

Warming felt more in Western U.S.

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By Margot Roosevelt, Los Angeles Times Staff Writer

The American West is heating up faster than any other region of the United States, and more than the Earth as a whole, according to a new analysis of 50 scientific studies.

For the last five years, from 2003 through 2007, the global climate averaged 1 degree Fahrenheit warmer than its 20th century average.

During the same period, 11 Western states averaged 1.7 degrees warmer, the analysis reported.

The 54-page study, was released Thursday by the Rocky Mountain Climate Organization -- a coalition of local governments, businesses and nonprofits. It was based largely on calculations by the National Oceanic and Atmospheric Administration.

The report reveals "the growing consensus among scientists who study the West that climate change is no longer an abstraction," said Bradley H. Udall of the University of Colorado, whose work was cited in the study. "The signs are everywhere."

Carbon dioxide pollution from vehicles, power plants and other industrial sources is a major contributor to global warming. The Environmental Protection Agency is under court order to address cutting greenhouse gases, and Congress is considering legislation to curb them.

The consequences of Western temperature increases, the report said, are evident in a rash of heat waves. Montana, Idaho and Wyoming had their hottest Julys on record last summer, while Phoenix suffered 31 days above 110 degrees.

Likely to accelerate

The Colorado River basin, which stretches from Wyoming to Mexico, is in the throes of a record drought. About 30 million people in fast-growing cities such as Los Angeles, San Diego, Phoenix and Las Vegas depend on water from the Colorado and its tributaries, which also drive the region's agricultural economy and hydroelectric industry. The river's two main reservoirs, Lake Powell and Lake Mead, are only 45% and 50% full, respectively.

Globally, warming varies according to region -- with more heating over land than over oceans. In California, with its coastal location, the study showed an increase of 1.1 degrees above the global average over the last five years. Arid interior states, including Utah, Wyoming, Arizona and Montana, experienced rises more than 2 degrees higher than in the world overall.

"Temperature rises have been much larger and more noticeable in the Western states," said Kelly T. Redmond, regional climatologist at Nevada's Desert Research Institute. "The past 10 years have been particularly warm, unlike any similar 10-year period we have seen over the past 115 years."

According to Udall, the data suggest that the trend will accelerate -- with the West warming about 1 1/2 times faster than the global average. Martin Hoerling, a NOAA meteorologist, has predicted that the West could heat up as much as 5 degrees by mid-century. In Alaska, the annual mean air temperature has risen 4 to 5 degrees Fahrenheit over the last three decades.

"If we don't want this problem to get really bad, we need to pass a climate bill with teeth," said Theo Spencer, a project manager at the Natural Resources Defense Council, an environmental advocacy group that funded the Rocky Mountain Climate analysis. "Western senators need to take the lead, considering what's at stake in their states."

Legislation in the works

A bill to slash greenhouse gases nationwide, sponsored by Sens. Joe Lieberman (I-Conn.) and John W. Warner (R-Va.), is expected to reach the Senate floor by June. A recent tally by the newsletter Environment & Energy Daily counted 44 votes for the bill so far.

As many as 10 Republican senators from Western states are leaning against the bill, according to the newsletter, which based its research on interviews with lawmakers, staff, industry and environmental groups.

California's two senators, Democrats Barbara Boxer and Dianne Feinstein, favor the bill.

In the absence of federal action, states are moving ahead. California is drafting rules to slash its greenhouse gas emissions by 80% by mid-century. And six other Western states -- Arizona, Montana, New Mexico, Oregon, Utah and Washington -- have joined it in a regional compact to curb the pollution blamed for global warming.#

<http://www.latimes.com/news/science/la-na-climate28mar28,1,3755212.story>

CARMEL RIVER TROUT RUNS: Guest Column: Dam pushing trout to brink Monterey Herald – 4/4/08 By John G. Williams, hydrology consultant in Davis

Sixty years ago, when I was a boy and artichokes grew where Mission Fields and the Crossroads now stand, there were still a lot of steelhead in the Carmel River. No one knows just how many, but there were enough that fishermen's parked cars would line both sides of Highway 1 north and south of the bridge during steelhead season. At the same time, steelhead migrating up the Carmel River encountered a new barrier: Los Padres Dam. Now there are not so many steelhead, so few that they are listed as threatened under the federal Endangered Species Act. Many people would like to know what can be done about it. Some say taking out San Clemente Dam, eight miles downstream from Los Padres, will be a big help. I'm skeptical. I think Los Padres is the main problem. About 30 years ago, when I wrote a Carmel River watershed management plan for the water management district, I asked old-timers and retired Fish & Game biologists about steelhead. I found the transcript of a 1929 trial about property boundaries near the river mouth that included much testimony about steelhead fishing. People testifying about the behavior of the river mouth mostly knew about it from fishing. This confirmed that the population used to be large. For example, J. H. Steward, who grew up on the Mission Ranch, testified that "in winter time, us boys were spearing those steelheads night and day." The short story is that the steelhead population generally declined as diversions from the river increased, but declined more sharply after construction of Los Padres. San Clemente Dam had a fish ladder that evidently worked, because the run held up fairly well after the dam was built in 1921, though the only late summer flow in the river below San Clemente was leakage around the dam. The best spawning and rearing habitat is in the upper watershed, mostly above Los Padres. That kept the population going. Instead of a ladder, Los Padres had a fish trap, from which steelhead were trucked around the dam. The trap didn't work well. Local lore had it that not all trapped fish made it back to the river. Worse, juveniles migrating downstream had to pass down a chute that dumped them onto a rock. The result was that migrating from the upper watershed to the ocean and back again turned into a bad bet for the fish, and it appears that over time fewer and fewer of them did so. Recently, only about a quarter of the steelhead that pass San Clemente also pass Los Padres. A steelhead whose hormones tell it to migrate doesn't have a lot of choice, but not all of them get the urge. Those that don't are called rainbow trout. The parsimonious interpretation of available information is that fish in the upper watershed have evolved toward a resident lifestyle. One consequence is that unless passage problems at Los Padres are solved, taking out San Clemente won't do a lot for steelhead. Evidently, something has to be done with San Clemente. The question is whether taking it out is worth a lot of public money that could be spent on other things. As you can see on Google satellite, some nice alluvial habitat is developing on the "San Clemente Flats." As fine sediments start to accumulate, it will become highly productive for plants and animals, as well as steelhead. There is one clear winner from the the latest dam removal proposal — California American Water. For just the cost of bracing its dam, Cal Am will get rid of a big liability. Under the proposal by the state Coastal Conservancy, the rest of the removal cost would be borne by taxpayers and others. If the plan goes through, Cal Am gets off easy, agencies that have done precious little about the utility's illegal diversions from the Carmel River will have a project to boast about, and the public will pay in more ways than one. #

http://www.montereyherald.com/opinion/ci_8807359?nclick_check=1####

**CARMEL RIVER SUPPLY ISSUES: Editorial: River's time running out
Monterey Herald – 4/3/08**

Water seemed to dominate Tuesday as representatives of various agencies and groups told state water officials that severely reducing the draw from the Carmel River would amount to either economic ruination or environmental salvation. It may have looked like another episode of "Peninsula Water Wars," a long-running reality series featuring teams battling to deadlock, unable to make any progress toward finding more water. But those paying close attention may actually have heard some encouraging signs of agreement on a set of key points: · The status quo isn't acceptable. · We cannot continue overpumping the river. · Current conservation levels alone will not get us through the next few decades. · Something needs to be done or, more accurately, several things. · They need to be done sooner rather than later. The occasion was the first hearing on the State Water Resource Control Board's plan to force California American Water to stop the illegal overpumping from the Carmel River, the Peninsula's primary source of drinking water. In stages, the cease-and-desist order drafted by the state agency would reduce the draw by at least 50 percent within seven years. Unless various supply measures languishing on various drafting tables are dramatically accelerated, the Peninsula apparently will face rationing measures worse and longer lasting than any it weathered during the droughts of the 1970s and 1980s. Evidentiary hearings are scheduled for June in Sacramento and the state board is poised to order the cutbacks starting this year. The state agency is, indeed, empowered to do such a thing and seems likely to act unless Cal Am somehow manages to stop the process in court. The agency has, in the past, issued similar orders reducing the take from endangered Mono Lake and, just last year, ordered a significant reduction in the municipal use of water from the Russian River in Northern California. For the most part, business and government interests told state representatives Tuesday that the Peninsula simply needs more time to develop desalination plants or other means to offset the cease-and-desist order. Significantly, though, they weren't really arguing against the order itself, recognizing that the measure would enforce a river-protection order issued a full 13 years ago. Their message to the state, for the most part, was you're right, we need to get this done. Just give us a little breathing room. The environmentalists, for the most part, argued against patience but not against getting something done. They argued that the river needs all the protection the state can give it. They argued that while local water users have demonstrated great ability to conserve, they need to be pushed into larger and more systematic measures such as rain-water collection. But what's important here, despite the various points of disagreement, almost all in the long lineup of speakers agreed that it is past time for action. If the Peninsula is to survive the next drought and the river is to survive the century, if our businesses are to stay in business, if reasonably comfortable lifestyles are to be enjoyed here, the agencies and groups that have been regulars on "Peninsula Water Wars" will need to find additional points of agreement and then pursue them with a clear sense of urgency — regardless of whether the state agrees to some delay. The usual suspects need to follow each available path — desal, wastewater treatment, conservation, and other measures large and small — and stop trying to get in the way of those on the other paths. It's time to move along. It's time to break the deadlock. #

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How Much Is Water Worth?

In June, a Jury Will Decide the Price Tag for Felton's Water System

By Linda Fridy

When California American Water conceded the San Lorenzo Valley Water District's right to take over its Felton Water subsidiary in March, the only question left for the legal system to decide became, "How much is it worth?"

Once a jury sets that figure in a trial slated to start this June, the question for the community will be, "Do we have enough money?"

Not surprisingly, each side has vastly different expectations.

San Lorenzo Water already offered Cal Am \$7.6 million, which was refused. This figure was based on a combination of appraisal approaches, according to district officials. Cal Am says the Felton system is worth more than three times as much based on its valuation process, placing a price of \$25 million on the water company.

How did they come up with such different numbers? Are the appraisals based on how much the water district has — or doesn't have — to spend?

"We would prefer a negotiated sale to the court process," said Jim Mueller, manager of the San Lorenzo Valley Water District, but he is not optimistic about that possibility. Cal Am has consistently stated that it does not want to sell.

Fair Market Value

The San Lorenzo Valley Water District is the valley's largest public water district and is controlled by a publicly elected board of directors. That district, with the backing of local governments and a Felton voter-approved \$11 million bond, has established the right to Cal Am's Felton water system under public domain laws. However, the district still has to pay a fair market value.

The state defines that as the highest price a willing seller will pay and a willing buyer will accept, said Joe Connor, one of the attorneys representing Cal Am. Since Cal Am isn't a willing seller, both sides will be trying to convince the jury that their appraisal represents the fair market value.

One point upon which they do agree is the difficulty in putting a price on a water system. Water companies don't change hands that often, and each one is unique in its supply and size.

"Appraising a water company is much more complicated than appraising a home," said Betsy Herbert, an environmental analyst with the San Lorenzo Valley Water District. Cal Am attorney Connor used the same analogy, but not necessarily the same appraisal approach.

Felton's water system has several parts, including the 250-acre watershed, other property, improvements and its 1,300-customer base, as well as the infrastructure that serves them.

San Lorenzo Valley used three different firms of experts to determine a value.

The appraisers looked at the Felton holdings from a business standpoint, the real estate value and as a watershed. The district used their appraisals to come up with the \$7.6 million offer, Herbert said.

Cal Am considered further use of the land in its valuation. Conner said one of his appraiser's team will testify that residential home development is permitted and conceivable on the watershed land. "Our position is that the current zoning for the 250 acres would permit development," Conner said.

That argument doesn't fly with water board president Terry Vierra.

"They have this hokey idea that they can put a whole development up there," he said, adding that the district also disputes logging feasibility on the watershed.

The district will likely argue against the compatibility of such mutual uses.

"You have to protect that watershed," said Herbert.

What Have Others Paid?

Comparing the price of one water system to another may be a case of, if not apples to oranges, perhaps grapefruit to oranges. Still, certain calculations can provide a basis for discussion.

The most recent nearby purchase of a water system just occurred in Aptos this winter. The customers of a small, well-based private system negotiated a price of \$296,000 for the system that serves their 80 homes.

That works out to a cost of \$1,644 per hookup. If San Lorenzo Water could get Felton at that price basis, it would pay only \$2.16 million. However, that water system had virtually no property, the water supply wasn't meeting state standards and the pumps and pipes were old.

Others on the coast have paid significantly more per hookup. In 2003, a jury decided the 1,650-customer Montara system just north of Half Moon Bay was worth \$11.1 million, or \$6,725 for each hookup. At the same per-hookup price, the Felton system would cost \$8.8 million.

That situation has several similarities to Felton's. The local sanitation district took the water over from Cal Am after residents advocated for public takeover. However, it pays rent for wells under a county-owned airport.

"The Felton system is a better system than Montara," said Connor, citing both water supply and maintenance. Montara was just the most comparable sale his appraiser found and used.

How Much Did Cal Am Pay?

Felton FLOW (Friends of Locally Owned Water) has led the charge for a public takeover of the local water system since Cal Am bought it in 2001. The group has worked to fight rate increase requests and determine a value for the system when it passed a successful \$11 million bond to purchase the system in 2004.

FLOW member and state assembly candidate Barbara Sprenger compiled a spreadsheet of 13 water system sales that took place nationally over the last decade. All of the systems were larger than Felton's, ranging from a high of half a million customers to the smallest at just over 3,000 connections.

The highest price per hookup the group found was for the Sierra Pacific Resources system that covered parts of both California and Nevada. For that December 1999 transaction, FLOW's research showed a per-connection price of \$5,088.

How do the conflicting Felton appraisals compare?

San Lorenzo Water's \$7.6 million offer works out to \$5,797 for each hookup. Cal Am's \$25 million price tag comes in at more than \$19,000 each. When Cal Am acquired it, Felton was part of a group of systems held by Citizen's Utilities, so it does not have its own recent price for comparison. However, FLOW estimates the Felton price was about \$6 million, using a per-hookup formula, said Sprenger.

The lack of comparable properties makes market comparisons very difficult, Cal Am's Conner said, and that aspect played a very small role in his appraiser's final figure. "The true value of that system is in the ground," he said, adding that he will spend a lot of time talking to the jury about how water systems work.

The Bottom Line

Cal Am operates Felton as part of a for-profit business, and local advocates say profit-to-price comparisons are where Cal Am will have trouble defending its \$25 million price tag.

Yet income factored in at about 40 percent of Cal Am's overall appraisal, Connor said.

Based on Cal Am's stated \$150,000 annual net earnings, the district offer is quite appropriate, Sprenger believes.

"You're buying a business, so the question is what can you earn from it?" she said. Spenger believes the income approach is the best valuation strategy.

"If you were to purchase a system for \$8.5 million that earns \$150,000 a year, you would have less than a 2 percent return on your investment. How could anybody think it's worth more than that?" she asked. Vierra agrees.

"Twenty-five million dollars for the amount of money they are generating is way out of line," he said.

How Much Can the District Pay?

Felton residents passed an \$11 million bond to buy Cal Am's system, but not all of that money is available for the purchase. Some of it has been used for legal costs, and interest on the bonds must come out of the total as well.

So what happens if the jury decides the system is worth more?

"The district has got to make a decision about how much we are willing to pay," said Vierra, and added that decision will be made prior to the trial.

He confirmed that the board of directors is considering paying more than the bond would cover, but how much has yet to be decided.

"There are provisions within the bond measure to charge back those extra costs," he said. Those expenses could be charged to Felton alone or spread among the district. "The question is whether the benefit is worth it to the rest of the district," Vierra said.

Funds from the \$11 million Waterman Gap property sale generate interest that is already tied to district projects, he said.

Higher rates or an additional bond may be needed for a larger purchase price, which would require input from district customers, he said.

"In either event, people in the rest of the district have the opportunity to oppose or accept [the decision]," he said.

However, the board does not need to go to voters to spend district reserves. If the jury decides the price is close to Cal Am's \$25 million price tag, what happens then?

"If it's too high, we will walk away," Vierra said.

That's exactly the outcome Cal Am wants and expects, Connor said. Come June, the jury must try to make sense of it all and put a price on Felton's water.

Comparing Local Water Rates

San Lorenzo Valley Water District customers pay some of the lowest rates in the county for their water use, and if the district purchases the Felton system, it intends to charge Felton customers district-wide rates, said the district's manager Jim Mueller.

Costs to pay off the bond would be charged on property tax bills, which are estimated at a maximum of \$700 a year for the full \$11 million.

While direct rate comparisons are difficult because structures and measurement units vary widely, differences are still apparent.

Local public water districts use a tiered system to charge for the amount of water used. Under that approach, rates per unit (748 gallons) increase as customers use more water.

In Felton, customers pay a flat rate, \$4.61 for each unit, regardless of whether they use five units every two months or 100 units. While Cal Am does apply a discount for low-quantity users, they pay much more than neighboring areas. Heavy water consumers may pay less for the water portion of the bill.

Following are bi-monthly total water bills for a four-person single family home using the national average amount of 3,000 gallons a person. In Lompico, which uses the metric cubic meters unit, the average customer uses much less water than that and pays about \$85 to \$90 every other month.

San Lorenzo Valley — \$111.53

Scotts Valley — \$163.76

Felton — \$236.86

Santa Cruz City residents — \$447.21■

DESALINATION:

Desalination Plant Could Help Soothe Santa Cruz Water Woes

City on a Hill Press (Santa Cruz) – 4/10/08

By April Short & Michele Lanctot, staff writers

Imagine not having enough water to brush your teeth. That could be a reality if Santa Cruz ever faces a water shortage on par with the drought of 1976-1977.

The results, according to Bill Kocher, director of the Santa Cruz Water Department (SCWD), would be devastating. “We are talking businesses shutting down,” he said.

Santa Cruz is ill-prepared to handle a major drought, and saltwater contamination threatens the Soquel Creek Water District’s underground wells. The two departments have undertaken a collaborative effort to examine solutions to the water supply issues both cities face.

After years of research, an ideal source of additional water remains elusive. Options like dams, reservoirs, and diversions would not be adequate because they are highly intrusive and costly. Since the late 1990s, the SCWD has been working on an Integrated Resources Plan (IRP). The plan identified seawater desalination as the best option.

Desalination is the process of converting ocean water into safe drinking water. Located at UC Santa Cruz’s Long Marine Laboratory, the Seymour Center is hosting the pilot desalination plant, which tests optimal ways to build and operate a full-scale desalination facility. The site has been in the making for months and is scheduled to open to the public in the next two weeks.

The most common form of desalination is reverse osmosis, which uses high pressure to force saltwater through extremely thin membranes, separating the salts and minerals from the potable water.

The process requires excessive energy, but the plant uses devices that recycle the water and create less work for the pumps, explained Erik Desormeaux, a scientist involved in developing the pilot plant and testing the methods of reverse osmosis desalination.

“The energy-capturing devices can cut energy cost up to 60 percent at their full potential,” Desormeaux said.

The pilot plant compares conventional and innovative pretreatment methods. The process will combine the “slow sand method” — a biological process in which unpressurized water is passed through a sand filter — with reverse osmosis.

“This is an extremely green process,” Desormeaux said, “but requires more space than the others — a minor tradeoff.”

In another effort to minimize environmental impact, the pilot plant has tapped into the Seymour Center’s existing seawater intake system. The brine and freshwater are then reconstituted to be used for the tanks of the Seymour Center and returned to the ocean in their original condition.

Legislation was recently passed to expand and add new protections for the national marine sanctuaries of Northern California. Many coastal cities facing water shortage have to go through a rigorous process to obtain permits for desalination facilities. However, if Santa Cruz commits to lessening its environmental impact, permits can be obtained more easily.

“The task force involved is actually being incredibly mindful here,” said Shauna Potocky, manager of the Seymour Center. “The pilot plant fits in with our mission to educate people about the role scientific research plays in understanding and conserving the ocean.”

Because of Santa Cruz’s innovative methods of testing, the results may be useful to other communities facing similar water shortage issues.

The proposed full-scale plant will produce 2.5 million gallons a day. Soquel Creek will use this during the year to stockpile its groundwater, and if a drought hits, Santa Cruz will use the water from the plant and Soquel Creek will use its groundwater supply.

The plant’s \$4 million bill is being reduced by two grants from the Department of Water Resources and the State Water Resources Control Board. The two districts will split the rest of the cost. If a full-scale desalination plant were to be put into place, it would cost approximately \$35 million.

“Desalination of ocean water is not a plan to encourage growth by any means, but it is a good backup if growth happens,” Kocher said. “Our goal is really just to provide the needed backup water supply in case of a dangerous drought situation.” #