



California Water and Infrastructure Report

For December 12, 2019

by Patrick Ruckert

Published weekly since July, 2014

An archive of all these weekly reports can be found at both links below:

<http://www.californiadroughtupdate.org>

<https://www.facebook.com/CaliforniaDroughtUpdate>

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First person: China has about 20,000 miles of high speed rail. The U.S. has none.

Second person: Why is that?

First person: China stole all of ours.

A Note To Readers

Well, the Trump administration announced today that a trade deal with China has been agreed to. Here is the headline from the Associated Press today, “US, China Near Deal That Would Suspend Planned Tariffs.” So, as absurd as the short dialogue above may be, there is no question that the two largest economies in the world must cooperate. China's *Belt and Road Initiative (BRI)* is now the biggest infrastructure building project in the world, with more than 130 countries now partners in it, and more than \$1 trillion already invested in building the future. President Trump's often repeated idea that good relations with China and Russia can best be realized by the U.S. joining the BRI. Then the president's intent of building and rebuilding the United States' infrastructure can get underway. And we will not need to steal China's high speed rail system.

That is the subject of a new report from LaRouche PAC. I urge you to read the entire report. Here is the link and the introduction to that pamphlet:

END THE MCCARTHYITE WITCH HUNT AGAINST CHINA & PRESIDENT TRUMP

U.S.-China Good Relationship Is a Strategic Necessity

https://larouchepub.com/special_report/2019/20191123-EndChinaWitchhunt.pdf

In a May 10, 1997 webcast, Lyndon LaRouche discussed the urgent need for a “Four Powers” alliance of sovereign nations to restore economic sanity—“against the greatest power on the planet, which is the British Empire, called the British Commonwealth. That’s the enemy.”

In that speech, delivered 22 years ago, LaRouche outlined a strategy for today’s crisis.

“And if on one bright day, say, a Sunday morning, after a weekend meeting, the President of the United States, the President of China, and a few other people, say, ‘We have determined this weekend, based on our advisors and the facts, that the international financial and monetary system is hopelessly bankrupt. And we, in our responsibility as heads of state, must put these bankrupt institutions into bankruptcy reorganization, in the public interest. And it is in our interest, to cooperate as nations in doing this, to avoid creating chaos on this planet.’ The result then, is that such an announcement ... means that the entire system, as of that moment, has been put through the guillotine, and the head is rolling down the street. (Alan Greenspan’s head, perhaps.)

That means, we have, at that point, the impetus for building, immediately, a new financial and monetary system.” That new financial system is now more urgent than ever. This pamphlet is intended as an antidote to the campaign to poison the U.S.-China relationship and to sabotage a new system from coming into being. As LaRouche noted, only the combination of the United States, China, Russia, and India, working together, would have the clout to put a new system in place.

The Rest of This Week's Report

Our wet December continues to get wetter. As one headline put it, “Threat of drought wiped off California map after soaking storms.” So, we cover that first.

PG&E exemplifies, as I wrote in my report of mid-November, the actual breakdown of the ability of the U.S. to even keep the electricity on, safely, in the largest state in the Union.

(https://larouchepub.com/eiw/public/2019/2019_40-49/2019-45/48-56_4645.pdf)

So, our follow-up this week focuses on the status of PG&E's bankruptcy and highlights that hedge fund parasite, Paul Singer's Elliott Management, which may now be the big loser. A background item on Singer and Elliott Management tells the story of how that vulture fund destroyed a Nebraska town.

Illustrating how not solving California's water needs by building the *North American Water and Power Project*, as presented in my report last week, (<http://www.californiadroughtupdate.org/20191205-California-Water-and-Infrastructure-Report.pdf?t=1575658731>) during the five year drought, as farmers increased their pumping of groundwater, land subsidence dramatically increased, falling up to two foot per year. As roads, utilities and other infrastructure was damaged, the most visible effect was the collapsing Friant-Kern Canal, which has lost as much as 40-60 percent of its capacity to deliver water. This past week the repair of the canal, which will cost, according to one estimate \$350 million, appears to be heading toward a solution, with the federal government issuing a plan to restore the canal's flow. Several articles are provided in this section.

A short report on Huntington Beach desalination plant appears headed for a key approval follows.

Then an update on the California “water wars.”

On the Colorado River, Arizona, Nevada and Mexico will start taking less water from the Colorado River in January as a hard-fought set of agreements kicks in to reduce the risk of reservoirs falling to critically low levels.

This week's report concludes with the **Feature**: A remembrance of one of the great infrastructure engineers of our era, Hal H.B. Cooper. A personal friend for more than 20 years and a colleague in

many projects.

Heavy precipitation continues to impact California

<https://www.wcc.nrcs.usda.gov/ftpref/support/drought/dmrpt-20191212.pdf>

California continues to be pounded by storms with heavy rain and mountain snow. Over the last two weeks precipitation totals topped 10 inches in much of the Sierra Nevada as snow, and over 15 inches in some areas along the coastal mountains. Within the last week rainfall totals in areas of central and northern California have topped 4.5 inches. High wind has caused downed trees, power outages, and flight delays. Flash flood warnings were issued in areas recently burned where heavy rain could trigger mud and debris flows. The snowpack depth at SNOTEL sites at the higher elevations in the Lake Tahoe area is nearly four feet.

Threat of drought wiped off California map after soaking storms

By [Amy Graff](#), SFGATE

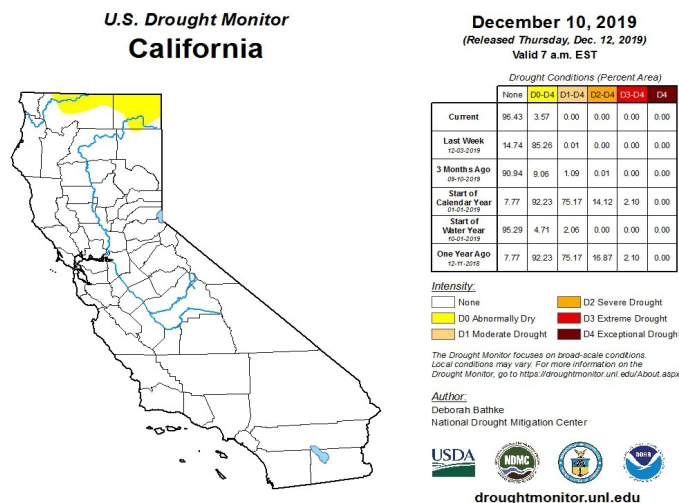
December 12, 2019

<https://www.sfgate.com/weather/article/us-drought-monitor-map-California-14901551.php>

What a difference a couple storms make.

The recent onslaught of soaking rains and snowy days has wiped the threat of drought off the California map.

The [latest federal Drought Monitor Map](#), a way to measure drought that's mainly used in agriculture, shows only 3.5 percent of the state as "abnormally dry" with a tiny sliver of yellow on the California-Oregon border. Only a week ago, 85 percent of the state was yellow.



California saw a slow start to the rainy season with little rain in October and the first three weeks of November. The storm door finally opened on Thanksgiving week and systems have been sweeping the state ever since.

"All of a sudden we went from people wondering when it would rain to people wondering when it will stop raining," says Spencer Tangen, a meteorologist with the National Weather Service Bay Area. "It's almost as if a switch was flipped."

The rain in the San Francisco Bay Area has been continuous since the last week in November with only a few dry days here and there falling between storms. But some areas have been significantly wetter than others, bringing rainfall totals to above average. Other areas are still lagging behind season

norms.

Downtown San Francisco has recorded [3.86 inches](#) since Oct. 1, with the rainfall total being 67 percent of normal. Normally through Dec. 1, the city would expect to see 5.78 inches.

The Santa Rosa Airport has measured 10.42 inches, or 121 percent of normal. The average value for this time of year is 8.60. San Jose has recorded 2.32 compared to the seasonal average of 3.48 inches, or 67 percent of normal.

The Drought Monitor is a joint effort of between the National Oceanic and Atmospheric Administration, the U.S. Department of Agriculture and the National Drought Mitigation Center at the University of Nebraska-Lincoln. A map is released each week with drought conditions across the country, indexing everything from groundwater storage to river levels. The figures state water managers watch most closely are precipitation totals, and reservoir and snowpack levels. This season, all are looking promising for California's water supply.

Lake Shasta, the state's largest reservoir, is at 72 percent capacity and 119 percent of average for this time of year. At this point in the season, water managers are releasing water to reduce flooding and meet environmental requirements.

State officials won't take a close look at the snow pack until later in the season, but ski resorts are reporting a good start. Squaw Valley had measured more than 100 inches of snowfall as of last week. The resort didn't hit the 100-inch benchmark until Jan. 6 last season.

Of course, this hopeful start to what state officials refer to as the "water year," could all change if a long dry spell hits.

No, PG&E Will Not Go Away

With the reliability of the electricity grid for nearly half of the population of the state uncertain, what is certain is that solving the problem is, thus far, not only complex and expensive, but also has criminal vulture funds of Wall St., looking for a cheap feast.

We begin this section with a short excerpt from an extensive article discussing the complexity of the problem. Then the report that PG&E itself upped its pledge on how much it will pay the victims of the fires its equipment caused-- done in order to head off the vulture fund Elliott Management and its attempt to take over and loot the company and rate payers.

Following that is a very technical financial article on the battle over who will control PG&E, which I just include for those who get a thrill talking about money. Then links to two more articles on the same subject.

We conclude this section with this article, "*Financial Predator Paul Singer Destroys Nebraska Town...*"

Unplugging PG&E Is Easier Said Than Done

By [Marisa Endicott](#)

November 7, 2019

<https://www.motherjones.com/environment/2019/11/what-happens-now-to-pge-fires-california-public-takeover/>

Who can—or even wants—to take over this burning hellscape?

“This is a case of first impression. The future is going to have to be invented here and invented pretty quickly.”

But right now, it's really difficult to foresee what the future holds for PG&E—and more broadly for energy across California. Newsom has [hinted the government](#), if it's not satisfied with the pace of bankruptcy proceedings, could step in and try to take control of PG&E, but he also recently [called](#) on Warren Buffet's Berkshire Hathaway to make a bid for the company. (Berkshire Hathaway's energy subsidiary is deeply [invested](#) in utility companies and renewables in California and several other states.) The governor has also been open to the idea of municipalities taking over their own power management, which some of the cities themselves have [echoed](#). At the same time, in ongoing bankruptcy proceedings, PG&E's shareholders are fighting its bondholders, who've formed an alliance with fire victims, [for control](#).

I recently called up [John Geesman](#), an energy consultant and attorney who served as the executive director of the [California Energy Commission](#), the state's primary energy policy and planning agency, to try to figure out what is going on and who would even want to take on this mess. We talked about the different stakeholders involved, who might end up in charge of local power, and what the maneuverings will mean for the utility's millions of customers. “This is a case of first impression,” he says. “The future is going to have to be invented here and invented pretty quickly.”

Pg&E Reaches \$13.5 Billion Settlement With Wildfire Victims

Bay City News Service

Published 9:05 pm PST, Friday, December 6, 2019

<https://www.sfgate.com/news/bayarea/article/Pg-E-Reaches-13-5-Billion-Settlement-With-14888995.php>

PG&E has reached a widespread settlement with victims of recent Northern California wildfires including the 2017 North Bay fires, company officials announced Friday.

The settlement amounts to \$13.5 billion and settles all claims from the 2018 Camp Fire, the 2017 Tubbs Fire and the 2015 Butte Fire.

PG&E is trying to emerge from Chapter 11 bankruptcy by June 2020 while Bay Area officials rally support for a customer-owned utility rather than the current investor-owned operation.

PG&E is also on probation in a federal criminal case. The company was convicted of violating pipeline safety rules, record-keeping laws and obstructing an investigation into a gas pipeline explosion in San Bruno in 2010. The explosion and subsequent fire killed eight people.

Elliott's PG&E Plan Aims Carefully at Gavin Newsom

Liam Denning

[Bloomberg](#)

December 12, 2019

<https://finance.yahoo.com/news/elliott-pg-e-plan-aims-191753618.html>

(Bloomberg Opinion) -- Looked at one way, Gavin Newsom's dilemma is actually quite enviable. Choosing which hedge fund you get to disappoint is something many would relish. But the California governor finds himself boxed in on determining what happens next with bankrupt utility PG&E Corp.

Newsom must decide whether to support the company's latest plan to emerge from chapter 11, which includes a revised \$13.5 billion settlement agreed last week with wildfire victims. Having also settled with insurance firms for \$11 billion and local governments for \$1 billion, PG&E has effectively tightened pressure on one of the last remaining stakeholders — sitting in Sacramento — to get on board. In the background, a clock ticks toward the effective June 2020 deadline enshrined in California's wildfire-fund legislation.

On Thursday, Elliott Management Corp., part of the bondholders' committee pushing a rival exit plan, put a shot across the bow of the company, but it was ultimately also aimed at the governor's mansion. Elliott lists multiple criticisms of the company's plan, ranging from implications for PG&E's governance and culture to the impact on the company's balance sheet, cash flow and, thereby, ratepayers. Just so Newsom (and his constituents) have the full picture, you understand.

Paul Singer Gets Burned

PG&E turns up the heat.

[Jon Shazar](#)

December 9, 2019

<https://dealbreaker.com/2019/12/pge-deal-burns-elliott>

Did PG&E Just Pull the Rug From Under Elliott and Pimco?

By [Paul Ausick](#) December 9, 2019 8:05 am

<https://247wallst.com/infrastructure/2019/12/09/did-pge-just-pull-the-rug-from-under-elliott-and-pimco/>

Financial Predator Paul Singer Destroys Nebraska Town--Fox News's Tucker Carlson Takes on Vulture Funds



Paul Singer

Dec. 6, 2019 (EIRNS)--In his show from earlier this week, Fox News's Tucker Carlson took aim at Vulture Fund operative Paul Singer--longtime City of London/Wall Street thug who runs Elliott Management and the Cayman Islands-based NML Capital. Carlson briefly mentioned Singer's vulture fund operation in Argentina, describing the typical operation of buying cheap sovereign debt of distressed countries, only to return years later as the nation recovered, with a barrage of lawsuits and public relations operations aimed at getting full payment on the debt.

Tucker Carlson's show then shifts gears from Singer's international looting operations to domestic

ones, focusing on Elliott Management's operation in Sidney, Nebraska, home to outdoor outfitter company, Cabela's. Singer's Elliott Management bought into Cabela's and then forced a merger of Cabela's with Bass Pro Shops, making nearly \$100 million one week later through sale of the stock. As a residual of the merger and restructuring, Sidney was decimated, losing 2,000 jobs in a town of only 6,000 people.

Carlson's show also briefly mentions Singer's role in the takedown of Delphi in 2005. Singer was among a group of hedge fund leaders who moved in, re-organized Delphi after its bankruptcy in October of 2005, after their cohort Stephen Miller became CEO. According to Carlson, at the time of the hedge fund takeover, Delphi operated 29 plants--today there are only 4. While Carlson devastates Republican Party donor Paul Singer's criminal acts, and also educates the American people through this expose, Carlson does not indicate what the solution is.

At the time of the takedown of Delphi, Lyndon LaRouche had put forward the Economic Recovery Act of 2006, which would have taken the idled plant and equipment of the former automobile industry and retooled it to produce the equipment for massive infrastructure development for the nation. It was Synarchist-fascist banker and Democratic Party moneybags, Felix Rohatyn, and his firm Rohatyn Associates, along with Rothschild, Inc., which then moved in to plan Delphi's total "globalization by bankruptcy," as {Business Week} termed it at the time, to prevent LaRouche's Economic Recovery Act of 2006 from succeeding. It is this same force working to prevent Trump from going with LaRouche's Four Laws today.

More on Singer, who has also employed exotic tactics. At one point in his extortion of Argentina, he seized an Argentine naval training vessel while at port in Ghana, effectively holding it in ransom until Argentina paid what Singer wanted. Similarly, investigative journalist Greg Palast claims that Singer grounded the plane of former Peruvian President Alberto Fujimori, preventing him from leaving Peru after he was ousted from office, until Fujimori paid the ransom of nearly \$60 million to Singer as one of his last acts in government. For these tactics, outlets like the Washington Post have referred to Singer as an "activist investor," whose noble cause is fighting for a world free of distressed debt.

The Friant-Kern Canal and Land Subsidence

Illustrating how not solving California's water needs by building the *North American Water and Power Project*, as presented in my report last week, (http://www.californiadroughtupdate.org/20191205-California-Water-and-Infrastructure-Report.pdf?_t=1575658731) during the five year drought, as farmers increased their pumping of groundwater, land subsidence dramatically increased, falling up to two feet per year. As roads, utilities and other infrastructure was damaged, the most visible effect was the collapsing Friant-Kern Canal, which has lost as much as 40-60 percent of its capacity to deliver water. This past week the repair of the canal, which will cost, according to one estimate, \$40 million, appears to be heading toward a solution, with the federal government issuing a plan to restore the canal's flow. Several articles are provided in this section.

Of course there must be a naysayer and his article is the last in this section, a little of it anyway.

Central California 'sinking' by 1-2 feet a year – NASA

Written by [Livingston Contributor](#) on December 12, 2019

<https://livingstonledger.com/central-california-sinking-by-1-2-feet-a-year-nasa/>

Central California 'sinking' by 1-2 feet a year – NASA New satellite radar data reveals that excess pumping of groundwater in Central California and a prolonged drought have caused the state to “sink” by as much as 2 feet in the last two years, threatening critical infrastructure.

California's Department of Water Resources (DWR) commissioned NASA's Jet Propulsion Lab (JPL) to collect and analyze data using airborne and satellite radar. An initial report of their findings was released in August 2015, using sensor readings between 2006 and early 2015. The current report analyses new radar images from 2015 and 2016.

While the report states that since the 1920s excessive pumping of groundwater from Central California wells has caused some land to subsidence, the new results are worrying. Satellite data reveals that some areas are sinking faster than previously understood.

“The rates of San Joaquin Valley subsidence documented since 2014 by NASA are troubling and unsustainable,” said DWR Director William Croyle. “Subsidence has long plagued certain regions of California. But the current rates jeopardize infrastructure serving millions of people. Groundwater pumping not puts at risk the very system that brings water to Sand Joaquin Valley. The situation is untenable.”

Feds release plan to restore flow of Friant-Kern Canal

U.S. Bureau of Reclamation will hold meeting to gather public input on Dec. 18 in Porterville

By [Reggie Ellis](#)

<https://thesungazette.com/article/news/2019/12/11/feds-release-plan-to-restore-flow-of-friant-kern-canal/>

SACRAMENTO – The federal government has begun the process to restore a segment of the Friant-Kern Canal damaged by the drought.



The Friant-Kern Canal is an irrigation canal and part of the Central Valley Project aqueduct.
(Education Images)

On Dec. 3, the U.S. Bureau of Reclamation (USBR), which manages the 152-mile canal along the Valley's eastside, announced it has drafted a plan to repair a 33-mile stretch of the gravity-driven canal which has lost more than half of its original capacity due to subsidence, or the sinking of earth caused by overdrafting groundwater.

The canal delivers water to over 1 million acres of highly productive farmland and over 250,000 residents, primarily in the cities of Fresno, Orange Cove, Strathmore and Lindsay. The reduced

channel capacity has resulted in up to 300,000 acre-feet of reduced water deliveries in certain water years to the lower third of the canal. The problem is most pronounced in the Deer Creek region between Terra Bella and Pixley, where the bottom of the canal has sunk 3 feet since it was built in the 1940s and at a rate of an inch per month in 2017.

The canal uses a six-inch grad to flow water from Friant Dam near Fresno south to Bakersfield. In order to prevent water from flowing out of the canal, Friant Water Authority, which operates and maintains the canal, must slow the flow of water. Subsidence has reduced the flow of the canal by an average of 60% from a max capacity of 4,000 cfs (cubic feet per second) to 1,900 cfs.

USBR has issued a Notice of Intent to prepare an environmental impact statement, in accordance with the National Environmental Policy Act (NEPA), and is seeking comments on the plan for the next 30 days. A public scoping meeting is planned for 5:30 p.m. on Dec. 18 to solicit input and will be held at U.S. Forest Service office, 1839 S. Newcomb St. Porterville, CA. As part of the scoping process, Reclamation will release an Environmental Assessment/Initial Study (EA/IS).

Alex Biering, communications director for the Friant Water Authority, said the total cost of the project is over \$350 million, too high for Friant water contractors to afford on their own. She said Valley congressional leaders are working to secure federal funding for the project and said FWA's is hoping the state will also invest in the project.

Rep. Kevin McCarthy (R-Bakersfield), who represents most of the area south of subsidence in Kern County, called the canal's repair a top priority for him and commended USBR for beginning the process and President Trump for his memorandum prioritizing the water infrastructure project.

Who pays for the Friant-Kern repairs? It should be farmers, but most likely, taxpayers

By Ron Manfredi

December 13, 2019

<https://www.fresnobee.com/opinion/readers-opinion/article238295528.html>

The Friant-Kern Canal was built in 1949, a 152-mile-long canal carrying water from Millerton Lake north of Fresno to the Kern River in Bakersfield. The problem is a 30-mile stretch from Porterville to Delano where it has sunk due to land subsidence, caused by overpumping of groundwater, resulting in 60% water lost. Senate Bill 559 (Hurtado, D-Sanger) proposes to build a parallel canal alongside the problem area.

I understand the need to convey water via canals in our Central Valley within a systematic, well-regulated and properly managed system. But there are so many unanswered questions: Why should taxpayers fund and repair debacles created by overdrafting by water districts that should have regulated or sought regulation of this practice?

Desalination

Huntington Beach desalination plant appears headed for a key approval

By [Bettina Boxall](#) Staff Writer

Nov. 27, 2019

<https://www.latimes.com/environment/story/2019-11-27/poseidon-seawater-desalination-project-poised-to-clear-major-hurdle>

Poseidon Water's long-delayed plans to build one of the West Coast's biggest seawater desalination plants on the Huntington Beach coastline appear headed for a key approval.



Poseidon Resources wants to build a large seawater desalination plant next to the AES power station in Huntington Beach, pictured in the background. (Mark Boster / Los Angeles Times)

A regional water board is proposing to grant Poseidon permits for a \$1-billion desalting facility that would annually produce enough drinking water to supply 100,000 Orange County households.

The board will not vote on the project until March and Poseidon still needs approval from the California Coastal Commission.

But the water board's tentative permit is a major boost for a project that has been mired in delays and controversy since it was first proposed two decades ago.

"We are one step closer to providing Orange County with a 100% drought proof, climate resilient new water supply project," Poseidon communications director Jessica Jones said in an email.

And Once Again, It Is Back to the California Water Wars

A Year Later, 'Water Grab' Plan Settlements Still Stuck

By Tori James

Dec 11, 2019 04:42 pm

<https://www.mymotherlode.com/news/local/952696/a-year-later-water-grab-plan-settlements-still-stuck.html>

Sacramento, CA – A year later, issues triggered by a contentious plan by state water regulators to increase unimpaired river flows for the benefit of fish remain firmly mired in red tape.

Last December, as reported here, the outgoing and incoming California state governors were trying to help facilitate stakeholder agreements ahead of the Water Board's vote that passed its long-proposed plan to require unimpaired river flows of up to 40 percent through the Lower San Joaquin River and its tributaries for the supposed benefit of protecting delta fish.

Among the far-reaching consequences of what many described as a major "water grab" are heavy impacts to upstream communities, including locally to New Melones reservoir, which could under the plan be largely rendered useless for recreation.



New Melones reservoir

Last month, officials at the California Natural Resources and Environmental Protection agencies announced several actions they were taking to protect imperiled fish while improving real-time management of the State Water Project (SWP). At the same time, the state Department of Water Resources (DWR) released a draft environmental impact report reflecting the state's assessment that indicated recently proposed rules by federal agencies are not scientifically adequate and fall short of protecting species and the state's interests.

Governor Gavin Newsom additionally made the decision to sue federal regulators to ensure the state and feds would retain a shared responsibility of state and federal water project operations to protect species as well as state interests.

State Lawsuit, A Monkey Wrench?

Weighing in on how things are going, Steve Knell, general manager of the Tri-Dam Project Partner Oakdale Irrigation District (OID) thinks the state's suit has the capacity to stall the progress many stakeholders were hoping for. He comments, "The Voluntary Settlement Agreements (VSAs) are in a quandary. Everyone was negotiating off the old Biological Opinion (BO) enacted by the feds in 2009."

He continues, "The recently released revised BO by the feds has created a firestorm between the feds and California. The new BO reduces ocean outflow through the delta by an estimated 580,000 acre-feet. That doesn't make the state very happy, which was counting on more delta outflow, not less, hence their suit."

Knell shares that OID and other VSA negotiators are unsure to which "goal post" — the old BO or the new BO — they should negotiate. "The state's lawsuit will change timelines and create setbacks and at some point, the State Water Board is going to have to act, but on what?" Chalk it up, he says dryly. "[it's] just another day in the water business."

The Colorado River

Water cutbacks set to begin under deal designed to 'buy down risk' on Colorado River

[Ian James](#), Arizona Republic Published 1:21 p.m. MT Dec. 10, 2019 | Updated 11:43 a.m. MT Dec. 11, 2019

<https://www.azcentral.com/story/news/local/arizona-environment/2019/12/10/arizona-nevada-mexico-colorado-river-drought-climate/4359571002/>

Of the plans signed on May 20, 2019, Federal Reclamation Commissioner Brenda Burman says, "It's

time to implement." Sean Logan, *The Republic* | azcentral.com

Arizona, Nevada and Mexico will start taking less water from the Colorado River in January as a hard-fought set of agreements kicks in to reduce the risk of reservoirs falling to critically low levels.

The two U.S. states agreed to leave a portion of their water allotments in Lake Mead under a deal with California called the Lower Basin Drought Contingency Plan, or DCP, which the states' representatives [signed at Hoover Dam in May](#).

California agreed to contribute water at a lower trigger point if reservoir levels continue to fall. And Mexico agreed under a separate accord to take steps to help prop up Lake Mead, the nation's largest reservoir near Las Vegas, which now sits 40% full after a nearly 20-year run of mostly dry years.

The agreements, including another deal in the river's Upper Basin, increase the odds of Western states making it through the next seven years without reservoir levels crashing. But researchers examining the latest climate projections have also warned of the possibility that declines in the river's flow could force water curtailments in the coming years, and they've suggested looking at options to reduce risks.

The current level of Lake Mead puts the reservoir in a zone called "Tier Zero," at which the first cuts are triggered under the deal.

"Mexico and Nevada and Arizona have agreed voluntarily under those drought contingency plans to contribute more water to the system," Burman said. "That means there will be some significant contributions from those places, and that's important."

Arizona will see a cut of 192,000 acre-feet in water deliveries next year, or 6.9% of its total allotment of 2.8 million acre-feet. Nevada's share will be reduced by 8,000 acre-feet, while Mexico's will take 41,000 acre-feet less.

The cuts under the deal represent 12% of the total water supply for the Central Arizona Project, which delivers water by canal to Phoenix, Tucson and other areas. The agency that manages the canal has said the cuts will [reduce deliveries for agriculture by about 15%](#) and eliminate water that would have been available for storing underground and replenishing groundwater at facilities along the CAP Canal.

Arizona, Nevada and California have also helped the situation during the past year by voluntarily conserving significant amounts of Colorado River water.

According to Bureau of Reclamation figures, Arizona and California together conserved 316,000 acre-feet in 2018, and are on track to conserve an estimated 685,800 acre-feet in 2019. Burman said voluntary conservation efforts by the states have helped, and the drought contingency plan has incentivized more conservation.

Steps to address depleted reservoirs

The drought contingency plans — one for the three Lower Basin states and the other for the Upper Basin states of Colorado, Wyoming, Utah and New Mexico — are designed to help shore up Lake Powell and Lake Mead between 2020 and 2026.

The Colorado River and its tributaries provide water for about 40 million people and more than 5 million acres of farmland from Wyoming to Southern California.

Feature

Hal B.H. Cooper, Jr., 1940-2019: The Practical Visionary

A man who lived the idea of building infrastructure, a friend of mine and co-worker for more than 20 years, Hal B.H. Cooper, Jr., passed away recently. His vision, drive and contributions over his entire career are immeasurable.

https://larouche.com/other/2019/4649-the_practical_visionary.html?fbclid=IwAR3lTwBqjQFRkCIS4Z-4ni3P9mv0XF6cqGujoxyZCkMp0Q4VH1KZ6k5OqlQ

(An excerpt from the article)



Hal B.H. Cooper, Jr. (Photo: EIRNS/James Rea)

Hal Bluford Harrison Cooper, Jr., PhD, P.E., passed away on October 25, 2019, a few months shy of his 80th birthday. Cooper was a visionary, who would always insist on describing himself as practical. Among his many contributions to humanity, the most memorable may be the maps and blueprints he created, furthering the vision of worldwide economic development promoted by Lyndon and Helga LaRouche. From the proposal for a tunnel under the Bering Strait, to his advocacy of such grand projects as NAWAPA (North American Water and Power Alliance) and the Transaqua Project in Africa, Hal created a vast library of reports and feasibility studies outlining great programs for humanity's future.

With varied training as an engineer, Hal worked on virtually all aspects of the productive landscape of the United States and many other nations, ranging from oil, coal and gas, to timber, paper, water, and many aspects of transportation, especially rail.

Hal was born Feb. 19, 1940, in Ames, Iowa. Moving with his family, his youth was spent in New Jersey and California, where he went to high school in Pasadena. Hal studied at the University of California, Berkeley, and the University of Washington. He held a doctorate degree in chemical engineering. He was a professor at Texas A&M University at College Station, Texas and later at the University of Texas in Austin. He next moved to New Mexico, where he worked at Los Alamos National Laboratory for one year, followed by consulting work in Kirkland, Washington, including at the Hanford Project.



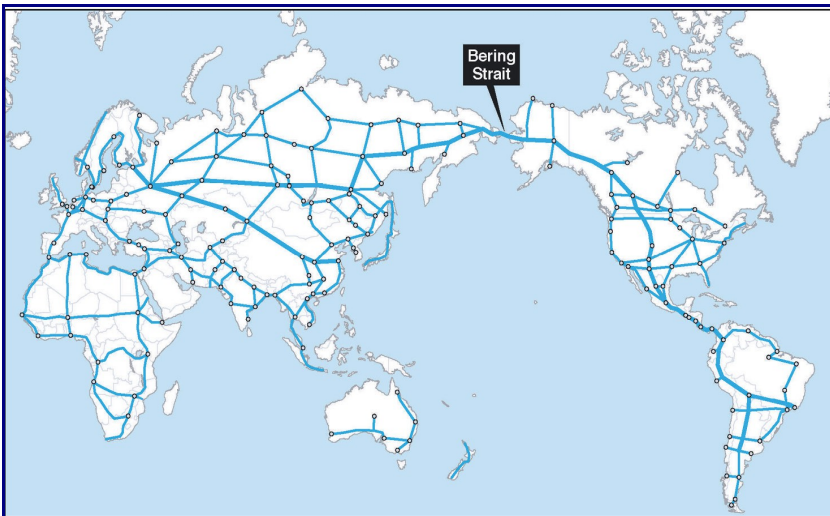
EIRNS/Julien Lemaître

Hal Cooper presents Helga Zepp-LaRouche with his vision of a Bering Strait tunnel at a Schiller Institute World Land-Bridge conference in Kiedrich, Germany in 2007.

In 1988, Hal was moved to contact the LaRouche movement to express his excitement on seeing the *Woman on Mars* video, which LaRouche had commissioned to put forward the necessity of mankind's role in space. Then in the early 1990s in London, Hal met an associate of Lyndon and Helga LaRouche, while he was attending a world transportation conference. A lifelong collaboration among them ensued, starting with the 1996 German publication of a world map of priority routes for intercontinental railroads, based on Hal's recommendations. The map appeared in the 1997 *EIR* Special Report commissioned by the LaRouches, *The Eurasian Land-Bridge: The 'New Silk Road'—Locomotive for Worldwide Economic Development*. **Figure 1** shown here is titled, "Main Lines of a Worldwide Rail Network as Sketched by H.A. Cooper."

Figure 1

Main lines of a worldwide rail network.



Most of these lines form the core network across Eurasia, and into Africa, now being developed under the China-initiated Belt and Road Initiative, first announced in late 2013 by President Xi Jinping. They also overlay the signature map of the *EIR* special report produced in 2014, *The New Silk Road Becomes the World Land-Bridge*, for which Hal consulted.

Over the next quarter century, Hal further developed details of these rail lines, in terms of them serving as development corridors, and priority links—such as the Bering Strait Tunnel, and he personally campaigned in support of making them happen.

For example, in late 2002 he spoke on rail corridors of development, at a conference in Novosibirsk, Russia, sponsored by the Siberian State Transportation University, on the theme of continental and intercontinental rail-grid integration, including connecting the Korean Peninsula with the rest of Eurasia. He spent time in Alaska and Canada on behalf of building out a true continental rail grid. He worked on projects for Central and South America, especially the proposal for a cross-isthmus canal and north-south railroad through the Darien Gap in Colombia. Hal spent time in North and South Dakota, promoting a Central North American Rail Corridor for the High Plains. He strongly advocated for power, water and agro-industrial programs in Africa.

He participated in multiple conferences with the LaRouche movement, from Seattle to San Francisco, to Houston, New York City, Washington, D.C., Vancouver, Ottawa and, in Europe, in Berlin and Kiedrich, Germany, and elsewhere. The list is long. He was ever ready to get up and go.

When he could, Hal would travel the actual route of priority transportation projects, putting studies together that he would print and send to leaders of nations, industry and farm leaders, tribal governments, and other concerned citizens who wanted to make the world a better place. Hal was able to visit Capitol Hill to give briefings to members of Congress on western rail and water priorities, in Spring 2016—the last such foray he could make, given the constraints imposed by his declining health.

Hal could tell you every river, road, type of tree and rail gauge along the routes of these great projects, such as that along the North American west coast rail corridor that will inevitably meet up with China's New Silk Road by tunnel under the Bering Strait. It has been proposed that the terminus on either end of the tunnel be named, respectively, after Lyndon LaRouche and the late scholar Stanislav Menshikov, the American and Russian scientist-statesmen who championed the project as perhaps the greatest symbol of the end of British Geopolitics and the beginning of an era of cooperation among the Americas, Eurasia and Africa.



Courtesy of J. Craig Thorpe

Artist's concept of the North American entrance to the Bering Strait Rail Tunnel.

But perhaps the tunnel itself should be named after Hal, since that is almost the only part of the route from Southern California to Seattle, through Alaska, on through Siberia, and into Eastern Europe that Hal *didn't* travel while assembling perhaps the only feasibility study in existence that outlines the Bering Strait Tunnel and the routes on either end. He campaigned for the tunnel tirelessly in British Columbia, through the Yukon, to Fairbanks and Anchorage. His hand-drawn overlays of the key rail routes (and gas lines and other infrastructure) are now all over the internet. Hal presented an artistic rendition of the Bering Strait Tunnel to Helga Zepp-LaRouche, at a Schiller Institute conference on the World Land-Bridge in Kiedrich, in September 2007.

Hal was keen for updates every day on infrastructure progress and policy fights. For example, near

what were to be his last days, Hal heard with glee about the new Eurasian freight train going through the Marmaray Tunnel to cross the Bosphorus Strait. “I didn’t know that was finished yet! I bet that will make the British mad!”



LPAC-TV

Hal Cooper addressing a North American Water and Power Alliance (NAWAPA) conference in Kennewick, Washington in 2011.

In his own unique way, Hal represented Lyndon and Helga LaRouche at major infrastructure and development conferences around the planet, on virtually every continent. For example, in 2008 he was in Istanbul, Turkey, for an international railway conference. While Hal’s presentations were packed with the precise details that gave substance to these visionary projects, he usually managed to wing a few zingers at the financial oligarchy of London and Wall Street, chiding them for their insistence on not allowing these great projects that would benefit all of humanity.

While he was an engineer at heart, he was also intensely political to his core. However, he was a statesman who refused to engage in simple partisan politics, and worked with political networks of all party affiliations, seeking out those who wanted a better future for their nations, and their world. This commitment to humanity was the basis for his friendship and collaboration with Lyndon and Helga LaRouche, which was also the basis of his being blacklisted for projects and contracts that had political decisions involved. Despite that, Hal never lost sight of his larger mission and optimism for the future development of humanity.

By Marcia Merry Baker and David Christie, December 7, 2019.