

CSFN WEIGHS IN ON SAN FRANCISCO WATER BLENDING PROJECT

May 26, 2017

Dear Supervisors Yee, Sheehy, Safai, Farrell and Colleagues:

Per my previous lengthy email about how to calculate the concentration of nitrates and other contaminants in the 4 mgd groundwater mix, I mentioned that the I had just received, what I believe is a ground shell from Marco Pacheco, who is the senior water resource control engineer of the SF District office (SF, Alameda, Contra Costa) located in the City of Richmond, division of drinking water, State Water Resources Control Board. (His contact information is below, and I think he would be a pivotal person to give a presentation at the next hearing on the matter.

It's through his office that approval (whether tentative or permanent) is made for any of the six wells in the project to be utilized in adding groundwater to our drinking supply. As I related to you yesterday, so far, only the Lake Merced Pump site well, and the South Sunset Playground (next to artificial turf) have been approved for operation. Jeff Gilman (the project director) said at the West of Twin Peaks Central Council forum on 24 April, that the remaining wells of phase one (the one at West Sunset Playground and near the Central Pump Station north of Elk Glen Lake in Golden Gate Park) would probably be approved for operation by early Summer.

I had discussed with Mr. Pacheco extensively, the scenario that 1) the 6 mgd of groundwater would extend the water supplies of the 460,000 residents getting the mix from 7 days (without the groundwater) to 8.5 days (with the groundwater) and if the water had not been restored by then, these customers would have to rely on extreme rationing of 13 gpd per capita of 100% groundwater. I asked him, given the high levels of nitrates (which when combined from all the wells in the project, would be between 60% and 73% of the MCL for nitrates), what warnings would be given to women who were pregnant, young infants, transplant patients, dialysis patients, those with suppressed immunities and other people with special health needs who might be particularly vulnerable to high levels of nitrates in their drinking water. What follows was his reply.

By the bye, boiling water does not remove nitrates from the water, nor would any of the other emergency disinfection facilities at strategic locations remove nitrates, manganese, radon 222, or any other chemical contaminants from the

groundwater, not would the disinfection facilities particularly be effective against parasites such as cryptosporidium, giardia lamblia, and toxoplasmosis.

I've highlighted the the statements which bring pause in yellow and those which seem the most alarming in bold type and yellow highlighting.

We (meaning the SFPUC) are "e regional wholesale water supplier" mentioned in the last paragraph.

A couple of questions seem to follow:

1) Shouldn't the public know now, not at the time of a disaster, what the notification procedures are in case of an emergency should we become solely reliant on groundwater as the source of our drinking water after the 8.5 supply of the groundwater mix runs out? If they were notified now, perhaps they would be prompted to seek and fund a better, more viable or sustainable emergency source of water, other than groundwater, which would meet all drinking standards and wouldn't require notifications and other warnings.

2) Mr. Pacheco speaks of using partially treated water from local reservoirs to be introduced into our drinking water system. According to the History of the Hetch Hetchy system which was published in 2005, and posted on the SFPUC's website under "ABOUT US" and "Who We Are", on page 15 the History lists all of our covered reservoirs and tanks and their capacities. They have a combined capacity of 415.6 mg. The History also notes that "(there is) an emergency supply (of water) immediately available at Lake Merced and Laguna Honda to supplement our emergency supplies. Lake Merced holds 2,565 mg and Laguna Honda 44 mg. So the questions are as follows:

a) Do we have the disinfectant facilities available to treat or partially treat water from those two lakes immediately upon there being a disaster,

b) does the City have a means of delivering that treated water to our reservoirs, and from there to our water customers, and

c) can we draw enough treated water from the two lakes for it to really make a difference? If it does, why is the groundwater, which will be produced at 6 mgd,, necessary?

4) If we find ourselves in the situation where we have to provide notification through an "Unsafe Water Alert" (Do Not Use or Do Not Drink), what are our additional options, if any?. Additionally, how would the notices be made -- If our communications systems are fried by an EMP (in the case of a man-made disaster). Indeed, how would we be able to provide immediate notices to anyone?

5) Are all these emergency procedures in place? Apparently a state law required the completion of a preliminary plan by 2003. Has it been updated, since lower quality and minimally treated groundwater wasn't even on the planning horizon at the time.

For those of my colleagues, if you have any insights or suggested additional questions that should be asked, please share those with the Supervisors and their staffs. Thanks.

Hope this helps, but doesn't ruin your three day Memorial Day weekend. For myself, it sends a chill up my spine.

Sincerely,

Christopher L. Bowman

Mr. Bowman,

SFPUC is responsible for operating the Regional Water System and City Distribution System in compliance with the Safe Drinking Water Act requirements before, during, and after a major disaster. In the event that SFPUC cannot provide the required treatment to meet primary drinking water standards to its water supply at times of extreme emergency, the State Water Resources Control Board (SWRCB) requires that SFPUC has a functional plan to readily activate and operate emergency disinfection facilities at strategic locations where partially treated water supply from the local reservoirs can be introduced into the system. Additionally, the use of partially treated or untreated water supplies during an emergency must be accompanied by public notification through a "Boil Water Notice" or "Unsafe Water Alert (Do Not Drink or Do Not Use)" depending on the type and severity of known contamination and possible health risks, especially to sensitive populations. These emergency measures are necessary to provide a minimal but critical level of public health protection prior to restoration of normal

operations. I can assure you that in the event of an emergency, where the City of San Francisco had to solely rely on its ground-water sources, that the SFPUC would be required by SWRCB, through the SWRCB approved Emergency Response and Water Quality Notification and Communication Plans, to provide public notification to the City's residents and consumers if the water supply was expected to exceed any primary drinking water standards.

SFPUC's Emergency Response Plan is required by the following California Statutes:

The California Safe Drinking Water Act, specifically *CA Health and Safety Code* Section 116460 (*CHSC §116460*), requires that:

"No person shall operate a public water system without an emergency notification plan that has been submitted to and approved by the department. The emergency notification plan shall provide for immediate notice to the customers of the public water system of any significant rise in the bacterial count of water or other failure to comply with any primary drinking water standard that represents an imminent danger to the health of the water users."

As part of the Wholesale Regional Water System Security and Reliability Act (AB 1823), *CHSC §73503* requires:

"(a) The city (San Francisco), in consultation with the association and the offices of emergency services in Alameda County, Santa Clara County, and San Mateo County, shall prepare an emergency response plan describing how water service will be restored to the area served by the bay area regional water system after an interruption caused by earthquake or other natural or manmade catastrophe. A draft of the plan shall be submitted to the Office of Emergency Services on or before July 1, 2003, for comment and shall be adopted by the city on or before September 1, 2003, and thereafter shall be implemented.

(b) During any interruption in supply caused by earthquake, or other natural or manmade catastrophe, a **regional wholesale water supplier shall distribute water to customers on an equitable basis**, to the extent feasible given physical damage to the regional water system, without preference or discrimination based on a customer's geographic location within or outside the boundary of the regional wholesale water supplier.”

Please contact me if you have any additional questions or concerns.

Sincerely,

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CONSERVATION ALTERNATIVES TO BLENDED WATER PROJECT

THE SOURCE OF OUR WATER:

Lyell Mountain and the Lyell Glacier are at the head waters of the Tuolumne River. The Lyell Glacier, once the largest glacier in Yosemite National Park, is expected to disappear in the next 5 years. Safe to say, the additional water from the glacier when absent will be missed. Primarily, San Francisco gets its water (85%) from the Tuolumne River with the notable exception of the reservoirs in the

Peninsula and Alameda counties which provide an additional 15% of San Francisco water supply. Today, we will discuss where savings in water use can be found, short of urban water conservation, which is where government often finds their solution.

NEW RESTRICTIONS:

San Franciscans are being asked to come into compliance with environmental laws that did not exist when San Francisco's water transportation system was first built. State law requires water consumption to be reduced by 20% by the year 2020 by urban areas but there are no similar requirements for agriculture. Locally, increased releases of water are now required in San Mateo and Alameda Creeks that total 7-8 million gallons per day. The Tuolumne River is currently the subject of negotiations at the State Water Board. Currently, about 80% of the river's flow is diverted for agricultural use and 10% for urban uses. However, the Board wants to increase spring flows which will require additional release. To provide streams and rivers with more water is the explanation for the blending of groundwater. The question arises, is this small savings of water worth it when so many other uses of water could provide more water savings? Yearly, water use in San Francisco has dwindled. Today, San Francisco uses less water than it did in 1977. Yet, we are asked to do more.

WHERE THE WATER GOES:

California is said to be a desert. Then why are farmers growing crops here that are so water intensive. Alfalfa for example, which is often flood irrigated, is actually a crop that would grow best in the Southern part of the United States. It is said that the South could increase their acreage by 5 million acres. Alfalfa in California can be harvested 3 to 5 times a year but in the lower South, harvests can occur 6 or 8 times a year! Clearly, this is the best place to grow alfalfa, not in California.

The good news is that the growing of cotton, another water intensive crop, has fallen by 46% between 2006 and 2010 as less expensive water in the South and the Midwest make this crop more profitable. That being said, if water is cheaper elsewhere for cotton, it should also be cheaper to grow rice and alfalfa elsewhere also.

With the demand for milk in Japan and China increasing, many foreign buyers come to California where water is not sold at its true value, to purchase alfalfa inexpensively and ship it home. In fact, the price of shipping alfalfa to China from Long Beach, CA is said to be cheaper than transporting it within California. Therefore, the impetus to purchase some crops in California is that they are so inexpensive to ship by freight over the ocean.

Is this the way a free market system should work in California? Farmers in California are free from most water regulation, can use all the water they want and export products abroad, while Californians living in the cities, must reduce their water use?

The problem of excessive water use is not just with alfalfa, cotton and rice but also with almonds and walnuts. Today, more acreage is used to grow almonds than hay (alfalfa). "According to the National Agricultural Statistics Service, California alfalfa hay acreage has fallen from about 1.1 million acres in 2006 to under 820,000 acres today. In the same time frame, California almond acreage increased from about 750,000 acres to one million acres plus." Today, one almond requires 1.1 gallons of water to grow, with walnuts 4.9 gallons of water are required. The nut industry will find it very difficult to allow their investment in trees to parish, with yearly investments in both time and water, should water become scarce. However, are the cities to make sacrifices to satisfy all the needs of farmers?

INCENTIVE PROGRAMS:

When it comes to how water is being used in San Mateo, Alameda and Santa Clara counties, which are included in the San Francisco Public Utility Commission (SFPUC) service territory, half of this water is being used in the landscape. San Francisco, on the other hand, uses water very differently. Because San Francisco uses so little water for landscaping, it is one of the reasons it has such a low rate of water use. In San Mateo, Alameda and Santa Clara counties, the many programs to replace lawns with drought tolerant California natives or Southwestern landscape designs have had some success in reducing water consumption. However, more should be done in this area.

Drip irrigation used in farming has more than doubled since 1991 and is a good place to begin to conserve more water. Crops such as alfalfa, previously believed to not able to be watered by drip irrigation, are being done so and saving 2/3 more water than by flood irrigation. Previously, drip irrigation systems were damaged during farming. Today, with tractors with GPS, drip irrigation systems can be used over and over. One barrier to drip irrigation has been the cost. Every farmer when converting to drip irrigation needs to invest in each acre \$1,000 to \$3,000. Now, State grants which pay 50% of the cost of converting to drip irrigation have been providing farmers an incentive. Over a 5 year period, \$100 million in grant money from the State has been provided farmers to convert to drip irrigation. In one water district, that has converted to drip irrigation, water use has declined 40% to 60%. With the surplus water, they sell it to neighboring water districts. It is with drip irrigation that the best savings of water can be found.

One incentive that should be removed, however, is federal farm subsidy programs that pay farmers to overproduce crops, distort land use, distort choice of crops and inadequately control cost. Farmers have benefited mightily by this system and earn on average far more than most Americans. The U.S. Department of Agriculture (USDA) spends \$25 billion or more a year on subsidies for farm businesses. Some say farm subsidies are welfare for the rich. Certainly one thing we can all agree on, any federal subsidy that supports the incorrect use of water in California should be abolished. Defeating the lobbyists that support federal subsidies in California could be the answer to our water dilemma also.

DAVID SUNDING'S FLAWED STUDY:

The reason San Franciscans are being asked to blend ground watery 15% in the year 2020 is because of a study by David Sunding in 2014. This study was presented to the SFPUC, whereby decisions were made in error about our water needs. Due to the drought in 2015-2016, water demand in San Francisco dropped lower than what we consumed in 1977 or 30% below what David Sunding predicted. His study convinced the SFPUC that San Francisco needed more water prompting the Blended Water program. Other false predictions included serious job losses of 188,000 in the Bay Area and \$49 billion in decreased sales due to water rationing. Instead, 125,400 jobs were created in San Francisco during the year 2010 and 2015. Correcting this misinformation was provided by Peter Drekmeier on December 16, 2016 when he made a presentation to the State Water Board. We should all thank Peter for his work.

SAN FRANCISCO'S WATER SOLUTION:

First, the SFPUC should be more transparent and forthcoming in their relationship with the public. When a spokesman for the SFPUC was asked about the public outreach for the Blended Water Program by a Supervisor, he explained 700 people took part in a taste test. In my opinion, this is not an out reach program. Safe to say, had Blended Water gone to the ballot, it would have failed. Moreover, SFPUC should be more careful about the studies they adopt to generate policy. Even when the study of Sunding was exposed as flawed, their response was to make excuses and justify incorrect data. This is not good public policy.

Secondly, federal farm subsidy programs should be a guiding and controlling force in agricultural management, not lavishly providing cash to farmers for whatever crop they can make the most money on. This is a classic case of the, "tail, wagging the dog." It is especially disappointing to have a heavily watered crop i.e. alfalfa, be purchased in California and sold overseas. Whatever subsidy that farmer is receiving from the government, it should be eliminated. The government needs to manage better where and what crops are grown. Therefore, we are in desperate need of federal farm subsidy reform.

Lastly, drip irrigation would be our best solution to minimize water use by farmers. This program does need the help of an incentive program by the State of California. Maybe some of the \$25 billion in federal farm subsidy money could be added to the \$100 million in drip irrigation State incentives. It would seem money well spent.

Submitted by Glenn Rogers (PmaC)

<https://www.youtube.com/watch?v=FJQ5RhdU6vY>City Hall flooded with complaints over SF's new mixed drinking water

[Westside San Franciscans are none too happy about new water mix](#)

[Higher daily nitrate intake from drinking water during pregnancy associated with birth defects - Vital Record](#)

Check out the snowpack video at :

[Get a glimpse into how the elite ski at Tahoe](#)

