

# California Drought Update



**For September 1, 2016**  
**by Patrick Ruckert**

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## **A Note To Readers**

In a drought what do those who don't give a damn about the future, much less the present population, do? Stupid things. Thus our first report following the Drought Monitor and Reservoir Graph, reports on the plan, "To boost the flow of the San Joaquin River, state officials could reallocate water from upstream agricultural water districts with 'senior' rights, long-considered untouchable."

Two related reports follow: First on declining prices nationally for food generally and, second, the added impact on California farmers due to the now five years of drought. The dramatic fall in California farm income for the year 2015 of more than \$9 billion was reported this week by the U.S. Department of Agriculture.

Speaking of the length of the drought, it should be noted that on October 1, we entered the sixth year.

A new report out this week, "Climate change has less impact on drought than previously expected," posted on *phys.org*, will serve as an introduction to a more extended discussion of climate in next week's report.

Meanwhile, south of the border, Mexico is in the process of approving a new desalination plant that will be double the size of the new Carlsbad plant.

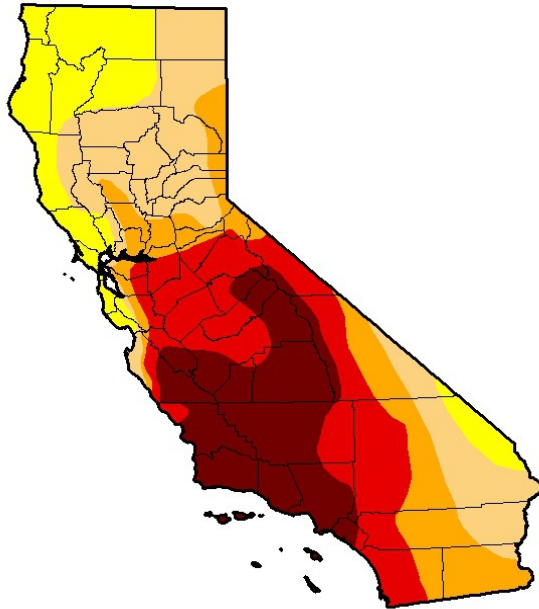
## **U.S. Drought Monitor and Reservoir Graph**

I remain puzzled by the unchanging intensity of the drought as reported by the Drought Monitor, especially when there are frequent articles posted about how the vegetation continues to reach record levels of dryness.

As for the Reservoir Graph, as expected, as we reach September the reservoir levels are falling, and as the graph shows, nearly all of them are below the average level for this date.

## U.S. Drought Monitor California

**August 30, 2016**  
(Released Thursday, Sep. 1, 2016)  
Valid 8 a.m. EDT



Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
<b>Current</b>	0.00	100.00	83.59	59.02	42.80	21.04
<b>Last Week</b> 8/23/2016	0.00	100.00	83.59	59.02	42.80	21.04
<b>3 Months Ago</b> 5/31/2016	6.08	93.92	83.91	59.02	42.99	21.04
<b>Start of Calendar Year</b> 1/2/2015	0.00	100.00	97.33	87.55	69.07	44.84
<b>Start of Water Year</b> 9/29/2015	0.14	99.86	97.33	92.36	71.08	46.00
<b>One Year Ago</b> 8/9/2015	0.14	99.86	97.35	92.36	71.08	46.00

Intensity:



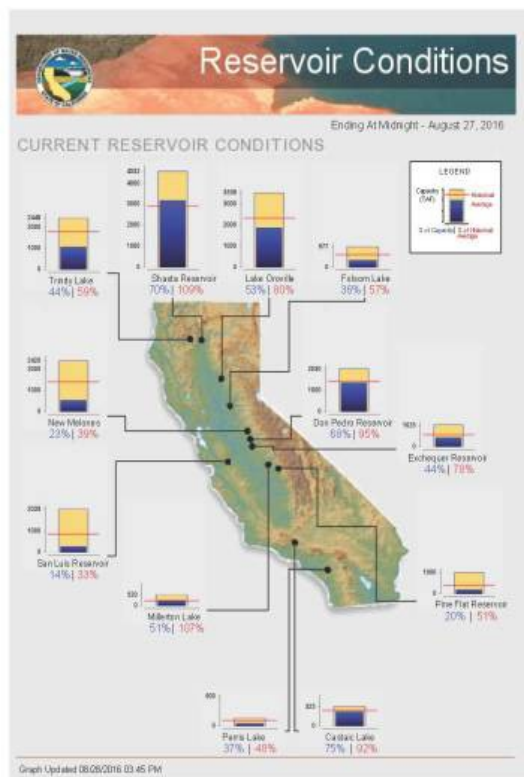
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

**Author:**  
Chris Fenimore  
NCE/NESDIS/NOAA



<http://droughtmonitor.unl.edu/>

## The Reservoir Graph



As the article excerpted below states, the State Water Resources Control Board is soon to make a decision on whether or not to increase the flow of the San Joaquin River, cutting off agricultural users in the up-river region, in order to, you guessed it, benefit some fish. The article is from *KQED* by Lauren Sommer, published on August 19. Ironically, should that decision be taken, the tunnels of Jerry Brown are doomed.

## The Biggest California Water Decision You've Never Heard Of

<https://ww2.kqed.org/science/2016/08/19/the-biggest-california-water-decision-youve-never-heard-of/>

*Many of California's farmers, facing severe water cutbacks yet again this year, are blaming the hand they've been dealt on environmental protections for endangered fish. The protections limit how much water can be taken up by the huge pumps that serve much of the state.*

*But there's another root of the problem, often overlooked, that controls both the state's water supply and the fate of endangered fish: the San Joaquin River.*

*Soon, state officials will make a pivotal decision about how much water should flow down that river each year and the decision will stick for years to come.*

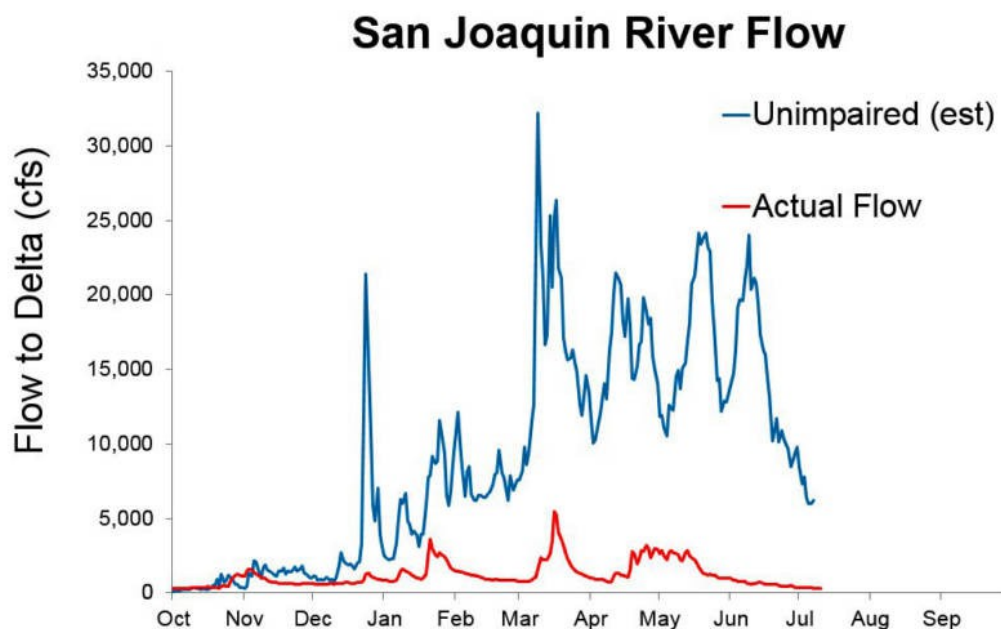
*Some say it could be the most revolutionary change in decades for the West's largest estuary and the site of California's fiercest water battles.*

*The San Joaquin is arguably the most heavily tapped river in the state, sometimes going completely dry before it reaches the hub of the state's water supply, the Sacramento-San Joaquin Delta.*

*In a few weeks, the State Water Resources Control Board will release a draft of [an obscure water quality plan](#) that could dramatically increase the flow of the river.*

*The board's decision could have cascading effects across the water system, even for farmers and water suppliers with some of the oldest and most secure water rights in the state.*

*To boost the flow of the San Joaquin River, state officials could reallocate water from upstream agricultural water districts with "senior" rights, long-considered untouchable. San Francisco and other parts of the Bay Area, which tap into a water source more than 100 miles away, could also be facing cutbacks.*



This past year, most of the water from the San Joaquin River has been diverted. (Source: *The Bay Institute*)

*In 2010, a state report found that restoring native fish like salmon and steelhead would [require 60 percent](#)*

of the San Joaquin River's unimpaired flow, or the flow that would come down the river in the absence of human use.

However, the water board says it's required to consider human needs for water, in addition to the needs of the ecosystem.

"If you're interested in protecting the agricultural economy, you come up with a different number than 60 percent," says Les Grober, Assistant Deputy Director for Water Rights at the water board. "This is when the board revisits that fundamental question about how we balance these uses of water."

In 2012, the water board released its first draft of the water quality control plan update, recommending 35 percent unimpaired flow on the San Joaquin River between February and June.

Reaction was swift from both environmental groups and agricultural water districts.

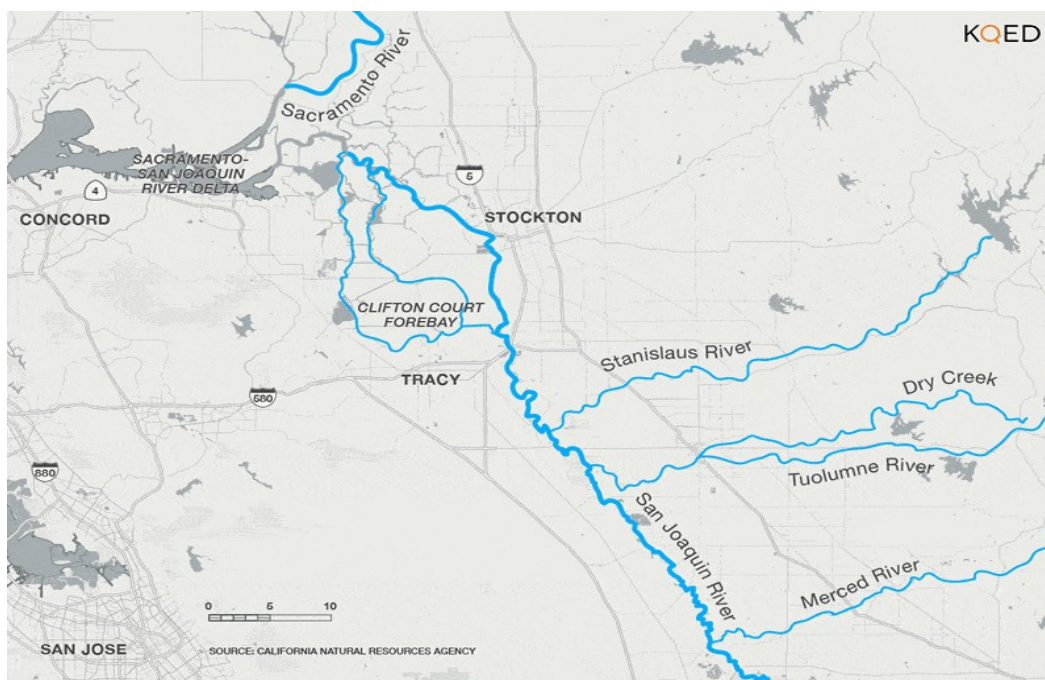
'It's a contrived plan to get at the senior water rights holders of the state.'  
Steve Knell, Oakdale Irrigation District

"The 35 percent number was pathetic," says Rosenfield. "By some measures, it was just maintaining the status quo. Nothing less than 50 percent of the flow is going to restore that river."

State wildlife officials [found it wouldn't be enough water](#) to restore salmon to the river. The federal Environmental Protection Agency [agreed](#).

Upstream water districts saw the 35 percent proposal as far too high, since they'd likely have to give up some of their water. Many hold "senior" water rights, meaning they have first priority to water because their rights are some of the oldest in the state.

"That's really all the point of this is," says Steve Knell, manager of Oakdale Irrigation District. "It's a contrived plan to get at the senior water-rights holders of the state."



Massive water pumps create huge changes in the Sacramento-San Joaquin Delta's water flow.

### ***Fate of the Tunnels***

If that wasn't enough, the water board's decision on water Delta flow could also determine the fate of Governor Jerry Brown's headline water project: the [\\$17 billion Delta water tunnels](#).

The Brown Administration says the tunnels, dubbed California WaterFix, would relieve some of the

*problems at the Delta water pumps. The idea is that the tunnels would draw water from elsewhere in the Delta, so the pumps would be used less.*

*Districts from the Bay Area to Los Angeles that receive that water would be responsible for the tunnels' hefty price tag. But many want guarantees that they'll receive more water than they do today. Otherwise, the project is too expensive.*

*If the water board requires more water to flow out of the San Joaquin and Sacramento Rivers in order to restore the ecosystem, the Delta tunnels would have to follow those rules, likely meaning that less water would be delivered to the water districts.*

*If that's the case, the water board could deliver a lethal blow to the Delta tunnels.*

## **More evidence of Obama's "Economic Recovery"**

It used to be that an economic recovery was characterized by increasing production, the building of infrastructure, the expansion of investment in science and rising living standards for the entire population. The "much heralded" economic recovery we have suffered under for the past nearly eight years that Obama brags about, has seen all of these real economy indicators decline. For the entire length of his administration, labor productivity has risen by only eight percent. That should be compared to the first two years of President Franklin Roosevelt's administration, in which labor productivity rose between 10-11 percent per year.

As I have frequently written, the western nations financial system is the biggest financial bubble in history. A new item of the *LaRouche PAC* website, "LaRouche: Glass-Steagall Is Urgent Now—Before the Trans-Atlantic System Blows Out," points once again to the very different, and better policy coming from China. We do not expect Obama will respond appropriately to China's initiative, and that is why he should be removed from the Presidency now. The article's link is here: <https://larouchepac.com/20160830/larouche-glass-steagall-urgent-now-trans-atlantic-system-blows-out>

And here is a short excerpt:

*Lyndon LaRouche warned on Tuesday that unless the U.S. Congress acts—in September—to reinstate Glass-Steagall as just the first step in a much larger overhaul of economic and monetary policy, the entire trans-Atlantic system is headed for a blow out. Even as China prepares to take the lead, at next week's G-20 heads of state summit, to bring into being a new, just global financial system, British stooge Barack Obama is running around in a delusional state, pushing the already doomed Trans-Pacific Partnership (TPP) and other equally insane dead policies. White House officials Ben Rhodes and Josh Earnest made clear to reporters this week that Obama will put TPP at the top of his agenda when he meets with world leaders in China at the G-20. His other key agenda items are: pushing for war in the South China Sea, based on the illegal ruling of the International Arbitration Panel, and ramming through the Paris Climate Change accord.*

The following excerpted two articles demonstrate a collapsing real economy taking down the farm sector.

### ***Plummeting Corn, Meat, and Dairy Prices Are Plaguing Farmers***

*By Clint Rainey*

*August 29, 2016*

<http://www.grubstreet.com/2016/08/plummeting-corn-meat-and-dairy-prices-plaguing-farmers.html>

*Three-dollar-a-pound ground beef and \$1.50 egg cartons mean deliciously cheap dinners, but the low prices attracting shoppers are fast becoming a nightmare for supermarkets and farmers. Analysts predict*

*the slump will soon count as the worst stretch of food-price declines since 1960 — great for anyone planning a Trader Joe's binge, of course, but way less exciting news for people whose livelihoods depend on selling those items.*

*The overall cost of eating at home has slid 1.6 percent this year, but for grains, dairy, or even meat, the drops have been much greater: The per-bushel price of corn has fallen from \$7.80 to \$3.11 in four months. Wheat is at a 16-month low of \$5.18, down from about \$12 at its peak, and soybeans have slipped from \$16 to \$8.59. Meanwhile, farmers have been throwing out millions of pounds of excess milk, and the U.S. government has agreed to bail out the cheese industry by buying up \$20 million worth of surplus products just sitting in cold storage. A corn farmer tells *The Wall Street Journal* this year is shaping up to be his least profitable in two decades, and that there's just no way the industry can “withstand” these prices, which are the result of an unlucky mess of factors like high crop yields, less demand from China, and plunging oil prices.*

### **California farm revenue plummets after years of drought**

By Marissa Lang

August 31, 2016

<http://www.sfgate.com/business/article/California-farm-revenue-plummets-after-years-of-9196365.php>

*Farmers in California lost more than \$9 billion in revenue last year as the ongoing drought forced them to fallow fields, shut down farms and cut labor costs.*

*The figures, reported Tuesday by the U.S. Department of Agriculture, come amid warnings that a fifth year of drought could continue to drive down agriculture earnings and ultimately hurt the state's economy. Agriculture officials predict a continued downward trend in farm revenue this year.*

*In the first four years of California's historic drought, which pushed the federal and state governments to halt or slash deliveries of water to several water districts throughout the Central Valley, farmers were able to shore up their revenue using several controversial strategies.*

*Pumping groundwater to make up for the loss of state- and federally allocated water has caused the valley floor to sink. Turning to high-yield crops like almonds, which bring in more dollars per gallon of water than many other crops, helped farmers maintain a revenue stream even as they stopped tilling fields and fired workers.*

*But that strategy can go only so far.*

*The 2015 numbers show farmers may have reached their limit, and Manuel Cunha, president of the Nisei Farmers League in Fresno, expects matters to worsen in the years to come.*

*“When you take out a million acres of farmland that's literally being dried up, that's dollars gone on all fronts,” Cunha said. “Not just on the sale of a product or a crop, but in state taxes, workers spending those dollars in the communities where they live, schools collapsing because there aren't enough students because all their families are leaving. It's a big hit.”*

*Farms in the state earned \$47.07 billion in 2015, down nearly 17 percent from the year before, when they brought in a record \$56.61 billion, according to the Department of Agriculture.*

*Nationally, agriculture revenue fell from \$424.14 billion to \$379.17 billion over the same period — about an 11 percent drop. The department predicts a continued loss of 7 percent of the nation's agricultural revenue in 2016. More than a million farmworkers — who lost their jobs and, in some cases, their homes as farmers cut production — have left the country since 2009, according to the Pew Research Center. In 2014, experts estimated that more than 17,000 farm jobs in California had been lost due to drought.*

*An estimated 540,000 acres of farmland were fallowed in 2015, continuing a trend of forgoing crops in the face of dwindling water supplies. Permanent crops, like tree fruit and nuts, which cannot be fallowed, were taken out of production at rates Cunha said he has never seen before.*

*“In California, we’re ripping out vineyards, we’re ripping out tree fruit, we’re ripping out other crops that you can’t just replace,” he said. “When you do that, you’re lowering your production.”*

## **A Warm-Up For Next Week's Report**

As an introduction to a more extended discussion of climate in next week's report, this from *phys.org* presents an unexpected finding on the relation between drought and the amount of water plants use. Some excerpts follow.

### ***Climate change has less impact on drought than previously expected***

*August 29, 2016*

<http://phys.org/news/2016-08-climate-impact-drought-previously.html>

*As a multiyear drought grinds on in the Southwestern United States, many wonder about the impact of global climate change on more frequent and longer dry spells. As humans emit more carbon dioxide into the atmosphere, how will water supply for people, farms, and forests be affected?*

*A new study from the University of California, Irvine and the University of Washington shows that water conserved by [plants](#) under high CO2 conditions compensates for much of the effect of warmer temperatures, retaining more water on land than predicted in commonly used [drought](#) assessments.*

*According to the study published this week in the Proceedings of the National Academy of Sciences, the implications of plants needing less water with more CO2 in the environment changes assumptions of [climate change](#) impacts on agriculture, water resources, wildfire risk, and plant growth.*

*The study compares current drought indices with ones that take into account changes in plant water use. Reduced precipitation will increase droughts across southern North America, southern Europe and northeastern South America. But the results show that in Central Africa and temperate Asia—including China, the Middle East, East Asia and most of Russia—water conservation by plants will largely counteract the parching due to climate change.*

## **Mexico's Plan to Build the Largest Desalination Plant in the Western Hemisphere**

The San Diego Union Tribune reports on the Rosarito Beach desalination plant now going through the permit process, which will produce 100 million gallons of fresh water per day-- double that of the plant at Carlsbad. Some of that water could be piped to the U.S. Some excerpts follow.

### ***Rosarito Beach desalination project moves forward--Plant would be largest in Western Hemisphere***

By [Sandra Dibble](#)

*Aug. 25, 2016*

<http://www.sandiegouniontribune.com/news/2016/aug/25/rosarito-desal-proposal-moves-ahead/>

*Baja California’s ambitious plan to build the largest desalination plant in the Western Hemisphere took an*

*important step forward this week with the signing of a public-private partnership for a project in northern Rosarito Beach.*

*At full build-out, the reverse osmosis facility would produce 100 million gallons of water per day, a volume twice the capacity of the Poseidon desalination plant in Carlsbad. While the aim is to reduce the Tijuana-Rosarito Beach region's heavy dependence on the Colorado River, some of the water could be sent in the future across the border through a pipeline to the Otay Water District in San Diego County.*

*North of the border, the Otay Water District has been closely following the project's progress. The water agency, which has more than 220,000 customers in southeastern San Diego County, is hoping to purchase some of the water to diversify its supply.*

*The district is applying for permit from the U.S. State Department to allow construction of a pipeline that could carry up to 50 million gallons of water a day across the border.*