California Drought (and Flood) Update



For August 24, 2017 by Patrick Ruckert

Published weekly since July, 2014

http://www.californiadroughtupdate.org

https://www.facebook.com/CaliforniaDroughtUpdate

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We the people of the United States, in order to form a more perfect union, establish justice, insure domestic tranquility, provide for the common defense, promote the general welfare, and secure the blessings of liberty to ourselves and our posterity, do ordain and establish this Constitution for the United States of America.

Preamble to the Constitution of the United States

A Note To Readers

An economy is not a collection of the activities of businesses and individuals; it is not about buying and selling; it is not about money profits and losses; and it is definitely not about how high the Dow Jones went today.

An economy must be an expression of the mission of the nation. Such a mission is best expressed by the Preamble to the U.S. Constitution, which is our quote for the week, above.

America's best Presidents understood that and attempted to fulfill that mission during their term of leadership. Leaving unsaid for now the short list of such leaders, perhaps just a few words from President John Kennedy will communicate the idea:

John F. Kennedy Moon Speech - Rice Stadium

September 12, 1962

https://er.jsc.nasa.gov/seh/ricetalk.htm



Those who came before us made certain that this country rode the first waves of the industrial revolutions, the first waves of modern invention, and the first wave of nuclear power, and this generation does not intend to founder in the backwash of the coming age of space. We mean to be a part of it--we mean to lead it. For the eyes of the world now look into space, to the moon and to the planets beyond, and we have vowed that we shall not see it governed by a hostile flag of conquest, but by a banner of freedom and peace. We have vowed that we shall not see space filled with weapons of mass destruction, but with instruments of knowledge and understanding.

We choose to go to the moon. We choose to go to the moon in this decade and do the other things, not because they are easy, but because they are hard, because that goal will serve to organize and measure the best of our energies and skills, because that challenge is one that we are willing to accept, one we are unwilling to postpone, and one which we intend to win, and the others, too.

The growth of our science and education will be enriched by new knowledge of our universe and environment, by new techniques of learning and mapping and observation, by new tools and computers for industry, medicine, the home as well as the school. Technical institutions, such as Rice, will reap the harvest of these gains.

But if I were to say, my fellow citizens, that we shall send to the moon, 240,000 miles away from the control station in Houston, a giant rocket more than 300 feet tall, the length of this football field, made of new metal alloys, some of which have not yet been invented, capable of standing heat and stresses several times more than have ever been experienced, fitted together with a precision better than the finest watch, carrying all the equipment needed for propulsion, guidance, control, communications, food and survival, on an untried mission, to an unknown celestial body, and then return it safely to earth, re-entering the atmosphere at speeds of over 25,000 miles per hour, causing heat about half that of the temperature of the sun--almost as hot as it is here today--and do all this, and do it right, and do it first before this decade is out--then we must be bold.

This Week's Report

The drought, that was the genesis of these weekly reports, continues to be no longer with us, and the reservoirs, for the most part, remain full, and generally above the normal levels for this time of year.

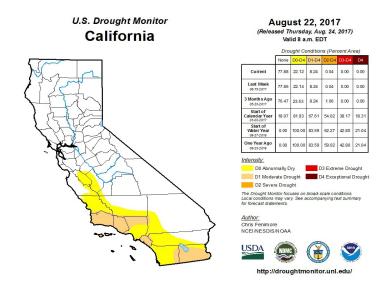
The Oroville Dam update includes three new videos from the construction site and a progress report, that optimistically announces that construction is on schedule for completion of this year's goal. This section concludes with a report on the City of Oroville's complaints to the Federal Energy Regulatory Commission, criticizing how the Department of Water Resources operates Oroville Dam and demanding a host of changes.

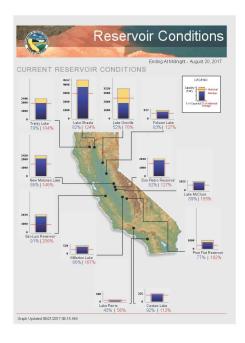
As reported last week, the excitement and expectations are building as decisions are nearing for the governor's commission to pick which water storage projects will be chosen to be granted some of the 2104 bond funds. Though the final decisions may be as much as another year into the future, and completed construction of the projects may be a decade away, one cannot find fault with the enthusiasm being expressed that for the first time in more than 40 years something actually might get built.

"California farms produce a lot of food" is the title of the next section of our report, reminding us all that solving, long-term, the state's water problems means producing a hell of a lot of food, or not producing so much.

Our report concludes with the more on infrastructure and the credit system required to build it.

U.S. Drought Monitor and Reservoir Graph





Drought, Floods and History

Dennis Wyatt reminds us that the floods and droughts that anyone alive today in California has ever experienced are nothing compared to what it was like centuries ago. More background is provided following his excerpted article by a link to the book review of "The West Without Water: What Past Floods, Droughts, and Other Climatic Clues Tell Us About Tomorrow."

It wasn't too long ago valley was a big lake

Dennis Wyatt dwyatt@mantecabulletin.com 209-249-3519 July 22, 2017

http://www.mantecabulletin.com/section/38/article/145271/

"The Great Central Valley of the state is under water — the Sacramento and San Joaquin valleys — a region 250 to 300 miles long and an average of at least 20 miles, or probably three to three and a half million acres!" — William Brewer in his book, "Up and Down California in 1860 — 1864"

Let's go back to 1861-1862, some 155 years ago. What people at the time referred to as "unprecedented" snowfall in November and December of 1861 covered the Sierra. It was a weather year where San Francisco and Sacramento received four times the normal rainfall in a three-month period ending in February 1862. Nevada City in the Sierra foothills during the same weather year received over 108 inches rather than the normal 55 inches. All that rain from warm storms melted the unusually heavy early Sierra snowpack.

Reports by government agencies and newspapers of the day told of how the Great Central Valley was turned into a giant lake. More than 800,000 cattle drowned — 25 percent of the entire state's head count. Seven out of every eight homes were destroyed. Roughly 30 percent of the state's improved property was destroyed.

"Are We Controlled by the Whims of Nature, or Will We Create Our Future?" http://larouchepub.com/eiw/public/2014/eirv41n19-20140509/48-52 4119.pdf

Oroville Dam Update

First, some videos:

Oroville Spillway Update August 17, 2017

https://www.youtube.com/watch?

v=NuQneaMLd2E&index=1&list=PLeod6x87Tu6eVFnSyEtQeOVbxvSWywPlx

Published on Aug 18, 2017

Repair efforts continue in the middle section of the Lake Oroville flood control spillway. Crews fill in rock crevasses and erosion areas with dental concrete in preparation for the placement of roller-compacted concrete.

Oroville Spillway Update August 22, 2017

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

Published on Aug 23, 2017

Steel beams are installed for the upper spillway walls. Roller-compacted concrete (RCC) continues going in on the middle spillway. Crews prepare the area between the upper and lower chute for RCC by filling the crevasses with dental concrete. Rebar mats are set for structural concrete on the lower spillway.

Oroville Dam Update 8-23-17

https://www.youtube.com/watch?v=tI4vKgs6Sh8

Published on Aug 23, 2017

Oroville Dam Update 8-23-17 - Spillway Outflows CFS and Repair Video - Lake Oroville Dam - 2017

Construction Progress Update

"On schedule" is the phrase that both the Department of Water Resources and the contractor Kewitt use to describe progress on the repair of the spillway. All articles are excerpted from the original.

Lake Oroville Spillways Construction Updates From the Department of Water Resources:

SACRAMENTO August 23, 2017

http://www.watereducation.org/sites/main/files/file-attachments/082317spillway construction.pdf

Today the Department of Water Resources (DWR) provided an update on construction work on the Lake Oroville Spillways Emergency Recovery Project.

Continued Construction on the Main Spillway

- Construction efforts at the Lake Oroville spillways remain focused on repairing and reconstructing the gated flood control spillway, also known as the main spillway, by November 1. DWR and its partners are on schedule.
- DWR has passed the midway point of its construction timeline on the main spillway. Demolition began 96 days ago, on May 19, and 70 days remain until November 1.
- Demolition, excavation and preparation is now complete for the 2,270 feet of the main spillway that will be reconstructed this year.
- Construction of the 1,050-foot middle section of the spillway chute, including filling in the two scour holes, is now about 20 percent complete, with approximately 60,000 cubic yards of roller-compacted concrete placed.
- Placement of reinforced, structural concrete is 25% complete. Crews have placed 25 slabs of structural concrete so far. When it is complete, there will be 1,220 feet of spillway chute with structural concrete 870 feet on the upper portion of the spillway and 350 in the lower portion of the spillway.
- Installation of reinforcing steel wall frames has begun and the first concrete wall section will be completed this week.



Construction at the Emergency Spillway

• DWR continues to make progress at the emergency spillway, and is still on schedule to complete construction of the secant pile wall, or cut-off wall, in late December 2017 or early January 2018.

Other Updates

- DWR crews this week performed weed abatement on the vegetation area on the face of the Oroville Dam. This routine maintenance is necessary for DWR to have clear access for observation.
- The independent Board of Consultants will meet for the eleventh time with DWR tomorrow and Friday.
- The Forensic Team will visit the spillways site later this month to receive a progress update on construction.

Lake Oroville spillway construction on schedule, says DWR

By <u>Dani Anguiano</u>

Chico Enterprise-Record

Posted: 08/23/17

http://www.chicoer.com/environment-and-nature/20170823/lake-oroville-spillway-construction-on-schedule-says-dwr

Oroville >> Construction at the Lake Oroville spillways is on schedule to meet a Nov. 1 deadline for this year's repairs, according to the Department of Water Resources.

The department has passed the midway point on its construction timeline for this year's repairs on the main spillway, which was badly damaged during high February releases. Construction efforts will remain focused on meeting the Nov. 1 deadline, DWR staff said during a conference call with media.

Demolition, excavation and preparation of the 2,270 feet of the main spillway that will be reconstructed this year is now complete. The construction of the 1,050-foot middle section of the spillway chute is now about 20 percent complete, with approximately 60,000 cubic yards of roller-compacted concrete in place.

The placement of reinforced structural concrete is 25 percent complete with 25 slabs of structural concrete in place so far. At completion, there will be a total of 1,220 feet of spillway chute with structural concrete — 870 feet on the upper portion of the spillway and 350 in the lower portion of the

spillway.



Concrete is pumped between rocks in the erosion area between the upper and lower chute at the Lake Oroville spillway on Monday. Ken James — DWR

The timeline for construction, which DWR officials previously described as "aggressive," has required a massive amount of labor. To date, crews have worked over 320,000 man hours without a recorded injury, project director Jeff Petersen said. More than 600 employees are working double shifts six days a week, the peak rate of work, Petersen said.

Oroville goes to war with DWR over dam

August 23, 2017

By Harold Kruger

http://www.appeal-democrat.com/news/oroville-goes-to-war-with-dwr-over-dam/article_f6c75c04-8883-11e7-84c8-07323fb889ea.html

The Oroville City Council fired off a critical letter to the Federal Energy Regulatory Commission, criticizing how the Department of Water Resources operates Oroville Dam and demanding a host of changes.

The council, in a letter posted Wednesday on the FERC website, said the future of Lake Oroville and its downstream communities is "a social, economic and environmental justice issue that must be addressed."

The council noted that 24 percent of Oroville residents live in poverty, while "just downstream in Marysville, the poverty rate is nearly 29 percent. The benefits of the Oroville Dam project are significant throughout the state, providing water to 24 million people in California. But the extreme danger and burden of flood water is shouldered by our disadvantaged communities alone."

More than 180,000 people were ordered to evacuate in February when state officials feared the emergency spillway at Oroville could fail. That spillway was put into use for the first time after the portions of the main spillway collapsed.

"Had the emergency spillway failed, tens of thousands would have died, 24 million would be without a source of water and life as we know it in California would forever be changed. This disaster is one of the worst nightmares any elected official could imagine for their community," the letter said.

Yea, But Will They Really Get Built?

So goes the question from the cynic, who after more that 40 years of zero water infrastructure project building in the state hears that within a year decisions on funding for certain projects will be made and a projected 10-year construction calendar may start checking off days.

This was covered last week, but there is some more new to report.

Water storage projects compete for bond funds

August 23, 2017

Agalert

By Christine Souza

http://agalert.com/story/?id=11121

Now that a dozen applications have been submitted, the California Water Commission begins the process of evaluating water projects that could share in storage money California voters approved as part of the Proposition 1 water bond.

The bond, which passed in 2014, contains \$2.7 billion to pay for public benefits associated with water-storage projects. The 12 applications requested a total of \$5.8 billion from the bond, with total cost to build all the projects adding to more than \$13.1 billion.

Water Commission spokesman Chris Orrock said bond regulations require that "we have to fund multiple projects, be that two, three, 10. We cannot only fund one project. The goal is to get the best bang for taxpayers' dollars in public benefits."

With the applications now received, he said, "We're going to be looking at all 12 of these and eventually, the commission will rank them one through however many are left."

A big dam east of Fresno has been talked about for years. Now it's time to talk money

By Lewis Griswold

August 24, 2017

Fresno Bee

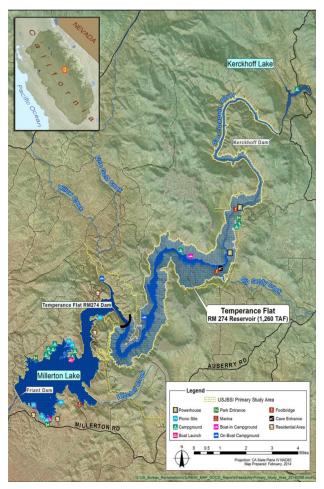
http://www.fresnobee.com/news/local/water-and-drought/article169050647.html

The proposed Temperance Flat dam on the upper San Joaquin River east of Fresno likely will be at the head of the line when the state awards big money for water storage projects.

The <u>San Joaquin Valley Water Infrastructure Authority</u> last week submitted an application seeking \$1.3 billion in bond funds from the <u>California Water Commission</u>, which is doling out \$2.7 billion of Proposition 1 money for water storage projects around the state.

<u>Twelve water storage projects</u> have applied for Proposition 1 bond money, but Mario Santoyo,

executive director of the Water Infrastructure Authority, said he expects Temperance Flat and the proposed Sites reservoir project near Sacramento, which is seeking \$1.6 billion, will both be awarded money.



"They're probably going to give Temperance Flat and Sites equal amounts," Santoyo said. "It's enough seed money to get this thing going." Map showing reservoir outline of the proposed reservoir at RM 274, at elevation 985 ft (300 m). The reservoir would partially inundate both Millerton and Kerckhoff reservoirs.

The following video accompanied the above article:

BUILD TEMPERANCE FLAT

https://www.youtube.com/watch?v=f30o_dQNmn8

Published on Jul 19, 2017

The right project at the right time. With the construction of Temperance Flat and the nearly tripling in size of capacity above Friant dam, for the first time, water deliveries will be made to west-side valley farms via the San Joaquin River, ensuring higher and more reliable flows than even the current laws prescribe, bringing the San Joaquin River back to the kinds of levels and flows it once had naturally. Another key benefit of Temperance Flat is that it is a major storage project south of the fragile Delta ecosystem and can be used in times of water-emergencies to deliver water into the State Water Project for use outside of Central California if the Delta pumping stations come offline. The Temperance Flat Dam project is well-planned and designed to meet the needs of California's water reliability for urban,

And Now, The Tunnels

Whether the California WaterFix will ever be built will remain an unanswered question for sometime to come. Most of the action shall be in the courtroom for now. The second article in this section, "Brown's Tunnels Could Start in 2018, and Delta Farmers Say They'll Be Devastated," provides a thorough briefing on almost all aspects of the project. The excerpted interview with Jeff Kightlinger, head of the Metropolitan Water District of Southern California, includes material on from where southern California gets its water.

Dozens are suing to block Delta tunnels. Will it matter?

By Dale Kasler

August 21, 2017

http://www.sacbee.com/news/state/california/water-and-drought/delta/article168497632.html

They have one of the most powerful legal weapons found in any courtroom – the California Environmental Quality Act, or CEQA.

But environmental groups, local governments and others face an uphill climb in their fight against the controversial Delta tunnels project. History suggests that suing under the California environmental law likely won't be enough to kill the tunnels.

At least 58 groups opposing the tunnels had sued the state as the legal deadline approached Monday afternoon.

Yet experts on CEQA said project opponents shouldn't count on their lawsuits forcing Gov. Jerry Brown's administration to scrap the tunnels. More typically, the courts will require developers to redo some of their environmental impact reviews – a process that could lead to delays and even some modifications, but not outright cancellation of the project.

Even if CEQA litigation can't halt the tunnels, the project isn't exactly home free. The south-of-Delta water agencies that will have to pay for the project are expected to vote next month on whether to commit. At least one major agency – Westlands Water District, which serves farmers in Fresno and Kings counties – has indicated the project <u>might be too expensive</u>.

Regardless of how the water agencies vote, tunnels opponents said they think they can use CEQA to bottle up the plan in court.

Brown's Tunnels Could Start in 2018, and Delta Farmers Say They'll Be Devastated

The governor's \$17 billion project recently got a big boost from the feds and two state approvals. But it also threatens a 150-year-old farming region.

By Alastair Bland

https://www.eastbayexpress.com/oakland/browns-tunnels-could-start-in-2018-and-delta-farmers-say-theyll-be-devastated/Content?oid=8560566&showFullText=true

Update on California Water Fix: MWD Board to Vote in September

August 23, 2017 - From the <u>August, 2017</u> issue

http://www.planningreport.com/2017/08/23/update-california-water-fix-mwd-board-vote-september

In **TPR**, MWD General Manager **Jeff Kightlinger** discusses the need for an updated, reliable water conveyance system for Southern California. The veteran water leader also explains the importance of combining state projects like the Water Fix with MWD's multi-state, and multi-national, work around the Colorado River watershed.

For the record, what compels MWD to investment in water supply?

At the end of the day, it's critically important to remember where we get our water. Only about 30 percent of Southern California's water is local. We get water from the Owens Valley, the Colorado River, and Northern California.

The water from Northern California, which comes from the northern Sierras through the State Water Project, is actually the largest single supply to Southern California. It represents 30 percent of all of Southern California's water. And yet this is a system that we built in 1960 under Governor Pat Brown, and we have not added to its infrastructure. It's old—it needs a lot of upgrades and modernizing. It needs new fish springs; it needs to better take care of the environment. This project is about modernizing and updating that system.

A lot of people propose: Can't we just do get our water from local supply and conservation? But you really can't replace 30 percent of your baseline with any other technology—not even ocean desalination or a massive recycling program. It's simply too huge a component of our water supply. That's why we need to invest in modernizing it.

Let's turn to MWD's role in managing the Colorado River, along with Arizona, Nevada, the Indian Nations, and Mexico. How does this collaboration play into MWD's responsibilities and the fixes you look at?

In addition to the Sierras, the other major source of water for Southern California is the Colorado River. It accounts for 25 percent of our water—so when you add up the State Water Project and the Colorado River, you have more than half of Southern California's water. But, like the State Water Project, the Colorado River has been under tremendous stress. In essence, it has been in a drought for 17 years and counting.

Delta tunnels project needs water agencies to pay for it. Why some are hesitating

By Dale Kasler and Ryan Sabalow

August 17, 2017

http://www.sacbee.com/news/state/california/water-and-drought/delta/article167838422.html

If you live in Los Angeles, the cost of building the Delta tunnels might raise your water bill by as little as \$2 a month or less – no more than a latte, to quote one of the project's main cheerleaders in Southern California.

But if you're a farmer on the west side of the San Joaquin Valley, the increase could be hundreds of dollars per acre-foot of water. And you could be looking at hundreds of thousands of dollars in additional expenses every year, for decades, for a resource that's as indispensable to farming as soil itself.

As California water agencies prepare to vote next month on paying for the tunnels, which are supposed to improve water deliveries to the southern half of the state, the stark difference between urban and rural water users' expected costs illustrates one of the project's main stumbling blocks.

While the controversial project is moving through the permit process, it can't break ground unless a solid bloc of south-of-Delta water agencies, urban and rural alike, commits to paying the \$17 billion tab.

It's far from certain that all the major water agencies will sign on.

The Westlands Water District, an influential agency serving farmers in western Fresno and Kings counties, is among the agricultural districts <u>expressing serious concerns</u> about cost. Westlands farmers' water bills, which currently run to around \$200 an acre-foot, could jump by as much as \$495 an acre-foot to pay for the tunnels, according to estimates provided to the district last month by Goldman Sachs & Co.

"The number's just too high," said farmer Sarah Clark Woolf, who serves on Westlands' board of directors. "It doesn't work for farming." The Westlands board is tentatively scheduled to vote on the project Sept. 19.

If a significant player such as Westlands were to withhold financial support, the entire project could falter. Gov. Jerry Brown's administration, which has been pushing the tunnels for years, would have to persuade other south-of-Delta agencies to pay more.

A big sticking point for many water users, particularly farmers, is that considerable uncertainty remains over how much water would get delivered from the Delta if the tunnels are built. Project opponents say the tunnels' leading advocates are basing their financial projections on overly optimistic expectations about water deliveries.

California farms produce a lot of food

This excerpted article is a good reminder of how depended the entire nation, and other nations, are on California agriculture. And a following article shows what happens to food prices when the state cannot deliver.

California farms produce a lot of food – but what and how much might surprise you

By <u>Kurt Snibbe</u> Orange County Register July 27, 2017

http://www.ocregister.com/2017/07/27/california-farms-produce-a-lot-of-food-but-what-and-how-much-might-surprise-you/

California's 77,500 farms produce more than 400 commodities, and two-thirds of the nation's fruits and nuts. About one-quarter of what California produces is exported around the world.

Here are some more facts and figures about California agriculture.



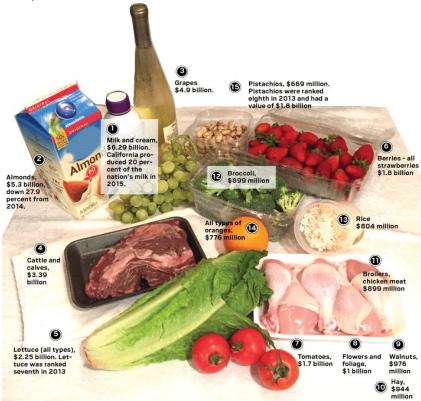
California's cornucopia

California remained the nation's leading state in cash farm receipts in 2015 and produced 13 percent of the <u>U.S. total.</u> Nearly 27 percent of California's 77,500 farms generated sales over \$100,000, greater than the national average of 20 percent.

California has 25.5 million acres of farm and ranch land, and the average farm size was 329 acres in 2015.

Top commodities

The items on the table represent California's top-15 valued commodities listed in the California Department of Food and Agriculture's 2016 report. Each item is ranked with its estimated total gross value. Not all items are pictured.



While California produces 13 percent of the total cash agricultural receipts for the U.S., it is the sole producer (99 percent or more) for the following crops.



Avocado prices could triple by Labor Day

August 18, 2017

http://www.local8now.com/content/news/Avocado-prices-could-triple-by-Labor-Day-441015093.html

(WTVF) -- Experts say the price of avocados could triple in the next few weeks as supplies dwindle.

The California Avocado Commission said this year's crop is almost half of last year's, down to 212.3 million pounds across the state. At this time last year, they estimated almost 400 million pounds.

The drop off is similar in San Diego. The CAC says the San Diego area is only expected to provide 83 million pounds of avocado compared to the 140 million pounds they supplied last year.

The commission blames the drought and unseasonably warm weather last winter.

Acreage is also a concern. An estimated 44,000 acres were used to grow avocados. Last year, the commission said 52,000 acres were used to grow the crop.

Prices are soaring because of the low supply.

The General Manager of Produce Express in Northern California, Jim Boyce, told news sources he expects a case of avocados to sell for about \$90 within the next few weeks. That's \$1.50 each at wholesale.

Boyce says stores could set prices at or above \$3 per avocado by the time they factor in shipping and profit mark ups.

Feature: Infrastructure and the Credit System

A headline in last week's report was: "If China can do it, so can we," highlighting both China's breathtaking infrastructure building accomplishments and its adoption of a financial-credit policy modeled on that of the U.S. when it had a Hamiltonian outlook and practice. Below is an item on another step taken recently by China that "would please Alexander Hamilton to no end."

That is followed by a report on the dramatic breakdown of the U.S. rail system.

China Cracks Down on Non-Productive Overseas Investments, to Favor of the Real Economy

Aug. 21 (EIRNS)—Three days ago, China's State Council released a further guidance on the direction of overseas investment. Prepared by the National Development and Reform Commission (NDRC), it would please Alexander Hamilton to no end.

According to Bloomberg's August 18 wire on the guidance, three categories—banned, restricted and encouraged—have been established for overseas investments by Chinese companies, summarized by Bloomberg as follows:

"Banned: Core military technology, gambling, sex industry, investments contrary to national security;

"Restricted: Real estate, hotels, film, entertainment, sports, obsolete equipment, investments that contravene environmental standards;" and

"Encouraged: Investments that further Belt and Road framework, enhance China's technical standards, research and development, oil and mining exploration, agriculture and fishing."

The guidance is the latest in a series of dirigist measures taken by the government to crack down on speculative activity, dry up "shadow banking," and shore up foreign exchange reserves, so as to concentrate on development.

Chatter in Western media about China moving to restrict thereby its foreign investment generally, is hogwash. Bloomberg quoted from the NDRC statement on the guidance: "Some companies focused on property rather than the real economy, which, instead of boosting the domestic economy, triggered capital outflows and shook financial security." Likewise, "some companies disregarded the environment, energy and safety regulations in target countries, which resulted in disputes and impaired China's image," according to Bloomberg.

Even an inherently-incompetent machine translation of the guidance makes clear that the measure aims to promote those overseas investments along the Belt and Road which serve to expand international production capacity, build infrastructure and connectivity, strengthen cooperation with overseas high-tech and advanced manufacturing enterprises, encourage establishment of R&D centers abroad, expand agricultural cooperation with foreign countries, etc., all aimed at achieving "win-win" investment cooperation.

CSX Rail Delays Hit Freight Shipments throughout Eastern States

Aug. 23 (EIRNS)—The Federal Surface Transportation Board yesterday gave a deadline of Aug. 24 to CSX, the Jacksonville, Florida-based freight railroad company, to provide details on how CSX intends to rectify problems on its freight trains, that are causing big delays for Amtrak passenger service in Indiana and elsewhere. This is just a small part of the problem.

CSX has 21,000 miles of track in the states east of the Mississippi River, which area is also served by Norfolk Southern. In recent months, CSX has had severe delays and failures to make pick-ups and deliveries. Freight users from coal, to cooking oil, are scrambling to cope. Food processors are switching to trucks where possible; some are on go-slow production. Some have shut.

So, not only is the U.S. rail grid inadequate, lacking high-speed service, electrification, double-

tracking and routes, but now the system is breaking down. This has been exacerbated by the cost-cutting reorganization begun by the new CSX CEO Hunter Harrison, who started in March. He closed 8 of the 12 CSX sorting facilities (hump yards) for breaking up and re-assembling trains, among other cuts. CSX is down 2,700 workers since January, out of its total of about 27,000.

Today's Wall Street Journal gives the example of a CSX freight train from Chicago to Colesburg, Tennessee, which took over 18 days to make the run this month, instead of the usual few days. Mines report coal is piling up for lack of train service.

The Journal also quotes from appeals to the government. The National Grain and Feed Association wrote that poultry farmers are "incurring hundreds of thousands of dollars in additional business costs to make emergency purchases of supplies by truck to keep poultry alive." The Rail Customer Coalition, representing freight shippers, told Congress that the rail problems "put the health of the U.S. economy in jeopardy."



China High Speed Rail



The best in the U.S.