

KFOI Radio - Shasta Environmental Alliance Program Aug. 17, 2018

David Ledger: I'm David Ledger, and today on KFOI radio stations, Shasta Environmental Alliance program, today we're going to be talking a little bit about climate change.

On a recent visit to Redding this week, Interior Secretary Ryan Zinke blamed the cause of the recent fires in the West on everything but climate change. He stated the cause for the recent fires was because the forests haven't been managed right and need to be thinned. Thinning trees for quote, "healthy forests," is frequently a euphemism used by timber interests to promote increased logging of public lands. On several conservative news outlets, Zinke placed considerable blame on what he called extremist environmentalists for the fires. Zinke is opening up more of our public lands to special interest groups for uranium mining and other mining, oil and gas drilling, increased logging and grazing. He stated in a recent visit to Redding: "The public lands belong to everybody and not just the special interests, and so we have to work together to make sure we restore the health of the forest." And this is a quote from the Record Searchlight.

Well, while we do need thinning and controlled burns of forests because of past clear-cut logging and fire suppression, we do not need logging by special interests that Zinke represents under the guise of healthy forests. The forests Zinke wants to thin are our national forests and other public lands. The lands that burned around the Greater Redding area are primarily chaparral and foothill woodlands, not forest. Further out, however, toward Trinity County, the land is mixed conifer forest that is logged.

Cal Fire Division Chief Chris Anthony, who has been working on the Carr Fire since July 24th, told the HuffPost that he struggles to find words to describe the explosive fire conditions around the state. He said, "It is clear to me that firefighters are on the front lines of climate change."

In June of 2017, Zinke seriously cut funding to our National Parks, which his department admitted will cut services to the public. Some of the deficit will be made up by increasing park entrance fees. Prior to the budget cuts being approved, John Gardner of National Parks Conservation Association, a nonprofit group, stated that if the cuts are approved, we would see the biggest damage to park operations since World War II. These cuts were passed and approved and go into effect in October of this year. This will help to pay for the massive tax cuts given to corporations in the recent tax bill. The question remains, which special interest is Zinke representing?

Renewable Energy Infrastructure: Shasta College Solar Project

David Ledger: Now to a better topic and happier topic. Let's go to Shasta College. Shasta College is going big time for solar energy.

The College Board of Trustees recently contracted with SunPower Corporation to install solar panels over 652 parking spaces at the college. This will provide shaded parking and up to 50% of the college's electricity needs. The installation will also have backup battery storage for evening and cloudy days. The project will also provide 5 dual-port charging stations for electric vehicles. Currently, the college has solar panels in a nearby field that provide 1 megawatt of power and

about 30% of electric demand. This new installation will provide up to a combined 80% of the college's electricity needs. Currently, the college also has solar energy at the Tehama campus in Red Bluff, and that provides up to 70% of the campus needs.

The parking lot where the panels will be installed will be on the east parking lot near the College Farms. This project will cost \$5.5 million, but it will pay for itself in 12 to 15 years, much sooner if fossil fuel costs increase. The panels have a performance guarantee of 25 years. Output is 1.6 megawatts with a battery storage capacity of 470 kilowatts. The contracted completion date is May 17th, 2019. So in less than one year the project will be completed and provide shade and electricity, and no trees will be removed. No trees will be removed for the project. Hopefully this project will motivate the City of Redding and Shasta County to put solar panels over their hot parking lots and produce electricity.

Municipal Power Generation & Fleet Electrification

David Ledger: Redding Electric Utility, or REU as it is known, does get 25% of its energy from wind power, 24% from hydroelectric power, 4% from small hydroelectric power, 40% from natural gas—and that's for its power station that's located on Clear Creek Road—7% is other, and fortunately none is from coal. The city has a small hydroelectric power plant at Whiskeytown Dam. REU gets less than 1% of its energy from solar power. However, Redding does have 9 to 10 megawatts of rooftop solar power from various private homes and businesses in the city of Redding that are connected to REU utility lines. So in some ways this is providing 10 megawatts of solar energy to the city. The city also plans to develop a 10-megawatt solar energy plant on city property in the near future.

And the City of Redding does have many programs that show its commitment to renewable energy. The Parks and Recreation department now has three full-sized riding mowers that are 100% battery operated. They have replaced older gas-powered riding mowers. The mowers are charged at night, and they also have solar panels on top on a canopy roof that provides shade to the driver and a trickle charge while they're operating the unit, and also when it's parked on the weekends or after the employees go home for the day. This reduces fuel and maintenance costs, saving the department about \$5,000 per year for each mower, so that's over \$15,000 for the three. No oil changes, no air filters, and less moving parts, that's less costs. The mowers run 7 hours on a charge, and funds were provided by Redding Electric Utility with a grant.

The Parks Department, which is part of Redding Community Services, has some ambitious goals and achievements, according to Adam Wheeler, parks and facilities manager. They have purchased electric small top-handle chainsaws—and those are the chainsaws that they use with the long handle to cut the top branches—weed eaters, pole hedgers, push mowers, and backpack blowers, which are all battery powered. Their goal is 100% electric power landscaping, including all vehicles, and this will also reduce a lot of pollution.

The Redding Airport has solar panels that generate 750 kilowatts of solar power, and the Redding Library a lesser amount. In the private sector, Ted Pella Company, or Pelco International, is located in Redding, where it has manufactured scientific equipment for about 30 years. It sells its equipment as well as scientific supplies worldwide. Three years ago, they

purchased a large building in Caterpillar Park in North Redding and installed 275 solar panels on the roof. While the company has not moved all of its operations to the new building, it gets 100% of its electricity from solar energy at the new facility, and it has received credits every month for three years from Redding Electric Utility for electricity that is sold back to the grid. Now, actually these are not really rebates. They are credits that build up in the account for the company, and if at some time they use an excessive amount of electricity, they can always use those credits and not have to pay it.

Community Action & Carbon Sequestration Math

David Ledger: So that brings us to a related story. Rise for Climate, which is a worldwide day of action about climate change, is coming on September 8th of this year. Citizens around the world will be demanding that their local, regional, and national governments more proactively work to fight climate change. In Redding, individuals from Citizens' Climate Lobby, Wintu Audubon, Shasta Environmental Alliance, and the Whole Earth and Watershed Festival, among others, are planning an action on September 8th too, which will be at the First United Methodist Church. This planning group will have a petition for citizens to sign and distribute, asking others to sign, which will be given to local city and county governments and Congressman Doug LaMalfa, urging them to do more to help prevent climate change. We will have more information on this when they finalize all of their plans next week. Chico 350, a group which is part of 350.org, a climate change group, is sending a busload of people to a demonstration in San Francisco on September 8th, along with other cities in the immediate area. For more information, or to get a ride on the bus if there are still seats left, just go to their website, chico350.org.

Let's go to another matter on climate change and one of the ways to stop it, and that is trees. Greenhouse gases can be reduced by planting trees or preserving trees that are already in the ground. Trees grow by absorbing water and nutrients from their roots in the soil and CO₂ from the air through pores in their leaves. Using energy from the sun, they combine CO₂ and water to make simple sugars which are then converted to all of the parts of the tree that you see—the leaves, the roots, the bark, the trunk—along with other nutrients the roots bring up. An average tree of about 24-inch diameter will have absorbed 2,000 lbs of CO₂, and it will add another 150 lbs of CO₂ each year. Now this is an average, because a taller tree, or one with more spreading limbs, or one with very dense wood, the carbon fixation could be much greater.

Now if you drive an economical car, let's say that gets 45 miles per gallon, and drive 12,000 miles per year, you will emit about 6,000 lbs or 3 tons of CO₂ per year by burning gasoline. You would need three large trees 24 inches in diameter to offset these emissions. If you drive a gas-guzzling car that gets 15 miles per gallon and drive 12,000 miles per year, you will emit 9 tons or 18,000 lbs of CO₂ per year. So it would take nine trees 24 inches in diameter to offset the greenhouse gases you create each year.

That is why Shasta Environmental Alliance will be showing the film *Made in the Shade*, which is a film about the City of Sacramento's success in planting over 500,000 trees in a little over 30 years to reduce their peak electric use during hot summer days and at the same time fix thousands of tons of CO₂ in this urban forest. The film will be shown on September 21st, 6:30 PM at the United Methodist Church in Redding. The producers and Sacramento tree advocates

will be answering questions after the film. If you go to our website at ecoshasta.org, you can get more information.

Environmental Hazards of Consumer Waste & Upcoming Film Screening

David Ledger: Now I want to switch to another subject: Mylar balloons. Mylar balloons are fun, they're pretty. At parties, weddings, and graduations, people often give them out with gifts. But what about the environment? Have you ever been out on a trail and seen a Mylar balloon hanging from a tree or a shrub, or just lying on the ground, or perhaps in your backyard? So they distribute litter. Also, birds and turtles or other animals can get tangled up in the strings or ribbon that is attached to the balloons. In the ocean, marine mammals can mistake them for food and starve to death if the balloon becomes stuck in their intestinal tract.

Here's another thing: Mylar balloons are metallic and they can cause expensive power outages if they land on power lines, and they are the bane of power companies everywhere. The same could be said for latex balloons, although they do disintegrate in six months to four years and they do not cause power outages. However, there's the same issue with the strings and ribbon attached that animals can get tangled in, and also they can eat the balloons when they burst and land in the ocean. Another thing is helium is mined and a limited resource on Earth, and it's used in medical procedures and in scientific instruments. When released from a balloon, the gas is light so the helium escapes to space and that's the end of it. So think before you use.

On Friday, October 5th at 6:30 PM, Shasta Environmental Alliance is going to be showing a film called *Over Troubled Water*, and it is a documentary film about what is happening to the Delta with the reduced water flows and the threats to the Delta. The producer of this excellent documentary film will be up in Redding to take questions after the film, and we plan to have a short panel discussion too, talking about threats to the river and to the Delta. Also, she will be bringing us up to date as far as the threats from the tunnel projects and the Sites Reservoir.

And I want to thank you very much. This has been David Ledger with the Shasta Environmental Alliance program on KFOI Community Radio. Thank you.