

## DROUGHT TESTS OJAI WATER SUPPLIES: IS STATE WATER THE ANSWER?

by Kit Stoltz

Think this drought today in Southern California – now well into its fifth year – has been really unusually dry?

Try comparing it to the drought that struck the region in the late 1940's and early 1950's, said Bert Rapp, general manager of the Ventura River Water District (which serves Oak View, Mira Monte, Casitas Springs, and customers on the western edge of Ojai).

For the last five years California and the Ventura River watershed – which includes the Ojai Valley – have been in one of the worst droughts in the instrumental record. Yet despite today's dryness our current drought has yet to equal the drought the region suffered in the late 1940's and early 1950's, according to City of Ventura rainfall records. That drought featured two years in a row, 1946 and 1947, with rainfall totals of far less than ten inches a year – comparable to recent years 2013 and 2014, which also totaled far less than ten inches of rain.

Yet while this five-year drought, with annual rainfall totals of much less than the historical average of about 21 inches a year, has elevated concern to near-panic levels among some customers, Rapp argues based on consumption levels that actually we are doing a much better job of conserving water now than we did in the last comparable five-year drought to hit the region, in the late 1980's and early 1990's.

Rapp added that at current consumption rates, we still have more than a year to go before the groundwater drops to levels seen in that drought.

"If you look at the aquifer level charts, you will see that we're doing a much better job of conserving water," he said. "The drop is much less steep today than it was in 1990, because people are conserving so much."

Yet the fact remains that the harsh aridity of that the late 1940's drought spurred huge changes in how water in the Ojai watershed was gathered, collected, and distributed, and the drought of today could bring lasting changes to water distribution in Ojai and in the Ventura today as well, Rapp said. Water experts in the valley and in the city of Ventura agreed.

The 1940's saw the construction of Matilija Dam, at the mouth of Matilija canyon, constructed in 1947, and then – when that dam and the relatively small amount of water it provided via pipeline to the East End – failed to live up to expectations amidst a continuing drought, came the planning and construction of the far larger reservoir of Lake Casitas. That project required Congressional authorization, the borrowing of \$32 million dollars, and the formation of a district that included not just Ojai but western parts of the city of Ventura. With guidance and loans from the Bureau of Reclamation. Lake Casitas was completed in 1958.

Speaking at a "Living with Drought" series of talks put on at the Presbyterian Church in May by the Ojai Valley Green Coalition, Steve Wickstrum, General Manager of Casitas lauded Ojai's agricultural community for its far-sightedness in the construction of Lake Casitas.

“A lot of sacrifice went into that project, including private land, and that sacrifice has benefitted everyone in this room,” Wickstrum said, speaking to a large crowd gathered in the Presbyterian Church. “Casitas is an amazing feat of engineering, with over 85 miles of pipelines and diversion facilities, and it was built in just four years. To even think of a project like that today would require ten years of environmental review.”

Casitas, which when full holds almost 254,000 acre-feet of water, was designed to provide back-up water for farmers and residents mostly dependent on wells in the Ojai Valley, for droughts lasting as long as 21 years. But it only fills when hard rains fall on ground already saturated with water, and it took almost twenty years to completely fill for the first time, in 1978. In fact, according to Wickstrum, it took so long to fill that many locals doubted that the lake ever would reach capacity.

Today the lake is at 39.1 per cent of capacity, down about seventy feet from its high-water mark. Calculations made by consultants hired by the Bureau of Reclamation, based on the drought-plagued period of 1944 to 1965, estimate that a “safe yield” – the amount of water that can safely be drawn from the lake without endangering its status as a long-term back-up supply – is about 20,800 acre-feet a year. (An acre-foot is the unit of measurement for municipal water systems, equaling water covering an acre of water one foot deep, which is estimated to be adequate to supply about 900 gallons a day or 1-4 households for a year.)

With about 100,000 acre-feet of water in the reservoir, at the “safe yield” figure of 20,800 acre-feet a year, Casitas has in theory about 4-5 years of water left, according to the District’s figures. But because its customers have responded to conservation measures in recent years, General Manager Wickstrum estimates that Casitas has about 5-6 years left. Wickstrum pointed to a chart that showed what would happen if the lake received no substantial water recharge over the next five years, showing usage trends descending steadily towards zero.

“I’m going to take a deep breath and explain that this isn’t that bad a chart,” he said. He added that because Casitas customers today are pulling about 16,000 acre-feet a year out of the lake, about 5000 acre-feet below the previously estimated “safe yield” level for a 21-year-old drought, at a minimum the District can count on water for at least the next five years.

“The way I look at it, the lake’s operating as it was designed to, probably better, because of some changes that were made after the 1990 drought,” he added.

Ron Merckling, director of public affairs for Casitas, said that the staff of the district has been gratified by the public response to calls for conservation, which were at first voluntary in 2015, but have become mandatory, and which have been augmented by an allocation program mandating an additional ten-percent cut this year.

“We’re excited about the response we’ve been getting from residential customers,” he said. “In April of 2013, our usage rate was about 169 gallons per household per day, and by 2016 that had fallen to 90 gallons per household per day.”

Despite these conservation efforts, questions about long-term viability arose at the “Living with Drought” lecture. Mary Borgen, an avocado grower and a member of the Casitas Board, said that the drought has put both the District and the community under real stress.

“It’s my general impression that people appreciate the severity of the situation and understand what needs to be done,” she said. “Our community and its financial health

depends in large part on what happens to the agricultural sector and that's also an important part of the revenue stream for the district. We don't want to cut everybody off."

Wickstrum echoed the same point in his talk, but in response to a question said that if a prolonged drought drew the lake down to crisis levels, public health and safety would have to take precedence over agriculture.

"Ojai is an agricultural community, and agriculture is very important to the city and to our District," he said. "Having said that, if in a few years we are getting near to 20,000 acre-feet left in the lake, we're simply not going to be able to continue to irrigate 5400 acres of ag [with water from Lake Casitas], and the Board will have some decisions to make."

Casitas sells about 6000 acre-feet of water to the City of Ventura annually, which uses it to supply residents on the western side of the city. Casitas also pays an annual fee with Ventura and United Water, which services much of the Oxnard Plain, for the right to hook up to state water. This right has not been exercised by these districts, and no physical connection to state water exists for the city of Ventura or Casitas, but the possibility remains.

The 1990 drought spurred Ventura to consider a plan to build a pipeline to the nearest connection to state water, near Saticoy, through which it could supply its customers, although this would mean also paying fees to the larger consortium of water companies that supply Southern California, to "wheel" water through the Metropolitan Water District system to Ventura.

In 1992, the city of Ventura – which at the time expected to grow substantially -- proposed to hook up to state water, but due to opposition from citizens concerned about the reliability of state water in a drought, ultimately asked a citizens advisory council to consider the issue. The choice was put before the voters in a non-binding resolution in the fall election. Voters could choose to hook up to state water, an investment which at the time was estimated to cost about \$24 million dollars on annual basis, with operating costs of about \$11 million a year, to deliver 7000 acre-feet of water from the California State Water Project, subject to drought-based allocation restrictions. Or voters had the choice to build a desalination plant that would produce the same amount of water by desalination, at an annual cost of about \$30 million a year, along with operational costs of about \$16 million a year. By a 55-45 percent margin Ventura voters chose the desalination plant, but when the rains returned in force in the early 1990's the idea was abandoned.

Although Casitas, which is located about ten miles from the ocean, has made clear in annual reports that it has no desalination plans, Supervisor Steve Bennett, who questions the wisdom of trying to hook up to state water in an era when drought has severely reduced the annual allotments, suggests that if the region is interested in a reliable supply of new water, they would do well to consider the citizens' advisory vote.

"I'm getting ready to start making presentations on this question," he said. "If we come to the conclusion that we may be running out of water, I think we need to consider the possibility of a desalination plant. If Casitas could contribute to the cost of a plant in Ventura, and save itself 6000 acre-feet of water [that is currently being sold under contract to Ventura], that would greatly extend its supply. Desal is more expensive than state water at this time, at about \$2000 an acre-foot, where state water is about \$1200-1400 an acre-foot, but I would offer to you that in five or ten years, once the costs from

the various water agencies beyond our control are factored in, that the costs will be comparable.”

Bennett stressed that he supports conservation and water recycling, and is open to the possibility that such measures are adequate to ensure a reliable supply of water for the future for the Ojai Valley and for the city of Ventura, but has yet to be convinced of the its reliability long-term.

At the Ventura River Water District, Bert Rapp likes the idea of buying water supplies from California’s water markets, in which farmers (in places such as Kern County) sell water rights to cities, environmental groups, and other growers. According to a 2012 report by the Public Policy Institute of California, about a million acre-feet a year annually are sold on these complex and regulated markets, including to wildlife refugees to support bird populations, to reduce salinity in the Salton Sea, and to augment river flows for fish populations. Rapp argues that the city of Ventura could have access to water through such markets with a connection to the State Water Project through a pipeline in the Saticoy area in a relatively short amount of time – about two years.

“It’s about a twenty-million dollar project for an agency, paid for by some combination of United Water, the City of Ventura, and Casitas,” he said. “It’s a simple project, more a political question than a cost question.”

Shana Epstein, General Manager of city’s Ventura Water agency, pointed out that her agency has instituted a “Net Zero” regulation that requires developers of new housing to pay a fee of \$25,457 for every acre-foot of water required by new developments, and is pursuing water recycling for drinking water, as well as implementing conservation measures, in an effort to stretch the city’s existing sources of water supply. She said a project to hook up to state water would likely take longer and cost more than Rapp estimates, and pointed out that state water would be at least \$1000 an acre-foot, compared to the approximately \$600 an acre-foot her agency currently pays, and desalinated water could cost as much as \$2400 an acre-foot.

Epstein said her customers were already concerned about water rates, and not eager to take on new costs.

“Our staff is working extra hard to communicate to people the need to conserve our existing water supplies, and they’re hearing from people who are understandably upset that their water is costing more,” she said. “We need to continue with our existing capital improvements, and keep up the energy of water conservation at this time.”

Bennett questioned the idea that agriculture would benefit from selling water to city residents.

“If you want agriculture in Ventura, then you can’t have agricultural water go to the cities,” he said. “Drawing down aquifers that have built up over thousands of years is not a permanent solution. If we’re going to tackle this problem, we need a common-sense solution with long-term value. If we’re running out of water, I think we need to consider a desal plant. Casitas ought to be willing to pay for a major increase in its reliability and supply of water, which would be possible if Ventura builds a desal plant with contributions from Casitas. I think there is a win-win solution there for everybody to consider.”