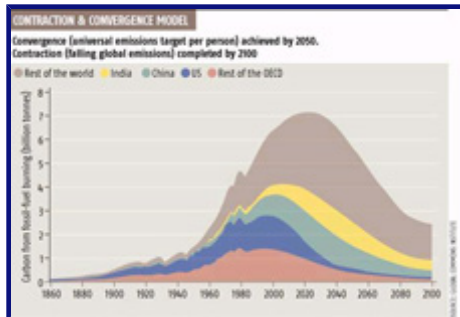


Image courtesy of Dr. Stephen Schneider, from [Global Commons Institute](#). [Click here](#) to see a larger version of this image.

This is finally, finally changing. A lot of it changed from the bottom up. Cities and states started implementing climate policies, causing what I call a heterogeneous patchwork quilt of climate rules. This is very bad for business if you're a global, or even a large-scale, domestic corporation. It turns out that they'd rather be uniformly taxed across the country than to have radically different laws in California, in Nevada, New York, or in Wyoming. That's not a good way to do business, so now, with

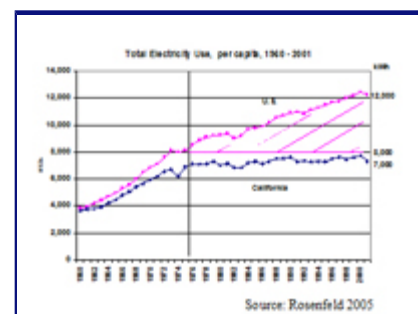
many major corporations asking for clear signals from Washington on what they must do, we're starting to move. That's the good news. You cannot say it's going to be enough, but it's much better than it's been before.

We have to have the corporate world involved because they have a lot of smart people, and they can help us invent our way out of the problem. Without them, we can't do it. The corporate world is driven by investment banking, by people trained in business school to think that three-year paybacks and 20% returns are required. In other words, they assign no value at all to planetary sustainability. So they need incentives to get past this anal three-year payback. I have what I call the 7-11 solution. If you can do better than a 7% return on an investment or an 11-year payback, you've just beaten the mortgage interest rate for most Americans.

A good example of what I mean is single-pane windows, which are horrible from an energy efficiency point of view. The slightly higher materials cost of a double-pane window is paid back in much, much less than 11 years through energy savings. There's only one way to deal with this: require double-panes by law. We call this kind of law "performance standards." California has the lowest emissions per capita in the United States. Why? Because we have a culture of sustainability and because we believe in rules to achieve it. When those rules have paybacks that make the average monthly payment of the average person lower than it otherwise would have been, and the rules protect the environment and the health of children, this makes sense.

This is not just about money. A lot of the strategies to deal with reduction of greenhouse gases also apply to reducing air pollution. The first step is performance standards. A lot of states have performance standards. What's the worst performing state per capita in the U.S.? Wyoming, a coal exporter, followed by Texas. Why Texas? Texas has a culture of entrepreneurial rights which supersede every other social value, unlike California. You've got to apply performance standards federally.

Image "Total Electricity Use, per capita, 1960-2001" courtesy of Dr. Stephen Schneider, from Rosenfeld, A.H., 2005: "Energy Future of the West: (1) Demand Response and Dynamic Pricing; (2) Energy Use and Sustainable Growth." Utility Energy Forum. [Click here](#) to see a larger version of this image.



We also have to develop public-private partnerships, where we have tax or other incentives for U.S. companies to go overseas. The best incentive is to severely tax these companies at home. If they don't cut their emissions here, and they can cut them more cheaply in China, that's where they're going to go. When they go over to China, the Chinese are going to say we want to own all the patents. That's not a bargain, that's power. We need to bargain. For instance, we can say, "What if you own half the patent?" What we discover in China is that if we own half and they own half, we have a win-win situation. We will have to fund some of this initially because it won't provide the standard return on investment horizons that we learned about in business school. The returns may be lower than that. But who are the winners: the planet, China, and the corporations who cooperate and invent marketable new techniques for emissions reductions at lower costs.

If we had strong enough climate policies that provided strong enough incentives, we might still get

We are way beyond the possibility of being able to hope for perfect outcomes, but we are not way beyond the possibility of being able to avoid many dangerous climate change impacts. We're going to be faced with two degrees Celsius warming above pre-Industrial temperatures, at the least. It's too late by 20 years to prevent some dangers, but not too late to prevent many others. Life is like a wheel of fortune, and all we can do is make the really unpleasant slots narrower and the better outcome slots fatter. We always have to have the objective of making it better than it otherwise would have been – not some absolute unattainable objective like avoiding all dangerous climate changes. We need laws so it gets better and better, and less and less risky.

Think about the ozone treaty back in the 1980s. As soon as we had an ozone hole over Antarctica, within two years we had the Montreal Protocol. Within two years after we proved that the ozone hole was due to human activity, we had twice as strong a protocol. That's the good news. We finally got kicked in the teeth, and we did it, we took action. The bad news is why did we have to get kicked in the teeth? Fifteen years earlier it was revealed by very competent and honest scientists that ozone depletion was going to happen.

What's the equivalent of an ozone hole in climate? I don't know. Another Katrina? Fifty thousand people died in Europe in 2003; that did it for the Europeans. We're changing. It's an accumulation of all these thousand cuts. Though no single one is a mortal wound, a thousand smaller cuts can still kill you.

The tipping points to me are primarily social. I actually think we're as close to one as I've ever seen. When you raise consciousness so that people recognize that we have to protect the commons, then it becomes more politically feasible to actually do so. It will happen one day: we will get a perfect storm of events that tips us towards meaningful actions to reverse our dangerous experiment with "Laboratory Earth."

Visit www.climatechange.net to learn more. Visit <http://www.algore.com/talkingpoints/> to send George Bush a postcard in support of an international treaty that will reduce CO2 by 90%.

The Force behind the Bay Project

By Linda Copman

Photo: Cindi Punihaole at a recent Keali'i Reichel concert.

Cindi Hanohano Punihaole Kennedy, The Kohala Center's Outreach and Volunteer Coordinator, received the Kona-Kohala Chamber of Commerce's 2007 Pualu Award in recognition of her outstanding service to the West Hawai'i community.

"It is an honor to receive this award from our Chamber of Commerce. I mahalo (thank) my kupuna (elders) for instilling in me the aloha spirit which is the basis of my core values. Ho'olaulima means to work together. As a teacher, I work together with my community to instill these core values in others. I am humbled that others have embraced my teachings and have begun to respect and understand my Hawaiian culture." - Cindi Punihaole





Photo: This interpretive panel teaches visitors about significant cultural sites in the vicinity of Kahalu'u Bay. [Click here](#) to see a larger view.

Punihaole serves as a cultural advisor to Kuki`o Resort and a Director of [Hui Laulima O Kekaha Kai](#), a non-profit organization working to preserve our shore areas for community use. She helped create the Natural Learning Resource Center at Kealakehe High School and is now working with The Kohala Center to preserve and restore natural and cultural resources at [Kahalu'u Bay](#). Kennedy has demonstrated deep concern for the land and a commitment to protect and share Hawai'i's culture and heritage.

Photo: Visitors making flower lei at La `Ike day.

Punihaole shares this story from her monthly La `Ike Kahakai O Kahalu`u day on July 28:

"When I arrived at Kahalu'u pavilion at 8:00 am, some homeless people were using the pavilion to try to sell the coconut weaving products they had made. As I opened up the kitchen, one of them said, 'You are having a party, so I guess we have to leave.' I said, 'Yes, we are having a party, but you can stay! I will need to use the table you are working on, but you can move to this table (pointing at the table next to the one they were at).' We had a wonderful day, with visitors and locals learning Hawaiian games with NPS Ranger Natasha Moore, making flower leis with Aunty Lei Belanio, listening to Kauwila's music, and eating all the `ono (delicious) food. Hundreds of visitors attended, at least 200 or more. Around noon I noticed that there were a lot of visitors around the homeless table. They were demonstrating to the visitors and teaching them how to make birds and fishes. It made my heart feel really good. No one knew that they were not a planned part of our party! That day made them feel so special inside, gave them confidence, and allowed them to have others see them as important people. That is what life is all about - empowerment!"



Photo: Some ReefTeach volunteers enjoying their Mahalo Party. From left to right Chris Lochman, Barb Pool, Ken Pool, and Heloise Lochman.

To honor the many hardworking volunteers who are helping to revitalize Kahalu'u Bay, Punihaole recently hosted a moon-light Mahalo Party. We hope you enjoy these brief comments from the partygoers:

"It was a wonderful party and to be greeted with a lei - it was very special. We should be thanking you for all the help you give us and time you put in. Mahalo, mahalo, mahalo!" - Jim Bausano

"It was great to meet the other Reef Teachers, young and old, and to play the games and eat the `ono (delicious) food! Happy to be part of the team." - Judy Tarbet

"The Mahalo Party was a wonderful 'thank you' for our work. It is nice to feel appreciated for our volunteer time, and what better way than to share our time with other volunteers and staff. The food was delicious and the music was beautiful. Please thank The Kohala Center for such a kind gesture." - Ken and Barb Pool