California Water and Infrastructure Report

Formerly, the "California Drought (and Flood) Update"



For April 12, 2018 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

patruckert@hotmail.com

It is not infrastructure as such which provides this benefit, but the toll-free public infrastructure which increases the net productive powers of labor per capita and per square kilometer, for the society as a whole, that at a greater rate than at any point of production investment.

Similarly, it is the employment of Classical artists, physical scientists, and an advancing quality of universal health-care system and pensions, the human aspects of basic economic infrastructure in general, which must enjoy, together with science and the machine-tool sector, the relatively greatest degree of preference in the expenditure and investment by society in all sectors. The way to higher productivity is not the immediate output of some people, but the development of the general environment defined by the society as a whole, the society within whose development the great catalyst of increased productivity is concentrated.

WHAT'S WRONG IN EUROPE? Are You Neotenous? by Lyndon H. LaRouche, Jr September 1, 2008

A Note To Readers

As infrastructure provides the foundation for a nation's entire economy-- its level of productivity; its ability to integrate its industrial capability; its ability to develop a skilled labor force; the foundation of advanced scientific research; and the building of a comprehensive education and health care system-- it is infrastructure that must be the focus of the government. When that focus is lost we get what we have today.

The quotation above from a decade old article by Lyndon LaRouche has an interesting title. What is "Neotenous?" The question is answered with some extended excerpts from the article in the "Feature" section of this week's report. China, during its "Cultural Revolution," demonstrated the Hell a neotenous culture could produce. But, China gave it up and is now the leading economy in the world. The U.S., on the other hand, made the counter-culture the dominant culture of the nation.

Perhaps with the announcement this week that the Speaker of the House Paul Ryan will not seek reelection in November one of the biggest impediments standing in the way of President Trump's infrastructure building intent will be removed. Just to remind you, it was Ryan that said that there will be no funding for any infrastructure from the Congress unless the money comes from cuts to Social Security and Medicare. Clearly, a dead on arrival policy. So, good riddance to one of the anti-American System, Ayn Rand ideologues polluting our political culture.

In This Week's Report

Last Friday in San Francisco was the second rainiest day since 1849. Despite that, the drought has intensified over the past week. The U.S. Drought Monitor provides the details.

While the drought in California slowly intensifies, the rest of the southwest is already deep in drought and the Colorado River continues to inch toward a level that will mean mandatory rationing for the entire southwest. And since that river provides a large contribution to California's water supply, that is something to pay attention to.

Perhaps looking at that had something to do with the Metropolitan Water District of Southern California's decision this week to fund about two-thirds of the "WaterFix" tunnel project in the Delta. For that is the decision that agency made. So now, at least maybe for now, the two tunnels will be built, if not stopped by law suits. Or maybe something else, like a new governor next year.

Oroville Dam was in the news last week with the announcement that the repaired spillway may have to be used for the first time, but that was not to be. We do have an new interesting video though on the ongoing construction.

Being a farmer in California has always been difficult, and these past few years doubly so. "Low water supplies leave farmers in a bind," describes the present situation for some.

Following some news shorts on economic, infrastructure and related topics leads us to our "Feature" this week, which I described above.

It Has Not Rained This Much Since 1849

California storm: West Coast still drenched after second rainiest day since 1849 Gold Rush

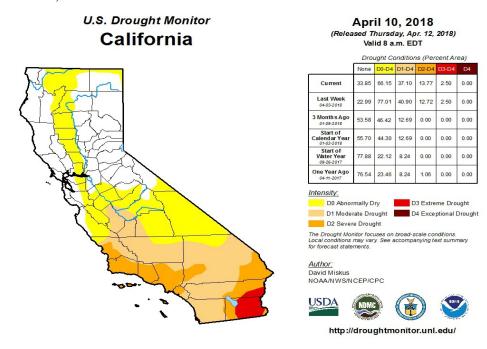
https://www.cbsnews.com/news/california-pineapple-express-storm-west-coast-still-drenched/ April 7, 2018

LOS ANGELES -- <u>Heavy rain is drenching</u> the west from southern California to Seattle. Freeway overpasses became urban waterfalls as the massive Pacific storm dumped a month's worth of rain on San Francisco in just a day and a half.

Flooded roads caused rush hour gridlock downtown San Francisco, Friday was the second rainiest

U.S. Drought Monitor

This week's U.S. Drought Monitor shows that while the portion of the state in Moderate Drought and Abnormally Dry declined due to the past couple of weeks of precipitation, the Severe Drought category slightly increased. Once again demonstrating, as has the past few week's graph, that the drought process is one that will not be stopped. So, once again, my forecast is a steadily intensifying drought for the next six months, at least.



Drought, the Colorado River and Rationing Ahead

Dismal forecast for Lake Powell runoff heightens future CAP shortage risk

- By Tony Davis Arizona Daily Star
- Apr 8, 2018

http://tucson.com/news/local/dismal-forecast-for-lake-powell-runoff-heightens-future-cap-shortage/article f030a637-16fe-5108-a108-ac2f2ccd5aed.html

Colorado River runoff that flowed like wine last year is sputtering this year, boosting future shortage possibilities.

A cutback in Central Arizona Project deliveries in 2019 is considered highly unlikely at best. But shortage risks increase dramatically in the following years, the U.S. Bureau of Reclamation says.

Federal forecasters predicted last week that the spring-summer runoff into Lake Powell will be only 43 percent of normal this year. That's due in part to a poor winter snowpack season and an expectation that the next two months' weather will be about normal.

If the forecast pans out, it will be the sixth worst runoff into the lake from the river's Upper Basin over 54 years of record-keeping.

Drought conditions in state worsened in March

- Daily News staff
- April 10, 2018

http://www.mohavedailynews.com/news/drought-conditions-in-state-worsened-in-march/article_e26be15c-3d51-11e8-8224-c362fbe1271a.html

BULLHEAD CITY — Forty-five percent of Arizona is now in extreme drought according to the Arizona Drought Monitoring Technical Committee.

The committee released a report last week showing statewide drought conditions worsened during March. The continued dryness led to drought declarations on the Navajo Nation and in Yuma County.

Though a series of weak storms passed through Arizona, they left only insignificant snow, according to the report. The southern half of the state remained dry and northern Arizona received only scattered light precipitation. The committee noted rangeland conditions are very poor with little forage, and water hauling for both livestock and wildlife has begun in many parts of the state.

Water in the Colorado River is generated by snowmelt runoff from mountain ranges as far away as Wyoming and Colorado.

As of April 2, the Upper Colorado River basin snowpack stood at just 72 percent of normal, resulting in a runoff season that may be the sixth driest since Glen Canyon Dam and Lake Powell have been in place to capture the runoff, according to a report on the Arizona Department of Water Resources website.

The Colorado River system, which provides Arizona with about 40 percent of its water supply, has experienced severe drought conditions since 2000.

Water levels in Lake Mead, the primary storage reservoir for the Lower Basin states — Arizona, California and Nevada — have been declining and projections indicate this will continue into foreseeable future, according to ADWR.

U.S. Bureau of Reclamation reports as of Tuesday showed Lake Powell is 56 percent full and Lake Mead is at 41 percent, with an 1,087 foot elevation, roughly 12 feet above the 1,075 elevation that would trigger automatic first tier shortages for Central Arizona Project deliveries.

BuRec does not anticipate any level of shortage in Lake Mead for 2018, but increased the probability of shortage in 2019 from 15 percent in August 2017 to 17 percent probability now. BuRec's Colorado River Simulation System model also increased the probability of shortage in 2020 by 7 percent, in 2021 by 13 percent and in 2022 by 11 percent.

Worse, ADWR officials said, in-state river systems are historically low; provisional data for runoff in the Salt and Verde reservoir systems show the January through March runoff totals are "the lowest amounts on record dating back to 1913."

Mountain snowpack shrinks to 66 percent of normal, feds sound drought alarm Water suppliers say emerging drought shows need for increased reservoir storage

By <u>Bruce Finley</u> The Denver Post https://www.denverpost.com/2018/04/05/colorado-mountain-snowpack-drought/



Colorado's shrinking <u>mountain snowpack</u> — at 66 percent of <u>normal</u> statewide Thursday — forced an expanded federal drought designation covering nearly a quarter of the state with stream flows forecast at half of average, setting off a scramble to secure water supplies.

The scarcity spurred calls for storing more water in reservoirs to sustain the state's growth boom.

"There's going to be people without water," especially in Southern Colorado, U.S. Department of Agriculture snow survey supervisor Brian Domonko said. "It's going to be a tight year."

Oroville Dam Update

Video: Oroville Spillways Phase 2 Update Early April 2018

From the Department of Water Resources

Published on Apr 11, 2018

Crews remove material from the hillside near the upper chute of the main spillway. Excavators dig out the new section of cut-off wall while roller-compacted concrete (RCC) continues to be laid for the splashpad.

https://www.youtube.com/watch?v=LNU47YgdM5M



Drone view of the main spillway at Lake Oroville, March 29, 2018 (DWR)

Lake Oroville Spillways Update: April 8 - Use of Main Spillway Unlikely

Published: Apr 08, 2018

https://www.water.ca.gov/News/News-Releases/All-News-Articles/Lake-Oroville-Spillways-Update-April-8-Main-Spillway-Unlikely

OROVILLE – The California Department of Water Resources (DWR) today determined use of Lake Oroville's flood control outlet spillway (also known as the main spillway) is now unlikely this week. The weather system experienced in the Feather River basin over the weekend, while delivering an unusually high amount of precipitation for this time of year, did not meet anticipated forecasts that would have required use of the main spillway.

Water and Agriculture: Always Difficult

Low water supplies leave farmers in a bind

Issue Date: April 11, 2018

By Christine Souza

http://agalert.com/story/?id=11755

With reservoirs at or above average storage levels and the Sierra Nevada snowpack improved by storms in March and early April, farmers await word from federal and state water agencies about whether water allocations might improve.

During a winter in which the snowpack reached only about half of average levels, both the federal Central Valley Project and the State Water Project told most of their agricultural customers to expect 20 percent water allocations this year.

Conditions improved during March and early April, and water managers told the State Board of Food and Agriculture last week they are trying to determine if that could allow for improved allocations.

David Murillo, director for the U.S. Bureau of Reclamation Mid-Pacific Region, which operates the CVP, said federal fisheries agencies remain concerned about storing enough cold water in Lake Shasta to meet the needs of endangered fish.

"We believe that we are on the bubble there, but we should be able to meet these allocations," Murillo said, adding that the water in Shasta is currently "warmer than we would have hoped."

The agencies plan to rerun hydrology models to see if last week's storms will make a difference, he added.

Meanwhile, Joel Allen, a CVP grower who farms row and field crops in the Westlands Water District west of Firebaugh, said the low allocation and lack of certainty from year to year "is a far cry from where we need to be."

"It's not a good situation," Allen said. "We're hoping for a better allocation and honestly, that's not the case. I think there is enough water in the system to support that, but once again, we're given the shaft and taking a backseat to the environmentalists, so we're not happy about it. We want some type of continuity or guaranteed water source. Every year is a guessing game."

"In 2014, the water allocation was 0 percent; in 2015, 0 percent; and in 2016, 5 percent. I think banks

pulled the reins in and said, 'Hey we've got to make sure these guys have a more reliable source of water,'" Allen said.

North of the delta, Jim Jones, who farms near Orland, said the initial 20 percent allocation water contractors received puts growers in a "holding pattern," limiting them from moving forward with planting and settling contracts with processors.

"The hangup is, why are we limited to 20 percent? If you look at the volume of water in Shasta, it points to a higher than 20 percent allocation," said Jones, who sits on the boards of the Orland-Artois Water District and the Tehama Colusa Canal Authority, which contract for CVP water. "People would like to go out and sign up for crop contracts, but people are really hesitant. It's really frustrating."

The Tunnels Will Be Built-- Maybe

Well, the question has finally been answered: Yes, the Metropolitan Water District of Southern California (MWDSC) is all in. But, does that mean the project is now in the bag? No. So while MWDSC has agreed to finance \$11 billion of the \$18 billion price tag, opposition and unforeseen developments shall strew obstacles in the pathway ahead.

What follows are a selection of articles and links that should tell you all you need to know, or perhaps more than you want to know.

The question that will remain is, what difference will it make for California's water supply far into the future? For as everyone should know, in another 20 or 30 years, maybe less, maybe more, another 10 million people will live in the state, and unless actual real new water supplies are created by massive desalination and the building of the North American Water and Power Alliance project, the chronic water problems of today shall just get worse.

Press Release from the Metropolitan Water District of Southern California

METROPOLITAN BOARD APPROVES ADDITIONAL FUNDING FOR FULL-SCALE, TWO-TUNNEL CALIFORNIA WATERFIX

April 10, 2018

https://outlook.live.com/owa/?path=/attachmentlightbox

The board of directors of the Metropolitan Water District of Southern California voted today to provide the additional financing necessary to allow for the construction of the full California WaterFix project.

The board authorized \$10.8 billion for the project to modernize the state's aging water delivery system, making Metropolitan the primary investor in the project and more than doubling the agency's initially planned investment to ensure the project is completed as originally proposed and studied.

<u>Water agency approves \$11B for California twin tunnels plan - AP News - Breaking News</u>

Source: townhall.com

Apr 10, 2018

http://www.4conservative.com/item/3655650/water-agency-approves-11b-for-california-twin-tunnels-plan-/

LOS ANGELES (AP) — California's largest water agency on Tuesday approved a nearly \$11 billion

plan to help fund two enormous tunnels, breathing new life into Gov. Jerry Brown's ambitious and controversial plan to remake the state's water system.

The board of the Metropolitan Water District of Southern California voted to pay about \$10.8 billion toward the twin-tunnel project supported by the governor.

While MWD staff recommended that the board choose the one-tunnel plan because it's less risky financially, they have maintained that building the full Sacramento-San Joaquin delta project would provide more overall benefits to California's water delivery system.

Tuesday's vote pit MWD's two biggest members, the city of Los Angeles and the San Diego County Water Authority, against its third-largest member, the Municipal Water District of Orange County—one of the agencies that pushed to get the two-tunnel proposal back on the agenda.



Map of the Sacramento-San Joaquin Bay-Delta. (California Department of Water Resources)

Two tunnels? One? None? Water agency to decide how much to spend on Delta fix

By <u>Teri Sforza</u> Orange County Register April 9, 2018

https://www.ocregister.com/2018/04/09/two-tunnels-one-none-water-agency-to-decide-how-much-to-spend-on-delta-fix-2/

Even as many cities in Southern California push back against the state's "sanctuary state" policies, the famously conservative enclave of Orange County soon might help Gov. Jerry "Moonbeam" Brown realize a long-sought dream:

A pair of tunnels that will run beneath the central Delta, ferrying more-reliable water to the state's parched southern region even as they protect wildlife.

Considered dead as dust just days ago, Brown's water dream won't come cheap — an estimated \$16.7

billion for both tunnels. And a disproportionate share of the project financing — \$10.8 billion, or nearly 65 percent of the total — would come from the gargantuan Metropolitan Water District of Southern California, which supplies 19 million people, or nearly half the state.

What is it?

The <u>California Water Fix</u>, as it's now called, was proposed by Gov. Brown and the California Department of Water Resources in 2009, when they pitched it as the Bay Delta Conservation Plan.

It would sink two tremendous tunnels beneath the Sacramento-San Joaquin Delta to carry fresh water from the Sacramento River to intake stations that would funnel the water to farms and cities to the south. It's not an unprecedented engineering trick. Similar tunnels include the "Big Dig" that runs beneath Boston and the "Chunnel," under the English Channel that connects England and France.

The system could divert up to 9,000 cubic feet-per-second from the Sacramento River and capture rain water that currently flows to the ocean, planners say.

"Modernizing and improving California's water system are essential to ensure reliable delivery of the state's water supplies," says Metropolitan's report on the project. "The Delta's ecosystem and 1,100 miles of levees are increasingly vulnerable to earthquakes, flooding, saltwater intrusion, climate change and environmental degradation....

"California WaterFix is intended to address these problems and improve both the reliability and quality of exports from the Delta," Metropolitan said.

While covering the additional costs would "present some financial risk to Metropolitan" at first, it's likely that "there will be a flurry of buyers for the water" down the road, said a statement from the Municipal Water District of Orange County.

MWD's mega tunnels project: What could go wrong?

At Tuesday's historic vote, representatives of Los Angeles and San Diego voted no on the twin tunnels plan for the Sacramento-San Joaquin Delta. It's unclear the extent to which opposition from Los Angeles and San Diego could undermine the progress of the project.

By <u>Sharon McNary</u> | April 12, 2018 https://www.scpr.org/news/2018/04/12/82217/mwd-s-mega-tunnels-project-what-could-go-wrong/

The big vote is over.

The Metropolitan Water District of Southern California said yes this week to funding the lion's share of a \$17 billion project to divert water under the Sacramento-San Joaquin Delta in Northern California. Officials at the nation's largest water agency say the project is necessary to provide a steady supply of imported water to thirsty, growing Southern California.

Though the vote was months in the making, it might have been the easy part.

What's next?

A series of obstacles could inflate the costs, upend the 15-year construction timeline or perhaps stop the project in its tracks completely. They include legal challenges, a change in political leadership and cold feet among partner agencies.

MWD General Manager Jeffrey Kightlinger said the biggest risks facing the twin tunnels project are things his agency can't control, like a change in political priorities once Gov. Jerry Brown leaves office

and his pet legacy project behind.

How did the vote go?

What are the objections?

"There are going to be dozens of lawsuits over various subject matters that will be hurdles before this project really to move forward," she said.

Others will look to protect the water quality left in the Delta if water from the Sacramento River is captured for the tunnels. The impact of construction on air quality, and the impact on fish and wildlife is another, she said.

The Iron Law of Megaprojects

Cost overruns and delays are the most likely problems a high-risk project like the delta tunnels will face during their 15-year construction timeline, said Hank Koffman, director of USC's Construction Engineering And Management Program.

"The problem is, when we get these mega projects, they really are the state of the art and one of a kind, and we really don't have much of an experience factor in this," Koffman said.

Tunnelling is the riskiest sort of construction, he said.

Tunnel Vision: What the Big Water Vote Means

Southern California's biggest water agency voted to spend \$11 billion on two tunnels to keep water flowing south from Northern California – even though the state's two biggest cities, Los Angeles and San Diego, oppose the deal. Here's how it happened and what it means for California's water supply and San Diego ratepayers.

Rv Rivard

April 11, 2018

https://www.voiceofsandiego.org/topics/government/tunnel-vision-what-the-big-water-vote-means/

Editorial: Twin tunnels avoid voters but not courts

Posted: 04/11/18, 10:12 PM PDT | Updated: 8 hrs ago

http://www.chicoer.com/article/NA/20180411/LOCAL1/180419952

Money talks. So do votes. An abundance of both reside in Southern California, which is why a horrible idea like twin tunnels under the delta still has hope of becoming reality one day.

Gov. Jerry Brown's twin tunnels, which his administration euphemistically refers to as "California WaterFix," die more often than a cheap car battery. But they keep springing back to life, with south of the delta money interests supplying the jumper cables.

The latest revival came courtesy of the wealthy and far-flung Metropolitan Water District of Southern California. The Met's board voted Tuesday to up its ante and pay nearly two-thirds of the \$17 billion cost.

Editorial: Stop the madness! Californians deserve Delta tunnel vote

One Southern California water district shouldn't determine the fate of the fragile estuary. https://www.mercurynews.com/2018/04/12/editorial-californians-deserve-vote-on-delta-tunnels-issue/

Frazier: Met's Dishonesty Threatens to Destroy Delta

By <u>ECT</u> Apr 11, 2018

https://eastcountytoday.net/frazier-mets-dishonesty-threatens-to-destroy-delta/

SACRAMENTO – Assemblymember Jim Frazier (D-Discovery Bay) issued the following statement today after the Metropolitan Water District of Southern California's Board of Directors voted to finance the majority of the proposed Delta twin tunnels plan:

"Californians deserve comprehensive 21st century water management solutions in light of climate change and more frequent and devastating droughts, not a decades old plan that creates no benefit and picks the pockets of hard-working people.

The vote by the Metropolitan Water District of Southern California shows that proponents of this project have been deceitful the whole time. There's never been a "statewide" approach as they've claimed. It's never been about sustainability but a foolhardy plan to overdraw the Delta to sell a limited and precious natural resource to the highest bidder.

LA supports turning Delta into Owens Lake 2.0

Dennis Wyatt April 11, 2018

http://www.mantecabulletin.com/section/38/article/151024/

Los Angeles water pirates like referring to the myopic Twin Tunnels as the Delta Water Fix. Their basic argument is the Golden State has unreliable plumbing so let's fix it. But before you sign on the dotted line or get out your checkbook you need to ask yourself a question or two.

Nuclear Power, Permitting of Projects, Greening the Desert, NASA

Ohio Fight to Re-regulate Electricity and Save the Nuclear Energy Industry

April 12 (EIRNS) -- Former U.S. Congressman Dennis Kucinich, who is running for governor of Ohio, has come out calling for re-regulation of the electric utility industry in his state. No supporter of nuclear energy, he motivates re-regulation to prevent the closure of the state's two nuclear plants, and explains how nuclear energy differs from subsidized and unreliable renewables.

The closure of the nuclear plants would increase costs to the consumer and increase emissions, he says. Thanks to deregulation, "There are now 1,600 Ohio jobs at risk," in the fossil industry, all of which are high-paying jobs. An additional 4,000 jobs in Ohio that support nuclear power would disappear, along with the \$25 million the utilities pay in state and local taxes.

Kucinich warns that there is risk in depending so much on natural gas. "The gas industry's price cutting is only temporary," he said, and there will be "sharp increases," in prices when they drive out the competition, in the deregulated market.

"Ohio's economy cannot absorb the shock of taking existing nuclear utilities off-line in a deregulated market," he says, although he calls for an extended phase-out of nuclear.

This is the first call for re-regulating the electric utility industry by a prominent political figure, which should be replicated in other states, and become federal policy.

President Trump May Intervene To Save Nuclear Plants

April 6 (EIRNS)—President Donald Trump said in remarks in West Virginia, yesterday, regarding the request from FirstEnergy for the U.S. Department of Energy to intervene to prevent the closure of its nuclear plants, that he would "be looking at that" when he returned to Washington. If it were done, it would be the federal government taking a critical stand on energy policy, and an FDR-like invocation of federal law above state law, which has not come through with legislation to save the plants.

The law in question is Section 202 of the Federal Power Act, which says that the FPA ensures "just and reasonable cost-based rates" for generators that have an onsite 25-day fuel supply and are not recovering their costs. In the past, it has only been used to secure power during natural disasters and other emergencies, and prevent price gouging. This would be the first time it would be used in a situation that results from "market conditions," Utility Dive website explains.

Such an action would potentially have an impact on other nuclear plants in deregulated "market" states which are losing money, and could otherwise have to shut down.

The next step would be to create the conditions under which new plants could be built. It was announced yesterday by the Nuclear Regulatory Commission that it has approved the issuance of a combined construction and operating license to Florida Power & Light for two nuclear plants at its Turkey Point site.

When the economy starts to grow, and currently stagnating electricity demand leads the way, the crop of nuclear plants that has been waiting in the wings will emerge, to start the "nuclear renaissance" that the industry has been awaiting for a decade.

Agencies sign agreement to speed permitting

Nick Sobczyk, E&E News reporter

Greenwire: Monday, April 9, 2018

https://www.eenews.net/stories/1060078515

At least a dozen federal agencies today signed an agreement to streamline the environmental permitting process, a White House official confirmed to E&E News.

The memorandum of understanding implements President Trump's Aug. 15, 2017, executive order, which aims to cut permitting time for big infrastructure projects to two years.

One federal agency will take the lead on permitting under the MOU, issuing a single environmental impact statement for the entire federal government, the White House official said. The lead agency will be able to set timetables for other agencies, with the goal of getting the entire process down to two years.

Critics argue that today's agreement ironically creates more red tape.

The 2015 Fixing America's Surface Transportation (FAST) Act — the last major infrastructure bill to pass Congress — "basically did all this stuff," said Scott Slesinger, legislative director for the Natural Resources Defense Council.

Critics say the administration is adding bureaucracy by forging ahead with its own initiatives, instead of using existing tools to cut down permitting time.

"This is essentially existing law, even before the executive order," Slesinger said.

Conservatives and energy industry groups have hailed the various proposals as a necessary step to reversing the course set by the Obama administration.

But environmentalists say today's agreement ignores the real problem plaguing the president's plan in Congress: a lack of funds.

"This is a real diversion from the real issue of money," Slesinger said. "What's holding up infrastructure is not environmental reviews; it's money."

China Will Help Africa Green Its Deserts

April 11 (EIRNS)—China has approved a project to offer technological support for the construction of Africa's Great Green Wall, the Xinjiang Institute of Ecology and Geography (XIEG) under the Chinese Academy of Sciences said on Tuesday. Proposed by the African Union in 2007, Africa's Great Green Wall initiative aims to reverse desertification spreading drought, famine, and poverty through the Sahel region.

According to Lei Jiaqiang, director of the XIEG, China will cooperate with Mauritania, Nigeria, and Ethiopia, among other African countries, to systematically diagnose desertification and the technical needs in the region.

The project will bring China's desertification-prevention and -control technologies, materials, and products to Africa, and conduct environmental adaptability assessments. It will also include personnel training and capacity building on anti-desertification measures in African countries. Some Chinese enterprises dealing with prevention and control of desertification will also participate in the project.

"We hope to bring China's wisdom in anti-desertification to Africa and help enhance the capability of desertification prevention in African countries along the Great Green Wall," Lei said.

Budget Cuts Could Leave NASA with Rovers on Mars That It Can't 'Talk To'

April 11 (EIRNS)—Mars exploration on a wing and a prayer. NASA could end up having landers and rovers on Mars with which it can't communicate, because it doesn't have enough money to send an orbiter to act as a communications relay. At the present time, NASA has two rovers on Mars: Opportunity and Curiosity. Soon they will be joined by the InSight lander, which is to conduct seismic studies of Mars. Landers and rovers are not equipped with large, heavy communications systems that would allow them to communicate directly with Earth. So, the data they collect and the commands they receive from mission control are conveyed via orbiting relay satellites.

Currently, although NASA has newer orbiters at Mars that can, to varying degrees, serve as communications relays, the workhorses on orbit that were specifically designed as relays, are the Mars Reconnaissance Orbiter (MRO) and Mars Odyssey. They were launched in 2005 and 2001, respectively. Although NASA planetary spacecraft rarely cease operating at their nominal lifetime, perhaps five-years, the Mars exploration program is being asked to depend upon these two aging spacecraft for another decade—and they are already more than a decade old. There are other orbiters,

from other countries, that could possibly function as relays, but MRO's high-speed, high-resolution capabilities are unique.

NASA has had a plan to launch a new orbiter in 2022 as a replacement for MRO. It was to relay data from spacecraft on Mars, and also locate safe landing zones for a later Mars mission to return samples to Earth, slated for the mid-to-late 2020s. The sample-return mission is the priority, but in the budget, s there is no providing funding for both a rover to collect samples and a new orbiter.

Consequently, NASA has been asked to keep MRO operational. Considering its age, and the fact that critical components are already aging, the U.S. could end up blind on future missions to Mars.

China Is Innovating Faster Than You Imagine

Apr 11, 2018 @ 01:46 PM 969 <u>The Little Black Book of Billionaire Secrets</u> <u>https://www.forbes.com/sites/michaelcwenderoth/2018/04/11/china-is-innovating-faster-than-youimagine/#1d9616a6273d</u>

By <u>Michael C. Wenderoth</u>, Contributor I write on leadership and what the West should be learning from China. Opinions expressed by Forbes Contributors are their own.

When I talked to a group of Chinese executives recently about their trip to Silicon Valley last year, the consensus was disappointment: "Honestly, I don't know what all the hoopla is about," said one.

The world lauds Silicon Valley as a center of innovation, but many Chinese visitors, particularly from China's growing technology sector – aren't that impressed.

In turn, many Westerners still insist Chinese products are cheap, low quality copies.

While such perceptions may represent a portion of China's market, the country has more than its share of world-class companies that are increasingly rising in rankings on <u>size</u>, <u>growth</u> – and most significantly, <u>innovation</u>.

Feature

WHAT'S WRONG IN EUROPE? Are You Neotenous?

by Lyndon H. LaRouche, Jr
September 1, 2008
Executive Intelligence Review
https://www.larouchepub.com/eiw/public/2008/eirv35n37-20080919/eirv35n37-20080919_012-whats_wrong_in_europe_are_you_ne-lar.pdf

(Reprinted in the April 6, 2018 issue of Executive Intelligence Review)

Not all genuinely evil people are also stupid. Take the case of Julian Huxley, who represented a social set which included the following: his grandfather Thomas Huxley; his own mentor and Satanist Aleister Crowley; H.G. Wells; Brigadier John Rawlings Rees; Bertrand Russell; and, Julian's brother Aldous. That collection was just about as evil as the British establishment types come. Nonetheless, Julian either came up with, or merely adopted a concept named "neoteny." He referred to a special case in which the species of a lower form of life stops its process of metamorphosis into adulthood, as at the

larval phase, never enters the normal adult form of its species, and reproduces that larval, or comparable phase, in a sexually potent, "neo-adult" larval state. Imagine something like that being done, on a mass scale, to human beings; not in the customary sense of biological; but, culturally. As the clinical case of the 1968ers' "Weathermen" illustrates the case, it has been done to many among the Americans as it was to the European oligarchy.

Neotenous creatures (those whose physical features change little as they age) are the panda...



..and the less famous, but perhaps cutest creature ever to walk and swim the earth, one of the species of the axolotl salamander.



Something has gone wrong, not just with our political institutions, but with the decaying culture which has come to dominate the environment of the great majority of the U.S. citizenry (and, notably, also, a probably worse condition in western and central Europe as well). Our failed Presidents have been less the cause of our affliction, than a reflection of the culture which selected them as choices for that office. After all, who elected them? We are presently in the grip of a true, Classical tragedy, a virtually global catastrophe.

As I have indicated in earlier reports, there have been three phases to the post-World War II process which has now landed us at the terminal end of that process of subversion and related corruptions which has now brought the world at large to the brink of a threatened planetary new dark age of mankind. First, there was the cultural shift downward, relative to President Franklin Roosevelt's time, under President Harry Truman. Second, there was the transition period from the assassination of President John F. Kennedy, to the turn of Spring 1968. Third, there has been the downward slide into physicaleconomic and cultural ruin which has been ongoing since the qualitative shift into a general physical-economic contraction, of 1968-1971.

We now see, thus, a pattern which suggests that we are on the verge of a perpetual descent into what threatens to become a permanently pathetic quality of government, a quality of change which suggests Julian Huxley's image of neoteny. We, with our so-called "Baby Boomers," are becoming, like western and central Europe, virtually a "living theater" performance of the neotenous The Lord of the Flies. We must finally learn, contrary to those "kissbreeches" and "suckfists" called our accountants and statisticians in general, that it is not "inevitable" trends which doom nations and their cultures, but, as the study of the history of tragedy shows, on and off the Classical stage, the typical root of afflictions

such as our republic's own today, has been the present moment's lack of a popular acceptance of a good choice of leadership, if it were otherwise available, a leadership which might be qualified to chart a way out of ruin, which thus becomes a movement to safety. Where human creativity is suppressed, as in the decadence of leading universities and popular culture of recent decades, entropy moves in, as, most notably, since late Spring 1968.

This neotenous degeneration emerged in the U.S. of the middle to late 1960s, as a specific part of a larger generation aptly compared to the youth of the children and adolescents of the ostensibly fictional The Lord of the Flies. Today, this social formation, represented chiefly in a certain part of the generation now in their fifties and sixties, has distinguishing characteristics, as a kind of special casteformation, which is anti-"bluecollar," anti-farmer, anti-nuclear, and neo-malthusianist, as this is merely typified by the co-thinkers of an obnoxious royal London pet from Possum Hollow, former U.S. Vice-President Al Gore.

The "Baby Boomers" are not a generation, but, rather a "degeneration." They are not an age-group, even though they are, principally, part of an age-group. They are a social-economic caste.

The development of transcontinental railway systems, had been a U.S.-piloted, modern supplement to Charlemagne's pioneering development of a European system of inland waterways. This development became the driver of the great agro-industrial development of the U.S.A. and its power in the world from President Lincoln's administration onward. The essential feature of this industrial revolution over the period from President Lincoln through President Franklin Roosevelt, had been the build-up of the scientific potential represented by the machine-tool sector, and the great development of the industries which developed knowledge and practice of scientific principles into the form of a highly developed machine-tool skill through whose role large-scale and other manufacturing industries, were established. Formerly, many among these industries had been world leaders. Since about Fiscal Year 1967-68, that U.S.A. economy has been gripped by a process of destruction by the complicity between its own government and ruling Anglo-American financier interests.

The Machine-Tool Principle

The most significant economic activity in production is the production of the means of production themselves. Thus, to limit the latter, as what might be assumed to be an economic measure, for the sake of building automobiles, for example, is utter physical economic incompetence. Thus, it was the spin-offs from the Kennedy Moon-Landing program, which contributed the relatively highest rate of physical return on investment of virtually all production in the U.S.A. during the relevant period.

Thus, it was failing to put the machine-tool sector associated with the auto industry first and foremost, above the auto industry itself, which was the great idiocy in the economic policy which located the greatest economic benefit of production to be in the cars, rather than the higher technology of the machine-tool sector itself, and the creation of relevant forms of basic economic infrastructure. It is not infrastructure as such which provides this benefit, but the toll-free public infrastructure which increases the net productive powers of labor per capita and per square kilometer, for the society as a whole, that at a greater rate than at any point of production investment.

Similarly, it is the employment of Classical artists, physical scientists, and an advancing quality of universal health-care system and pensions, the human aspects of basic economic infrastructure in general, which must enjoy, together with science and the machine-tool sector, the relatively greatest degree of preference in the expenditure and investment by society in all sectors. The way to higher productivity is not the immediate output of some people, but the development of the general environment defined by the society as a whole, the society within whose development the great catalyst of increased productivity is concentrated.