

March 12, 2021

Via electronic mail: PachecoExpansion@valleywater.org

**RE: Environmental Impact Report for the Pacheco Reservoir Expansion Project,
Comment Letter**

Dear Valley Water Board of Directors and staff:

Thank you for the opportunity to comment on the Environmental Impact Report (EIR) for the Pacheco Reservoir Expansion Project. Pursuant to notice, we are pleased to submit these comments by the March 12, 2021 due date.

The Pacheco Reservoir Expansion alternative is a product of the San Luis Low Point Improvement Project search for ways to address San Luis Reservoir water quality and quantity/access issues (“low point” issue) associated with conditions occurring in summer months when water levels are low and algae can interfere with water deliveries. Extant treatments were judged inappropriate for dealing with the algae problem.

The Pacheco Reservoir Alternative was previously eliminated by the U. S. Bureau of Reclamation “related to the acceptability and effectiveness criteria, because it had more potential for environmental effects and the greatest costs.” (https://files.ceqanet.opr.ca.gov/37062-3/attachment/i3oqCBqEZPa1STmO-6HJwnEsGCnHx3-RZARylnNGqNq_61xx9ACgryTPauUNyGezwKpBF7LofcT7maMV0). This finding was subsequently derailed by Santa Clara Valley Water District’s (SCVWD, VW) application for funding under the WSIP program along with its claims of environmental benefits from the dam. However, new revelations about increased costs and reconsideration of environmental harm from potential extension of the reservoir into Henry Coe Park should preclude the Pacheco Reservoir expansion project.

The recent huge increase in cost of the Pacheco expansion project—from \$1.3 billion to \$2.5 billion—should rekindle Reclamation’s earlier concerns and focus attention on other water resources that can supply reliability, improved water quality and equal or improved environmental and ecosystem benefits. The “low point” issue can be addressed without the proposed Pacheco new dam and reservoir expansion from 5500 af to 140,000 af capacity, cost over a billion dollars more than original estimates, and with likely further cost escalation, given geologic and construction unknowns.

The proposed expansion of San Luis Reservoir, for instance, via the Sisk Dam raise will provide an additional 130,000 acre-feet (af) of storage in San Luis Reservoir, producing additional water supply for two million people, over one million acres of farmland and 200,000 acres of wildlife refuges, according to the B.F. Sisk Dam Raise and Reservoir Expansion Project’s Supplemental Environmental Impact Statement/Environmental Impact Report. This 130,000 af of extra water alone should obviate the need for the proposed new Pacheco dam and reservoir.

The proposed Pacheco Reservoir expansion—really a dam removal to be replaced by a new, much larger dam and reservoir one-half mile upstream on the same tributary—should not be constructed as planned. Instead, other, cost-effective water supply improvement measures and considerations available to the Santa Clara Valley Water District (SCVWD) should be considered first. Those other resources include, without limitation:

- Groundwater storage: Stanford Water in the West research has noted that surface water storage behind dams is five to nine times as expensive as groundwater. (<https://news.stanford.edu/2016/07/21/cost-effective-path-drought-resiliency/>, http://waterinthewest.stanford.edu/sites/default/files/Storing_Water_in_CA.pdf)
- Repair of existing dams (Anderson, Almaden, Calero and Guadalupe) could provide 55,000 af reclaimed storage.
- More and better reuse of wastewater from wastewater treatment plants (WWTPs) could supply tens of thousands of acre-feet of water. The total reuse of about 24,000 acre-feet per year (afy) potable water proposed recently by VW does not begin to address the hundreds of thousands of afy discharged to SF Bay from WWTPs. For instance, although the San Jose-Santa Clara WWTP, has a dry weather flow design capacity of 167 mgd (187,040 afy), it is limited to 120 mgd (134,400 afy) dry weather discharge “to control salt marsh conversion and protect endangered species” according to a SF Regional Water Quality Control Board staff report from March 11, 2009. (Ten mgd, or 11,200 afy, is allocated for non-potable reuse, NPR.)
- Capture and reuse of local stormwater would be another important source. As UCB distinguished professor David Sedlak noted in a 2015 TED talk, if the city of San Jose captured and stored just *half* of the stormwater that falls within the city limits each year, it would have enough water for the entire year. (https://www.ted.com/talks/david_sedlak_4_ways_we_can_avoid_a_catastrophic_drought)
- Water treatment enhancement: now that adequate filters have been put in place, local water agencies can use local stormwater flows formerly judged too “turbid” to replenish local aquifers. (<http://www.mercurynews.com/2017/03/02/water-district-perc-ponds-pass-on-turbid-water-full-of-sediment/>).
- New and enhanced raw water treatment capabilities could treat San Luis Reservoir water and reduce or eliminate interrupted deliveries when algae blooms are in the vicinity of the Pacheco Intake—as well as eliminating the need for a new Pacheco Reservoir. Such treatments have progressed (upgrades to area WWTPs, for instance) but should be given further consideration and review.

Given increasing temperatures from climate change with concomitant increasing toxic algae/cyanobacteria issues (harmful algal blooms, HABS), water quantity and quality are better

addressed without construction of yet another large dam in an inland area where daily temperatures *average* over 80 degrees F. from June to September. Also, the area surrounding the proposed Pacheco dam is relatively dry and would not contribute much to the reservoir's capacity.

Similarly, evaporative losses can be considerable, given that "reservoir evaporation in arid and semiarid regions is substantial, and it represents an important consideration for the future of water management in a water-scarce environment."

(<https://journals.ametsoc.org/bams/article/99/1/167/216151/Reservoir-Evaporation-in-the-Western-United-States>) Evapotranspiration in California has been reported at approximately 2 maf/year from reservoirs and canals. (<https://californiawaterblog.com/2019/05/12/some-innocent-questions-on-california-water-part-i/>) Average urban water use is 7.9 maf/y (average of annual use 1998-2015) according to a PPIC report based on DWR statistics. (<https://www.ppic.org/publication/water-use-in-california/>)

The new Pacheco dam/ reservoir has been called a "source" of new water. However, Pacheco is not actually a "source"; rather it would store the rather low-quality water that comes primarily from San Luis Reservoir, which water in turn comes from the Delta. It is important to observe the policy expressed in the Delta Reform Act that California should "reduce reliance on the Delta in meeting California's future water supply needs through...investing in improved regional supplies, conservation and water use efficiency." Cal. Water Code § 85021.

Other water, as mentioned above, could compensate for Pacheco water. US Fish & Wildlife notes: "Safety and environmental benefits of dam removal are priceless. (See discussion of harmful effects of dams, and the benefits of dam removal at: <https://www.fws.gov/southeast/pdf/fact-sheet/dam-removal.pdf>) Dam removal allows natural flow patterns, to which native plants and animals are accustomed, to return to their original configuration. With Pacheco removal, such benefits could accrue to the federally threatened steelhead as the environment returns to pre-dam conditions in which those fish evolved.

Dam removal, in some instances, has been found to be more economical than allowing the dams to continue, saving between \$5.4 billion and \$12.4 billion—even where dams are producing hydropower. (<https://www.eenews.net/stories/1061355907>)

A 2014 survey by Theodore Grantham of UC Davis and Joshua Viers of UC Merced suggested other ways of dealing with California's overallocation of water. The solution, they wrote, is to "bring California's water allocation system into the 21st century. That means innovations in water use, new recycling and storage technology, and a modernization of the legal landscape. *It doesn't mean building multibillion-dollar dams that yield relative droplets of water by taking them away from some users and giving them to others. That's 100-year-old thinking, and we need to move past it.*" "100 years of California's water rights system: patterns, trends... uncertainty", https://watershed.ucdavis.edu/files/content/news/WaterRights_UCDavis_study.pdf. [emphasis added]

Rather than ameliorating the effects of climate change, dams are actually responsible for contributing to climate change by significantly increasing greenhouse gas (GHG) emissions from their operations, according to several studies, including an October 2016 study, which posited reservoirs' production of as much as 1.3% of human-caused GHG. (Greenhouse Gas Emissions from Reservoir Water Surfaces: A New Global Synthesis, available at <https://academic.oup.com/bioscience/article/66/11/949/2754271>; another discussion of dam/reservoir problems is available at: <https://www.sciencedaily.com/releases/2018/11/181113141804.htm>, discussing supply-demand cycle and the reservoir effect).

Water storage reservoirs have been found to contribute as much GHG as Canada, significant especially because of the methane component of the emissions. (<https://www.newsdeeply.com/water/community/2016/10/25/study-reservoirs-a-significant-contributor-to-climate-change>, referencing the Oxford, October 2016 study.)

This is in addition to GHG from new dams' manufacture, transportation, and construction that creates millions of pounds of carbon dioxide. Cement is reportedly responsible for about 8% of the world's carbon dioxide emissions. (<https://www.bbc.com/news/science-environment-46455844>) That report indicated that "[i]f the cement industry were a country, it would be the third largest emitter in the world - behind China and the US. It contributes more CO2 than aviation fuel (2.5%) and is not far behind the global agriculture business (12%)."

We request that the proposal to build a new Pacheco dam and reservoir—with their dubious benefits and increasing costs— be rejected, and that full consideration be given to other solutions and to other water sources that reflect improved technology available here in Silicon Valley, and a 21st century water vision.

Respectfully submitted,

Alan and Meg Giberson
Los Gatos, California

Cc: Todd Sexauer, tsexauer@valleywater.org