

# California Drought (and Flood) Update



**For June 22, 2017**

**by Patrick Ruckert**

**Published weekly since July, 2014**

<http://www.californiadroughtupdate.org>

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

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*"You're talking about an investment by more than one generation. All of the great projects which we need now, as in the past too, are projects which require multigenerational investment. They are the incurrence of debt, a debt which spans generations. And one of the great things that we have to master in this respect, is what is the nature of human beings...."*

*Lyndon H. LaRouche, Jr.*

## **A Note To Readers**

While the nation is being tortured by those determined to oust, or even assassinate, President Trump, what must happen if the nation's infrastructure requirements are going to be tackled effectively is not even limping along badly.

What the nation must have, now, is a national credit system that can mobilize the funding at a level of at least \$1-2 trillion per year. No one but the LaRouche organization is discussing that, yet. Without that level of commitment, and it being run top-down by the federal government, nothing will be built but perhaps a few toll roads.

As the reports below demonstrate, California's water management system, which requires massive repair, more storage capability, and a new platform for producing fresh water, like a few dozen desalination plants, is stuck building nothing as desperate people try to outmaneuver or manipulate a rigged game.

The quotation above from Lyndon LaRouche is from an article on [larouchepac.com](http://larouchepac.com) today, June 22: "Give Americans Some Credit." <https://larouchepac.com/20170622/give-americans-some-credit>. The

article should be read by all who wish to actually solve problems rather than flail their arms in frustration.

To make the point once more: Without a national credit system, no matter the intentions of the President, what the nation needs will not be built.

### This week's report:

With 100 plus degree temperatures this week the huge snowpack in the Sierras is beginning to melt fast. Some minor flooding has occurred and more likely will. But, the record breaking temperatures throughout the southwest part of the nation has prompted a few to come out from under their log and claim “it is because of global warming.” I included one such article below.

The U.S. Drought Monitor and Reservoir graph show no changes, as they have for the past six weeks or so.

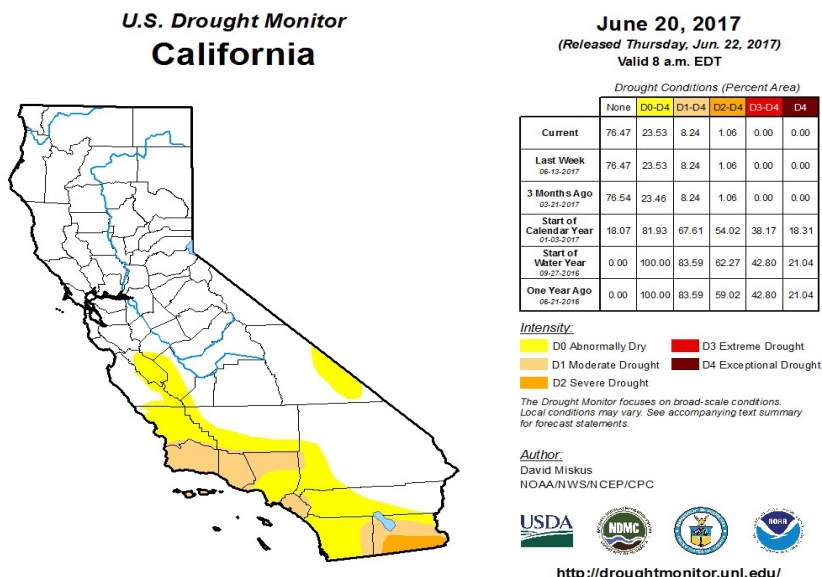
Our “Oroville Dam Update” this week has just one report, as little has been reported new, indicating that the repair work is on schedule.

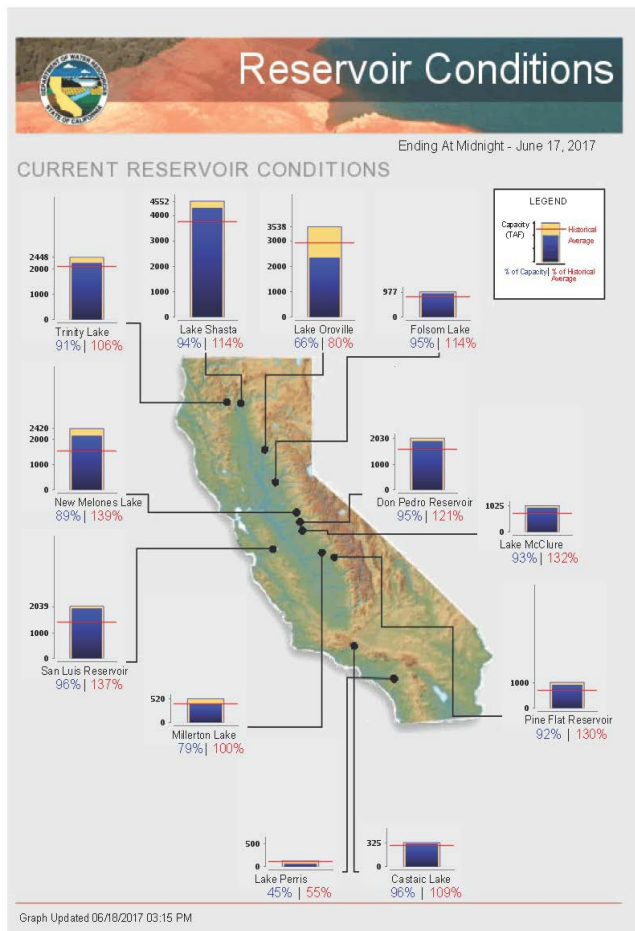
As mentioned above, the state does need more water storage capacity, and a post by Families Protecting the Valley demonstrates just how much water has been lost this year you will find below. The two big proposed reservoirs, the Sites Reservoir and the Temperance Flat Dam and Reservoir are in the news once again as the deadline for applications for the 2014 \$7 billion bond funds is just two weeks away. But, even if their proponents jump over the hurdle of the projects “benefiting the environment and the Delta,” what they would get is just a pittance of the billions the two projects will cost.

This week's report includes an updated forecast for the water level of Lake Mead, warnings of a very dangerous fire season ahead, and an item on desalination.

The feature this week provides more background and polemics on what must become the central issue for all Americans: A national credit system.

## U.S. Drought Monitor and Reservoir Graph





There may not be much drought left in the state, but we do have a little bit of flooding from the melting snowpack. And the 100 degree plus weather is melting it fast.

### ***How hot is it in the West? Let us count the ways***

By [Madison Park](#), CNN

June 20, 2017

<http://www.cnn.com/2017/06/20/us/weather-west-heat-wave/index.html>

*San Francisco (CNN)It's so hot in the West that the scorching heat is breaking records, causing massive power outages and prompting flight cancellations.*

### ***Resort's residents watched the floodwaters rise higher, and then they had to flee***

By Lewis Griswold

June 19, 2017

<http://www.fresnobee.com/news/local/article156963079.html>

*Residents of the [Riverland Resort](#) near Kingsburg had to move out Monday due to flooding caused by snow melting high in the Sierra that has swollen the Kings River.*

## **California Heat Wave Sending Record Snow Melt Surging Into Rivers**

June 20, 2017 9:35 PM By Angela Musallam

<http://sacramento.cbslocal.com/2017/06/20/california-heat-wave-sending-record-snow-melt-surging-into-rivers/>

*NORTH FORK AMERICAN RIVER (CBS13) — The heat wave is melting snow in the Sierra, which is bringing freezing **cold** water into the valley's lakes, streams and rivers.*

*The effects of the snowmelt can also be deadly and proved so on Tuesday.*

Though the following article has as its premise the “undisputed scientific consensus” that everything that happens in our world now is due to “man induced climate change,” it does provide some useful observations. I include just a few paragraphs of excerpts from the article:

## **California and Arizona Scorching Temperatures Are Result of Global Warming**

06/20/2017

[http://www.huffingtonpost.com/entry/california-and-arizona-scorching-temperatures-are-result\\_us\\_5949afdae4b0d799132a158f](http://www.huffingtonpost.com/entry/california-and-arizona-scorching-temperatures-are-result_us_5949afdae4b0d799132a158f)

*When many people hear about global warming, it conjures images of the world's temperature getting just a little warmer. NASA's [website](#) asserts, “the average global temperature on Earth has increased by about 0.8° Celsius (1.4° Fahrenheit) since 1880. Two-thirds of the warming has occurred since 1975, at a rate of roughly 0.15-0.20°C per decade.”*

*An increase of 1.4° Fahrenheit does not seem extreme. Actually, it seems relatively mild. Unfortunately, that is not how global warming works. We do not experience a slightly mild increase in temperature worldwide. We experience, instead, extremes in climate change. However, when added together they result in an average temperature increase of only 0.8° Celsius (1.4° Fahrenheit) across the Earth's surface.*

*Cyclical events, such as night, day, change of seasons, precipitation patterns, can fluctuate significantly on a local basis. However, the global temperature depends on how much energy the Earth receives from the Sun, minus the amount it radiates back into space. The amount of energy the Earth receives from the Sun is almost constant over the course of a single year, but does vary significantly with the 11-year sunspot [solar cycle](#). For the most part, the amount of energy the Earth receives from the Sun is predictable. However, the amount of energy radiated by the Earth depends on the chemical composition of the atmosphere, and that is what is causing global warming. The chemical composition of the atmosphere is changing, particularly the increasing amount of heat-trapping greenhouse gases such as carbon dioxide (CO<sub>2</sub>). It is the increase in greenhouse gases this is causing the Earth's temperature to rise. Some refer to this phenomenon as the “greenhouse effect.”*

## **Oroville Dam Update**

***Some say Oroville Dam crisis trashed the Feather River. Is the state responsible?***

*By Ryan Sabalow*

*Sacramento Bee*

*June 16, 2017*

<http://www.sacbee.com/news/local/article156631084.html>

*River levels seesawed over the course of four shutoffs of the dam's battered spillway. Mile after mile of riverbanks crumbled near Live Oak and Yuba City. After one particularly abrupt change in flows, thousands of fish were unable to follow the rapidly receding water back into the main channel and became stranded in shallow pools along the flood plain.*

*Dozens of trees – some of them from orchards growing on bluffs along the channel – toppled and are now submerged or are in danger of falling in. All that sandy soil and silt from the crumbling banks – combined with spillway debris washing down – have created massive new sandbars and covered large portions of the river bottom. Stone says prime gravel that Chinook salmon used as spawning beds is now covered up with silt*

*At issue is how people have been using the highly modified Feather River in the six decades since the state built Oroville Dam and began controlling the river's flow.*

*Long sections of the Feather River's nearly 70-mile channel below the dam sit below tall, steep banks cut into sandy soil. It's only during the wettest of years that high flows released from Oroville Dam crest those banks and water inundates flat flood plains on either side of the channel. The flat areas are flanked by major flood-protection levees. Farmers who have orchards between the river channel and the levees know their orchards will be flooded from time to time.*

*In a normal year, dam operators manage Oroville releases by gradually dialing them back to help prevent levees and river banks from caving in. This gradual easing also gives any fish that were swimming in the flooded areas more time to follow the river back into channel.*

*This year was anything but normal. After the dam's spillway cracked in February, the state Department of Water Resources struggled to figure out how to best unload the water pouring into the dam from rain and snow without doing more damage to the spillway.*

## **Run-off and New Reservoirs: The limit to the debate**

*Families Protecting the Valley provides the following item to introduce this section on the proposed new reservoirs, Temperance Flat and Sites. As I wrote above, desperate people sometimes have difficulty in seeing a way out of their problems; they are trapped within a system that does not allow what must be done to be done. While as the post below makes clear that a hell of a lot of water flowed through the California river and reservoir system this year, but most of it flowed directly out to the ocean. But, being trapped into thinking that all the state requires is more storage capacity, and spending millions of dollars and the energy of thousands of people to focus on two projects that most likely will never be built within the existing system, is not exactly a recipe for solving the problem. Two articles discussing the two proposed projects are also included in this section.*

### ***Lost to the Sea***

<http://familiesprotectingthevalley.com/news.php?ax=v&n=5&id=10&nid=668>

*There's still a lot of snow that will melt and come down our rivers and through our reservoirs. There is*

so much we have no place to put it ([It's June. California Is Still Covered in Snow](#)). This has been the basic argument in favor of new storage. If we could save some of this snow melt for the dry years, the droughts would be less severe.

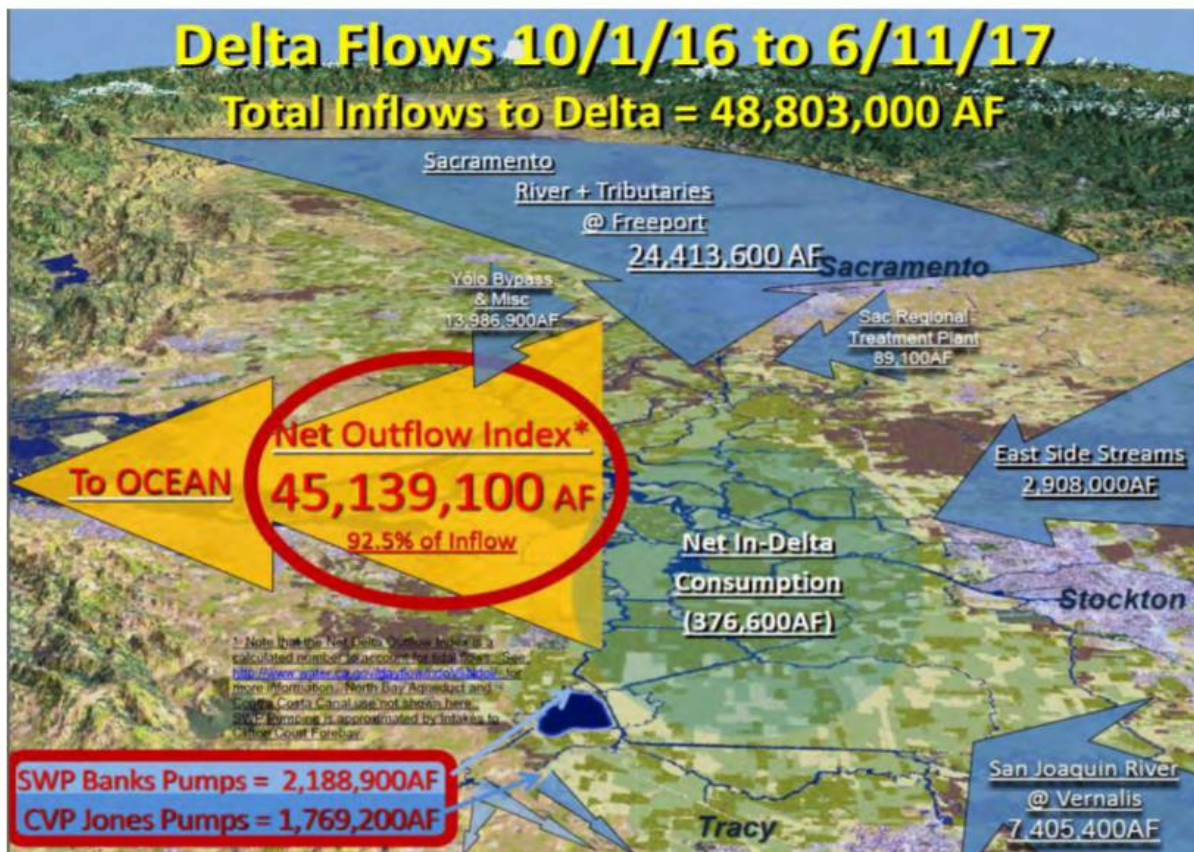
The chart below shows how much water has flowed into and out of the Delta from October 1st of last year through last Sunday. You can see almost 49,000,000 acre feet of water have flowed into the Delta and 45,000,000 have gone through and out to sea. Remember, an acre foot is enough water (326,000 gallons) for a family of 4 for an entire year. 45,000,000 acre feet is enough water for 45,000,000 families, or 180,000,000 million people.

There is now way to capture all of it. No one is proposing that. We only want a few more acre feet. The proposed Sites Reservoir in the Sacramento Valley would hold about 2 million acre feet. Temperance Flat above Millerton Lake would hold more than a million acre feet. If we had these facilities 42 million acre feet would have gone to the ocean instead of 45,000,000. Is there anyone who can prove that the Delta would be noticeably worse off because of it?

And remember, there's a lot more that will be lost as the snow pack melts this summer as the weather heats up!!

### Delta Flows from October 1, 2016, through June 11, 2017

In eight months, 48,803,000AF of water flowed into the Delta. The Net In-Delta Consumption was (376,600AF) (-.77%). The Banks and Jones Pumps captured 3,958,100AF (8.1%), and 45,139,100AF (92.5%) flowed out to the ocean.



## ***House Plans Vote On Sites Reservoir Permit Process***

*By Drew Bollea*

*June 20, 2017*

<http://sacramento.cbslocal.com/2017/06/20/sites-reservoir-deadline/>

*SACRAMENTO (CBS13) — It's been decades since a major **water** storage reservoir has been built in California. Now the August deadline for the Sites Reservoir Project is closing in.*

*As feet of snow melt under intense heat, supporters of the Sites Reservoir are pushing for a way to **save more** water.*

*"We feel prepared to submit an application and all the documentation that goes along with it," said Thad Bettner of the Glenn Colusa Irrigation District.*

*The deadline to apply for funding is in August. Voters approved a more than \$7 billion water bond in 2014 in the worst of California's drought, which would potentially offset the cost of a new reservoir.*

*The Sites project has been surveyed, studied and debated for decades. Congressional leaders are trying to speed things up.*

*"HR 1654 will bring order from this bureaucratic chaos," said Rep. Tom McClintock during an April Natural Resources Committee meeting.*

*McClintock says his bill would streamline the federal permitting process for new water storage projects. The House will vote on the bill on Thursday.*

*"Fewer delays, more efficient use of tax payer dollars, and ultimately, more abundant water supplies," said McClintock.*

*But when it comes to Sites, the language moving forward may need to be reworked.*

*"The project has to sit on federal land and unfortunately Sites does not sit on federal land. It's on private land," explained Bettner.*

## ***Project aims to add Central Valley water***

*Christine Souza*

*June 21, 2017*

<http://agalert.com/story/?id=10974>

*Backers of the proposed Temperance Flat Dam and Reservoir say the \$2.8 billion project would capture and store additional water in the San Joaquin River watershed, creating greater flexibility, relaxing pressure on groundwater and providing other benefits to the region.*

*Long studied by the U.S. Bureau of Reclamation, the project, which could take a decade to complete, is among those competing for a portion of \$2.7 billion in storage funding available through the voter-approved Proposition 1 water bond.*

*To be built within the existing Millerton Lake, which is part of the federal Central Valley Project, the proposed Temperance Flat Dam and Reservoir would be upstream from Friant Dam on the San Joaquin River in Fresno and Madera counties.*

*"Temperance Flat would add 1.26 million acre-feet of storage to Millerton and, when added to existing storage of 520,000 acre-feet, you have a total of 1.78 million acre-feet, or triple the existing capacity," Santoyo said.*

*Proponents of Temperance Flat and other water projects have less than two months to finalize applications for bond funds. If awarded, bond money would be used toward public benefits of the projects, such as ecosystem, fishery and water quality improvements; flood control; emergency response; and recreation.*

## **Lake Mead: Rationing or No Rationing, That Is the Question**

### ***Lake Mead forecast drops sharply, may trigger CAP water shortage***

*By Tony Davis*

*Arizona Daily Star*

*June 17, 2017*

[http://tucson.com/news/local/lake-mead-forecast-drops-sharply-may-trigger-cap-water-shortage/article\\_9ca6d46a-7847-5a8c-9575-5aee6a8cabe3.html](http://tucson.com/news/local/lake-mead-forecast-drops-sharply-may-trigger-cap-water-shortage/article_9ca6d46a-7847-5a8c-9575-5aee6a8cabe3.html)

*A federal forecast of water levels at troubled Lake Mead took a big turn for the worse this week — a 20-foot drop in the lake's expected January 2019 elevation.*

*The U.S. Bureau of Reclamation's monthly prediction for Colorado River reservoir levels says the lake could drop to 1,076.53 feet by the end of 2018 or Jan. 1, 2019. That would be a foot and a half above where a Central Arizona Project water shortage would be declared. Last month, the forecast for the end of the year was 1,096.77 feet.*

*A shortage declaration would cut river water deliveries to Central Arizona farmers and Arizona Water Bank recharge projects. Tucson gets most of its drinking water from CAP but wouldn't be affected by a shortage declaration at this point — only when and if the lake drops much lower.*

*The forecast is down sharply from the bureau's May 2017 prediction because this spring's river runoff levels are less than expected a few months ago although still above normal. That means the amount of water to be released from Lake Powell downstream to Mead this year won't be as much as was thought a few months ago. The prospect of lesser releases from Powell has been known for some time, but the 20-foot-decline in the 2019 forecast was just released.*

*“The severe drop-off in anticipated flows into Lake Mead represents a shocking turn-around in expectations for the near-term health of the great reservoir,” said the Arizona Department of Water Resources in an article on its website.*

## **Wildfire Season Is Upon Us Now**

### ***What a Wet Winter Means for Wildfire Season***

*By Braxton Little*

*June 19, 2017*



<https://www.newsdeeply.com/water/articles/2017/06/19/what-a-wet-winter-means-for-future-of-wildfire-season>

*fter a winter that left record piles of snow in the mountains and drenched most of California's valleys, it's no surprise that it is grass fires that are fueling a fast start to the state's 2017 fire season. More than 16,000 acres had burned by June 3 in 1,229 blazes, most of them in central and southern California.*

*That is an alarming two-and-a-half-times more acreage than was burned by June 3 last year, said Scott McLean, a spokesman for the state's Department of Forestry and Fire Protection, known as Cal Fire.*

*"Everybody's excited about the drought being over but all that moisture enhances the grass crop. It's denser and higher, and it catches fire very easily," he said.*

*We can look to the hills for relief, federal officials said. The rains that are fueling the green-up in the valleys fell as snow at the higher elevations. The result is a slow start to the fire season in the Sierra Nevada, mostly managed by the United States Forest Service: just 2,576 acres of federal lands had burned by June 3. By June 7 last year, nearly 13,000 acres had burned. The moisture should lead to a delayed and shorter season overall in the Sierra, according to the National Interagency Fire Center (NIFC) in Boise, ID.*

*The exceptionally wet winter may also offer an opportunity to deal with one of the more problematic legacies of California's five-year drought: 102 million dead trees. Despite scientific debate, most officials consider them an extreme fire danger. The tool being tested to reduce the potential for future uncontrolled blazes is, ironically, fire.*

*With the wet winter leaving much of the Sierra Nevada's forests damp with no immediate threat of burning, officials and fire scientists are looking ahead to a potentially catastrophic fire hazard still several years in the future. Looming on the horizon throughout the 4,500–6,000 feet (1,370-1,830 meters) elevation in the southern and central Sierra are those millions of dead trees. Weakened by drought, most succumbed to a blitz of pine beetles that ate into their bark and cut off their circulation system.*

*Left alone, the 102 million dead trees will eventually topple to the ground, creating a tangled mass of fuel. It is only a matter of time until lightning turns these forests into infernos, scientists say.*

## **Desalination**

The state's water needs will never be met by piecemeal action. As the report below demonstrates, when it is celebrated that a mere five million gallons per day has been added to the supply, we must wonder what happened to the idea that Americans think big.

### ***More drought-resistant water sources in San Diego County? Sure thing***

*The Sweetwater Authority announced plans for an expansion of its groundwater desalination plant in 2012 that would double its production from 5 million gallons a day to 10 million gallons a day.*

*[The San Diego Union-Tribune Editorial Board](#)*

*<http://www.sandiegouniontribune.com/opinion/editorials/sd-sweetwater-authority-desalination-plant-20170616-story.html>*

*A \$42 million project that doubled the capacity of an innovative groundwater desalination plant in*

*Chula Vista is now complete, another big step for a region in dire need of diversification of its water supply. The expansion doubles the facility's production of drinking water from 5 million gallons a day to 10 million by adding five new wells. The drought-resistant water source — brackish, or saline, groundwater that's been cleaned using reverse-osmosis technology — will be shared evenly between the Sweetwater Authority and the city of San Diego, which split the costs of the project not covered by \$31 million in state and federal grants.*

## **Feature: A National Credit System**

The following quotation from the article I cite in the introduction above, “Give Americans Some Credit.” <https://larouchepac.com/20170622/give-americans-some-credit>, provides a good introduction for this section:

*Speaking to a U.S. Commerce Department foreign investment "summit" on Monday, Treasury Secretary Steven Mnuchin said, "Working with foreign investors is going to be a critical part of any infrastructure plan we put forward." Fine. Many China business leaders among the 1,200 attending, want to see China investing in a new U.S. infrastructure build, through American national credit institutions like the four major national banks which have funded China's incredible infrastructure breakthroughs of the last 20 years.*

*But Mnuchin then said, "Public-private partnerships are critical..." for building new infrastructure — the failed "liberal world order." So-called PPPs, where investment firms want their capital back within 10 years, and 10-12% interest annually, do NOT build new infrastructure platforms.*

*A network of high-speed rail lines across the nation? Sea gate systems which would have protected New Orleans from Hurricane Katrina, and New York's transportation systems from Superstorm Sandy? Desalination complexes and long-range water-transfer systems to irrigate the West? Human bases on the Moon? PPPs do not create such things.*

*National credit does.*

President Trump back in March spoke about returning the nation to the “American System” of Alexander Hamilton, Henry Clay and Abraham Lincoln. At the heart of that American System is a national bank that makes funding for infrastructure and other related industrial investments possible. Call it something else if necessary: A National Infrastructure Bank, for example, but without such an institution that will direct credit at very low interest rates to creating a platform of higher productive capability, it will not be done.

But, there is something more fundamental required to this discussion, which is what Lyndon LaRouche discussed a few years ago:

*You're talking about an investment by more than one generation. All of the great projects which we need now, as in the past too, are projects which require multigenerational investment. They are the incurrence of debt, a debt which spans generations. And one of the great things that we have to master in this respect, is what is the nature of human beings....*

*The idea of credit, first of all, is human. It doesn't exist for anything except for human beings, to our knowledge. Therefore, we design a monetary system, or a financial system, based on a system of credit, which means the development of one individual, who transmits something which is of use to a second generation. And this is not a process of continuation; it's a process of development. And the unit of development is what we should call 'credit.'*

Great projects through national credit, a debt which the next generation will be able to "pay back," using the higher-technology infrastructure to produce and live at a higher and more productive human level. Only nations can generate that credit, individually and through international development banks such as LaRouche has proposed for forty-five years.

There is no more time for "talk about building a new infrastructure." A "Hamiltonian" national bank for such credit must be created now.

To make the point clear, look at the difference in cost between lending from a national bank and the "public private partnerships (PPPs)." A national bank, as we used to have in the 1791-1835 period, would charge, say 1.6% interest, and the PPPs want 10-12%.

Take a \$10 billion loan, which is nothing in terms of national platform requirements, and over a 40 year time frame, which is typical of infrastructure.

At a 1.6% rate, you will pay, over 40 years, \$18.86 billion back to the bank.

At a 8.5% rate, \$261.3 billion.

At a 12% rate, \$930.5 billion

China, which is the world leader in building infrastructure, provides financing at 0%, 1%, 1.6%, 2%, even grants, unless its energy projects which are 4-5%, and all from Chinese State owned banks.

China, as has been reported often in recent months, wishes to invest some of its \$1.3 trillion of U.S. Treasury Bills it holds in helping the President make America great again. But, it will only happen if the U.S. has an institution of credit to handle it.

Here is an article making the point:

### ***Public-Private Partnerships Don't Work, but China's Policy Does***

*June 17 (EIRNS)—A New York Times article today falsely presumes to know what President Trump's infrastructure plan is, but very usefully contrasts nations which have focused on public-private partnerships (PPPs), with China.*

*The article is headlined, "World Offers Cautionary Tale for Trump's Infrastructure Plan." The meat of it is reported at the outset:*

*"In India, politically connected firms have captured contracts on the strength of relationships with officialdom, yielding defective engineering at bloated prices. When Britain handed control to private companies to upgrade London's subway system more than a decade ago, the result was substandard, budget-busting work, prompting the government to step back in. Canada has suffered a string of excessive costs on public projects funneled through the private sector, like a landmark bridge in Vancouver and hospitals in Ontario.*

*"By contrast, China has engineered one of the most effective economic transformations in modern history in part through relentless investment in infrastructure, traditionally financed and overseen by an unabashedly powerful state."*

*The authors report that China has invested an average of 8.6% of its GDP into new infrastructure projects for 25 years, 1992-2016. This has worked, with rapid and efficient development of projects and high productivity; and large amounts of private investment in industrial development—both from within and outside China—has followed.*

Some may remember this article from back in January, which already demonstrated the limitations of those in the Trump administration. And thus far, six months later, they still have not learned:

***EXCLUSIVE: Trump team compiles infrastructure priority list***

*By Lynn Horsley, Steve Vockrodt, Walker Orenstein and Lindsay Wise*

*The Kansas City Star and McClatchy Washington Bureau*

*January 24, 2017*

<http://www.mcclatchydc.com/news/politics-government/white-house/article128492164.html#storylink=cpy>

*President Donald Trump's team has compiled a list of about 50 infrastructure projects nationwide, totaling at least \$137.5 billion, as the new White House tries to determine its investment priorities, according to documents obtained by McClatchy's Kansas City Star and The News Tribune.*

*The preliminary list, provided to the National Governor's Association by the Trump transition team, offers a first glimpse at which projects around the country might get funding if Trump follows through on his campaign promise to renew America's crumbling highways, airports, dams and bridges. The governor's association shared that list with state officials in December. The group told the officials the projects on that list were "already being vetted."*

We shall conclude with an excerpt from this article:

***New York "Summer of Hell" Chaos Looms — No Piecemeal Approach Will Work: USA Must Enter a New Paradigm***

<https://larouchepac.com/20170621/new-york-summer-hell-chaos-looms>

*The only way to fund an infrastructure program on the scale that is needed, is in the way that [Lyndon LaRouche has proposed in his Four Laws](#). First and foremost, stop the hemorrhaging with Glass-Steagall. No more trillion-dollar QE packages; that money is worthless! The banks must be separated by function—that is commercial, savings and loan solvent banks separated from speculative investment banks. This must be followed immediately by a top-down system of national banking and credit as President Abraham Lincoln did with his successful Greenback policy.*

*The purpose of such a Federal Credit System, is to increase the productivity of the American people, through investment in and development of advanced technologies, which will also create mass new employment in productive jobs. Jobs which can become careers, as opposed to taking in each other's laundry, as millions are now doing with the informal app-based, slave-labor economy of today.*

*Finally, all of this must be driven by a commitment to harnessing thermonuclear fusion power to supply mankind's ever-increasing need for energy. Not only will a modern rail grid require an abundance of electricity, but moving mankind into space, to learn the secrets of the universe, and develop breakthroughs in science, means developing nuclear powered rockets as Kennedy envisioned.*