

California Drought Update

For April 7, 2016
by Patrick Ruckert

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A Note To Readers

In addition to our Part VII on “Real Economics,” two topics dominate this week's report: The state of the drought, and the Water War-- 2016.

While the weak El Nino has alleviated the drought somewhat in the north of the state, the southern part was left nearly high and dry. Several items below highlight these developments. The item on Southern California water is especially noteworthy. In addition, there are several graphics that vividly illustrate conditions throughout the state. Your attention is called to the side-by-side comparison of the drought intensity from 2014 and 2016, which shows that more than 50 percent of the southern half of the state remains in “exceptional drought.”

As for the 2016 Water War, I would judge that the Bureau of Reclamation, along with the Brown administration, has perfected the techniques of, what is called by the Pentagon, Irregular Warfare, a set of policies that increase tension in targeted populations by setting one section of the population against another. While the state Bureau of Water Resources brags this week that 1.19 million-acre feet of water was saved by conservation measures between June, 2015 and February, 2016, the fact that 800,000 acre-feet was allowed to flow to the ocean instead of to storage, leaves, really, only a net gain of about 400,000 acre-feet.

The announcement by the Bureau of Reclamation that the water from the Central Valley Project's distribution this year will give those north of the Delta 100 percent of their contract, but those in the south would only get 5 percent, has set off, at this point, a war of words, led by farm interests and irrigation districts. Whether that remains aimed at the Bureau or results in farmers fighting farmers as we saw a little of last year, remains to be seen.

I have a better idea. Instead of fighting each other and merely swearing at the Bureau, and Jerry Brown, a commitment to get something done, in the spirit of those who built the great California projects, should be adopted. Yes, that means a political fight, and it cannot succeed unless it starts from the top. Get Obama out of the White House now. Then reinstate the Glass-Steagall banking law to bankrupt the parasites of Wall Street. Then do what George Washington, Abraham Lincoln and Franklin Roosevelt did-- issue government credit for, not only massive infrastructure projects, but also to restart the space program to give the entire nation, once again, a mission and a real sense of purpose.

No other way will solve the problem.

A statement on restarting an aggressive space program was issued by Kesha Rogers of Houston, Texas last week. Rogers has won the Democratic primary for the U.S. Congress in Texas twice, campaigning for just such a policy. Here is the link to her statement: “A Unified Mission for the Exploration of Space is the Pathway to Peace for All Mankind.”

larouchepac.com/20160331/unified-mission-exploration-space-pathway-peace-all-mankind

That such a policy is required, now, should be clear from the statistics in this report from *Executive Intelligence Review* from more than three months ago. Since then, it has only gotten worse.

Obama-Bush Devastation of Manufacturing Workforce Rivals Great Depression

Dec. 15, 2014 (EIRNS)—The City of London financial oligarchy’s enforced collapse of the U.S. physical economy, administered by the successive regimes of flunkies George W. Bush and Barack Obama, has reached the devastating point that since 2000 the percent collapse of the U.S. manufacturing workforce rivals that of the 1929-32 Great Depression. In January 2000, U.S. factories employed 17.28 million manufacturing; by September 2014, it had fallen to 12.15 million, a loss of 5.13 million manufacturing workers, or 28.9%. In 1929, the U.S. employed 11.06 million manufacturing workers; this level fell to 7.35 million in 1932, a loss of 3.71 million manufacturing workers, or 33.6%.

However, today, the situation is worse than 1929-33. In 1933, U.S. factories, many of which were less than 20 years old, were kept in existence. Franklin Roosevelt re-opened, expanded, and scientifically improved them in his 1933-45 revolutionary economic recovery. But since the 1970s, and especially under the Bush and Obama administrations, tens of thousands of factories have been either blown up, sold for scrap, or moved to other countries. In fact, between 2000 and 2011, the number of U.S. manufacturing establishments fell from 404,758 to 338,273, a loss of 66,485, or 16.4%.

Real Economics-- Part VII

The California Drought-- The Only Solution

This week's focus is excerpted from the *LaRouche PAC* pamphlet, “**The United States Joins the New Silk Road: A Hamiltonian Vision for an Economic Renaissance.**” The full report can be accessed here: https://larouchepac.com/us-joins-new-silk-road?utm_source=lpac.co

The pamphlet provides a comprehensive policy for rebuilding the nation, its infrastructure, its space program and, once again, providing the U.S. population with a sense of purpose and mission for the future. I have excerpted from that pamphlet the section “Managing the Global Water Cycle.” But to introduce it, the following is from the introduction:

It is here, in the poverty and the devastation of the U.S. industrial economy, which has created what Mayor Steve Williams of Huntington, West Virginia called “the disease of hopelessness.” While the Bush and Obama Administrations have been killing hundreds of thousands in wars and drone murders since 2001, Americans at home have been dying from the policies of deindustrialization of a nation which once had been the leading industrial “middle class” in the world, which under presidents such as Lincoln, Roosevelt, and Kennedy always conquered new frontiers with science, classical culture and can-do optimism. But on Bush and Obama’s watch, we have lost crucial capability in our aerospace

and nuclear energy sectors, and a third of the automobile/machine tool workforce.

Managing the Global Water Cycle



While California is the face of the water crisis, other regions are not far behind. In the Northwest, Oregon and Washington have suffered drought in recent years. The entire Southwest—from California to Texas, Utah to Arizona—has long struggled with water shortages. The main water supply of the High Plains states—the Ogallala Aquifer—is being diminished each year.

Water, however, is not a finite resource on this planet (relative to any conceivable level of human use). We simply have to use existing freshwater cycles more productively, when possible, and create entirely new freshwater cycles as needed. All of this is within our grasp.

Weather Control from a Galactic Perspective

Start with a 21st Century understanding of the water cycle. While our star—the Sun—powers the entire cycle by pumping freshwater into the atmosphere via evaporation of ocean water, it is our Galaxy which closes this atmospheric component of the water cycle via the effects of high-energy galactic cosmic radiation.

In the past two decades new scientific studies have shown that the ionization effects of high-energy galactic cosmic radiation play a critical role in triggering the condensation of atmospheric water vapor—leading to cloud formation and precipitation. On the one side, this is connected with understanding why the Earth’s climate has changed in response to our Solar System’s travels throughout the Galaxy. On the other side, this is a clue as to how mankind can manage the ionization conditions of the atmosphere to control the behavior of water vapor, weather, and precipitation.

Can we control the rain?

It is already being done! As discussed in more detail in the 2015 EIR special report, [The New Silk Road Becomes the World Land-Bridge](#), ground-based atmospheric ionization system pilot projects have increased precipitation in Mexico, Israel, Australia, the United Arab Emirates, Russia, and other locations. These technologies can be further refined and expanded, giving mankind the revolutionary control over the water cycle needed to permanently solve droughts, in California and other locations. 1

Desalination

A more energy-intensive, but well-developed option is mass-scale desalination of ocean water. This is already being utilized in many places around the world—including Saudi Arabia and Israel, for example. With the higher energy fluxdensity levels of a nuclear economy, the United States could easily afford large-scale desalination as needed.

For example, if we wanted to provide all of the domestic water needs for California's largest coastal metropolitan areas (65% of the state's population) the power requirements would be less than 100 watts per capita.

Surface Water Transfer



California's Folsom Lake in July 2011 at 97 percent of capacity, and January 2014 at 17 percent of capacity. Credit: California DWR

For the interior regions of the nation, we will also likely have to consider various water transfer or river diversion options. Perhaps the grandest scheme seriously considered was the 1960s North American Water and Power Alliance (NAWAPA) program, including its later upgrades and options for expansion, designed to divert ten to twenty percent of the abundant and excessive freshwater runoff from the Northwest coast of the North American continent (Alaska, Yukon, and British Columbia) down throughout the Southwest. Such a program would greatly improve the productivity of the entire North American water cycle, ensuring the water flowing through the continent accomplishes more work per cycle before it returns to the ocean.

Various other water transfer options also exist (for California, for the Missouri River basin, and for other locations) which could be done on their own, or, better, in conjunction with a continental program.

Animated Infographic: Water for Life

<https://www.youtube.com/watch?v=ryBEiiKtn6E>

Man Improves What He Touches

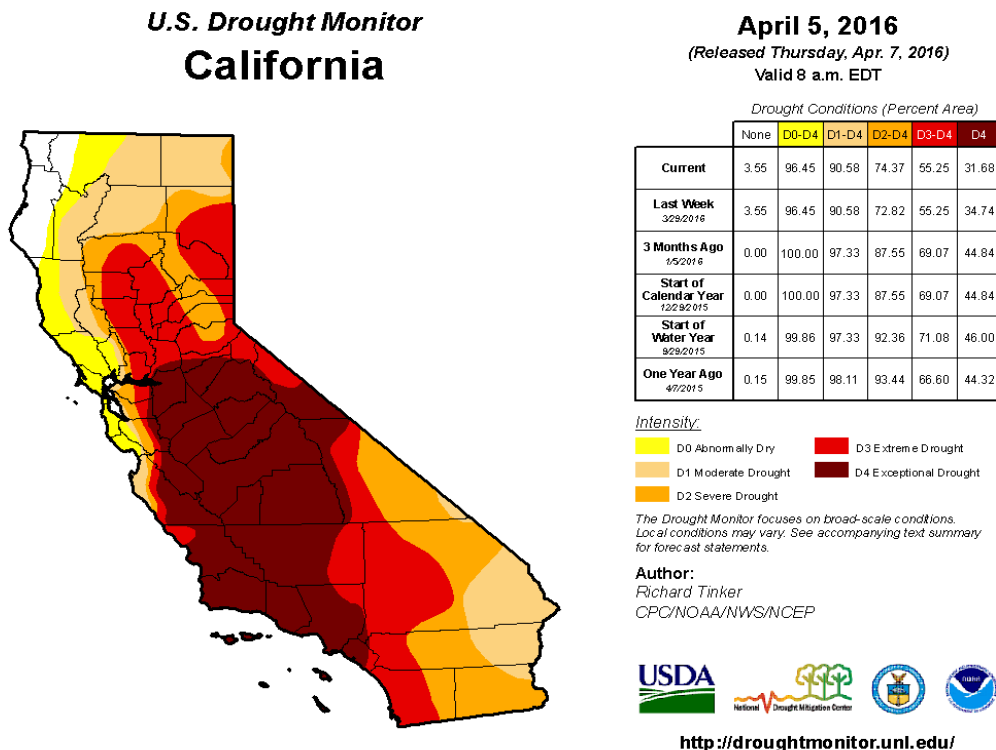
Ionization-based control of precipitation, desalination of ocean water, and transfer of surface water, together, give mankind the capability to improve and expand the water cycle in ways never before seen. Perhaps most importantly, not only will this address existing water shortages, it will enable new growth and development. The Great American Desert, encompassing the Southwest, can finally be tamed, and a greener, more prosperous future can be created for that entire region.

End of "Real Economics-- Part VII"

The State of the Drought

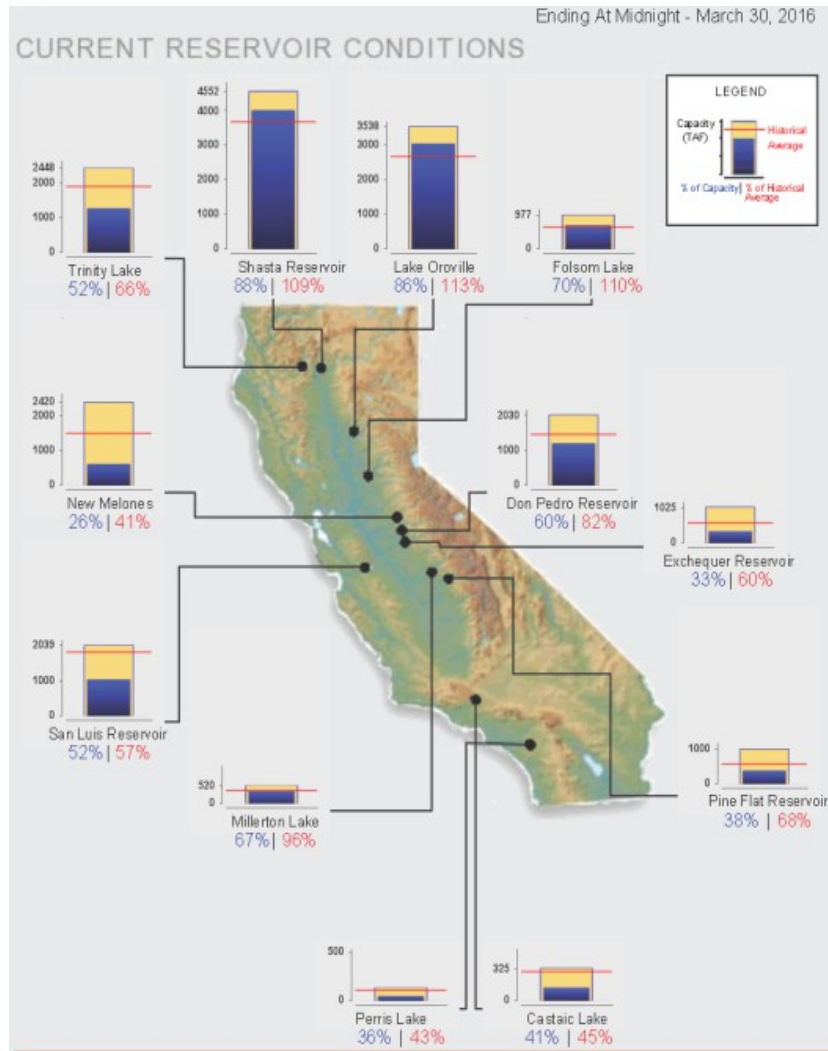
Not much has changed this past week in regard to the drought's intensity, but some of the media and water managers are beginning to acknowledge that it is time to admit that the drought emergency is here to stay, at least for the foreseeable future.

The U. S. Drought Monitor shows a little bit of easing of the drought's intensity, but not enough to make any real difference in where we are. You can read the numbers below.



Similarly, the reservoir levels are little changed, with the most glaring deficit seen in the central and southern of the state's reservoirs. San Luis, the parakee in the cage for water destined for the south

Valley and Southern California, remains at less than one-half its capacity.



Already the fire fighters are preparing for the worst. *The Acorn* on April 7 had this headline, “Disappointing rainfall brings back fear of fire and drought,” by Hector Gonzalez. Here are a few excerpts: http://www.theacorn.com/news/2016-04-07/Front_Page/Disappointing_rainfall_brings_back_fear_of_fire_an.html

The new grass and brush that sprouted from winter’s below-average rain laid a blanket of bright green over local hills and mountains, but looks can be deceiving, Ventura County Fire Department spokesperson Capt. Mike Lindbery said.

Underneath the new plant life are layers of dried-out vegetation that have accumulated during the past five years of drought.

Because the El Niño drenching failed to occur, the moisture level in grasses and plants remains low and foretells another high-risk fire season to come, the captain said.

The U.S. Drought Monitor does show a slight lessening of the intensity of the drought this past week, but that is only due to lingering affects of the early March storms. Most likely, we shall be going the other way from here on out.

Excerpts from the *Sacramento Bee* article of April 4, not only reports on the current drought conditions in the southern part of the state, but provides important operational and historic background to the Southern California water management system. The article includes an excellent graphic, reproduced below. For those in the north of the state, this should be required reading.

<http://www.sacbee.com/news/state/california/water-and-drought/article69946222.html>

Drought still grips Southern California, keeping pressure on state water supplies

El Niño has been little more than a cruel joke in Southern California this winter.

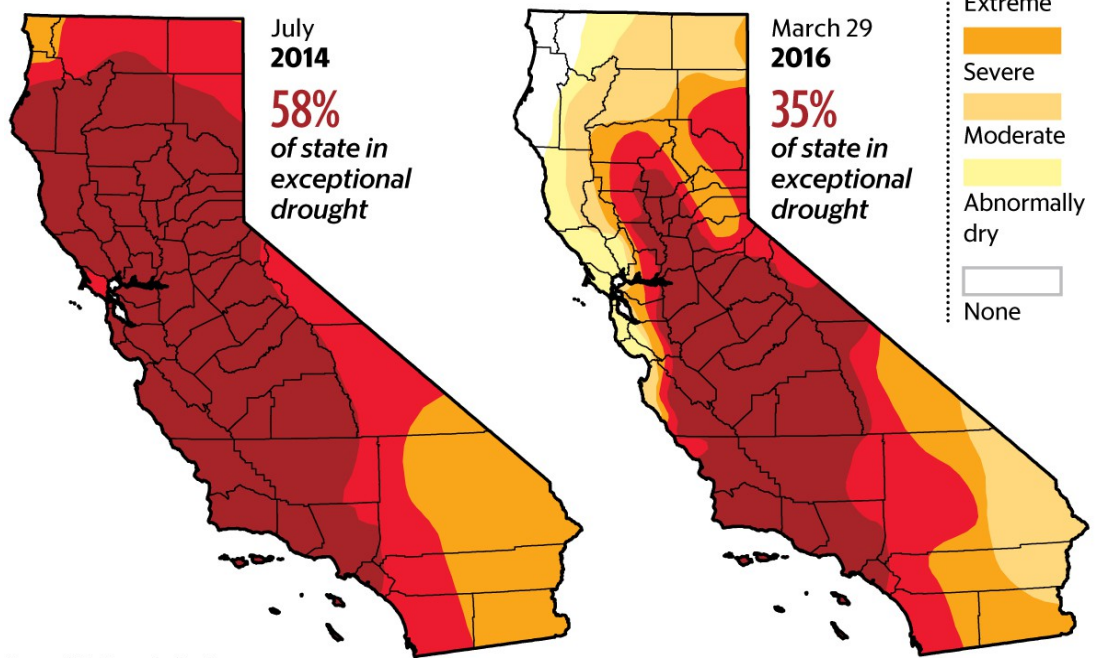
The torrential rains haven't materialized. Groundwater aquifers have been pumped to near-historic lows. A sizable reservoir two hours east of Los Angeles, built for \$2 billion as drought insurance, is two-thirds empty, its boat launch closed.

"It's actually been a shockingly bad year," said Jeff Kightlinger, general manager of the Metropolitan Water District of Southern California, the umbrella agency that delivers water to much of the region.

Northern Californians who believe [the drought is over](#) should think again. While north state reservoirs are brimming, the meager rainfall in cities such as Los Angeles and San Diego means continued strain on California's man-made water system. Southern California, short of water but with economic and political clout to spare, will press the state to deliver plentiful water from Northern California for the near future.

California's drought

The effects of the drought were severe across the state in July 2014, when 58 percent of California was under exceptional drought conditions - the highest level recorded for the current drought. Since that time, conditions have eased somewhat for parts of the north state.



Source: U.S. Drought Monitor
(NOAA/U.S. Dept. of Agriculture)

NATHANIEL LEVINE nlevine@sacbee.com

The numbers on how much rain southern California received this winter are in this article:
<http://www.scpr.org/news/2016/03/31/59075/how-much-rain-did-socal-receive-this-winter-not-mu/>

The question of whether this five-year drought is a harbinger of a generally drier future for the state has been raised once again, as reported by *Climate Central* on April 1 by Andrea Thompson in this article: “Shift to Dry Years May Bring More Drought to California.” Excerpts follow:
<http://www.climatecentral.org/news/shift-may-bring-more-drought-california-20196>

For three years, an area of atmospheric high pressure dubbed the “[Ridiculously Resilient Ridge](#)” parked itself off the West Coast, keeping California [hot and dry](#) for month after month and helping to usher in one of the worst droughts in the state’s history.

Patterns similar to the ridge are happening more often now than they used to, a [new study](#) published Friday finds, suggesting a shift toward more extreme dry years and an increased risk of drought in California.

Stanford University PhD candidate [Daniel Swain](#) and his colleagues looked at patterns of high and low pressure over the Northeast Pacific and western U.S. during the October to May wet season from 1949 to 2015. They compared the patterns from the top five driest, wettest, warmest, and coldest years to those from all the other years in the record to see if they have tended to pop up more or less frequently over time.

While the patterns of high and low pressure from the wettest years didn’t show a significant change, the pattern of persistent high pressure ridges associated with the driest years happened more frequently in recent decades than in earlier ones, the team found.

*That finding, detailed in the journal *Science Advances*, fits with the conclusions of [an earlier study](#) by Swain and his colleagues that suggested such persistent ridging was more likely to occur in a world with human-caused warming than one without it. The new study, however, doesn’t ascribe a cause to the apparent trend — Swain said that will be the subject of future work.*

The War Over Water-- 2016

On April 1, and they were not fooling, the Bureau of Reclamation announced the initial water supply allocations for this from the Central Valley Project. Though the following quote from *wired.com* on April 1, by Nick Stockton, leaves a few questions about the fooling:

Is this a freaking joke? “We’re the federal government, we do not play April Fool’s Day,” says Shane Hunt, public affairs official for the US Bureau of Reclamation’s mid-Pacific region.

The Bureau, along with the Brown administration, has perfected the techniques of, what is called by the Pentagon, Irregular Warfare, a set of policies that increase tension in targetted populations by setting one section of the population against another. Cutting off most of the area south of the Delta from virtually any water, has ignited the simmering anger that has been building up over the last few months as hundreds of thousands of acre-feet of water has been sent out to the Bay rather than to storage. Below are some excerpts from the Bureau's statement, followed by statements of outrage from the San Luis & Delta-Mendota Water Authority and others.

From the Bureau of Reclamation:

The Bureau of Reclamation today announced the initial 2016 water supply allocation for Central Valley Project (CVP) contractors. This allocation is based on a cautious estimate of the amount of water that will be available for delivery to CVP water users and reflects current reservoir storages, precipitation and snowpack in the Central Valley and Sierra Nevada.

The combined effect of four years of drought, lack of available water at the beginning of the 2016 water year, and restrictions to protect listed species are impacting the amount of water that can be allocated to South-of-Delta agricultural water service contractors.

The Bureau's allocations includes for settlement contractors, water service contractors and municipal and industrial users north of the Delta all received a 100 percent allocation. Wildlife refuges will receive 100 percent of their level two allocation, which is about 65 percent of the full amount they are able to receive in a year. While that was welcome by farmers north of the Delta, water service contractors south of the Delta were allocated just 5 percent of their contract. Worst, eastside water services contractors will receive no water from their contract due to a lack of supplies in New Melones Reservoir.

For urban areas, the South Bay cities will receive 55 percent of their contracted water amounts this year. They received 25 percent last year

And now this from the San Luis & Delta-Mendota Water Authority:

"We are furious with today's allocation announcement. At a time when water supplies have returned to normal and the major reservoirs are in flood control operations, the federal fishery agencies continue to hoard water instead of using a balanced approach that includes water for productive California farms and businesses and many of its people.

"Mother nature has given us all the water we need. There is no question that failed regulations imposed on Reclamation are not achieving their intended goals as the extreme limitations on moving water to farms and cities has had no measurable benefit to the fisheries. President Roosevelt started building this great water project 80 years ago. The mismanagement of it over the last 20 years has crippled its ability to serve thousands of California farms, people in urban areas, as well as our rural economy.

"We forecast fishery controls will cause 1.5 million acre feet of water to flow to the ocean and deprive farms and cities the ability to put it to productive and beneficial use.

"We prayed for rain and Mother Nature blessed us. We begged for a water supply and instead are handed a pittance that is destroying farms, jobs and communities. The faith we once had in the government to intelligently manage our public water resources has also, sadly, been destroyed."

And this from the Fresno County Farm Bureau (excerpt):

Fresno County Farm Bureau issues statement on water supply for County's federal water contractors

Statement by CEO Ryan Jacobsen:

"Today's announcement of a five percent water allocation for Fresno County's West side federal water

contractors and a 30 percent allocation for Friant users is despicable. It illustrates the degree of mismanagement and inconsistency by the federal government in operating the Central Valley Project.

"The federal water policy has failed. It has failed to protect fish species, and, most importantly, it's failed to provide water to the communities and businesses who need it most.

"Reservoirs throughout the state have been filling. However, the government's restrictive interpretation has resulted in the permanent loss of 789,000 acre-feet of water. Inflows into the Delta were as high as 300,000 acre-feet of water per day! Since December 2015, more than 200 billion gallons of water have been forever lost to the ocean with almost no water being allocated to agriculture. The season to capture these flows is quickly disappearing.

And, here is one more, as reported by the *Business Journal* on April 1, written by George Lurie--
"Valley leaders blast fed's latest water allocation edict" (excerpts):

<http://www.thebusinessjournal.com/news/agriculture/21947-valley-leaders-blast-fed-s-latest-water-allocation-edict>

Criticism of the latest paltry water allotments gushed from other Valley leaders as well on Friday.

Fresno County Supervisor Buddy Mendes called the fed's announcement "a complete joke."

Fresno County Agricultural Commissioner Les Wright said, "It's despicable. Somebody's math is off or somebody's politics are."

Officials at Westlands Water District released their own blistering statement.

"It may be difficult for some people to understand how, in a year in which north-of-Delta Central Valley Project agricultural water service contractors receive a 100 percent allocation, south-of-Delta agricultural water service contractors receive only 5 percent. The north-of-Delta contractors are not more 'senior' than south-of-Delta contractors. And the State Water Resources Control Board and federal courts have both held that area of origin laws do not give north-of-Delta contractors any priority over contractors in the Central Valley Project export service area. "

"Since December 2015, more than 8 million acre-feet of water has flowed into the Delta, while pumping into key south-of-the Delta reservoirs has been severely limited by the 2008 biological opinion for the Delta smelt," said today's statement from Westlands. "Indeed, through January and February of 2016, the Central Valley Project Jones Pumping Plant diverted less water than in January and February of 2015, when extended drought conditions resulted in very little inflow into the Delta."

The following excerpts from a column by Assemblyman Adam Gray, published in the *Modesto Bee* on April 4, "State won't tell us how bad 'regulatory drought' will get," addresses the insane state water policy.

<http://www.modbee.com/opinion/state-issues/article69950057.html>

The State Water Resources Control Board will soon release an updated Bay-Delta Plan, which proposes an increase in unimpaired flows from the Merced, Tuolumne and Stanislaus rivers. Based on the 2012 draft of the report, we know the proposal will have what the board calls "significant, but unavoidable impacts" on our area. As to specific impacts, the 2012 draft was mostly silent.

During the October meeting, the board's Assistant Deputy Director for Water Rights said the impact of the increased flow proposal could be likened to a "regulatory drought." We do not know if the

upcoming report will address the long-term consequences to our local economy that will come along with seemingly permanent water use restrictions. Neither the 2012 draft of the plan, nor the meeting in October addressed those consequences.

The previous draft also did not account for how the loss of irrigation water will affect the recharge of our groundwater basins.

Further degradation of our groundwater basins is a direct threat to the drinking water of the over 800,000 people who live in this area. The 2012 draft was silent on how that threat would be mitigated – if at all.

The draft also failed to address the fact our area is also under a mandate to attain groundwater sustainability. Most of the experts who have looked at the impacted basins concur that sustainability is not possible if the area is not allowed to use surface water for irrigation.

Now, if you can take it, here is a discussion with the representative of the Bureau of Reclamation giving the run-around to Patrick Cavanaugh, deputy editor with *California Ag Today* on April 1, on why the Valley gets only 5 percent of what was contracted for.

<http://californiaagtoday.com/justification-for-reclamations-5-percent-allocation/>

Finally, an excellent column was in the *San Francisco Chronicle* on March 31 by a farmer, titled, “California’s absurd water policy must change.” Some excerpts of the column by William Bourdeau, the executive vice president of Harris Farms in Coalinga, follow:

<http://www.sfchronicle.com/opinion/openforum/article/California-s-absurd-water-policy-must-change-7221342.php?t=5561f86da8&cmpid=email-premium>

Our unbalanced and uncoordinated water policy creates some winners and multiple losers. The California congressional delegation and our Legislature — indeed, every Californian — should demand to know why, now that we have water, it is not being pumped where it’s needed.

Here’s the nonsensical answer. Since Dec. 1, 2015, more than 779,000 acre feet, or more than 200 billion gallons, of water has been flushed into the ocean. That’s enough water for almost 1.5 million families for an entire year — and this is only water we could have pumped, not all the water flowing to the ocean.

So, as Mr. Bourdeau points out, nearly 800,000 acre feet that could have been captured for storage, instead went out to the ocean. A few days after his column the State Water Resources Control Board issued a statement, bragging that due to the state's policy, “1.19 million acre-feet of water conserved from June, 2015 through February 2016, the state achieved 96 percent of the savings goal of 1.24 million acre-feet of water.” If we subtract the 800,000 acre-feet thrown away, what's left is not that impressive.