

Marin Voice: Water district could have built desalination plant long ago



Tree stumps are exposed by a receding shoreline at the Nicasio Reservoir in Nicasio, Calif. on Thursday, June 10, 2021. (Alan Dep/Marin Independent Journal)

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As a 50-year resident of Marin County, it is obvious to me that we have been in recurring drought mode since the 1970s.

The Marin Municipal Water District should have anticipated and prepared for the present drought. California has had droughts in 1976-77, 1987-92, 2007-09, 2012-16, and another just beginning, which may last several years. It could become more permanent, given that climate change may provide us with only occasional wet years from now on.

In the past, a \$1.2 million desalination pilot plant was built near the Richmond-San Rafael Bridge. The plant demonstrated that the district could turn bay water into clean, drinkable water with fewer contaminants than our existing water supply. In 2007, the American Academy of Environmental Engineers gave the district an award for this pilot program.

The 2005 staff report from the San Francisco Bay Conservation and Development Commission stated that proper salinity level in the wastewater discharge can be achieved by blending brine with effluent from secondary treated water like that from the Central Marin Sanitation Agency treatment plant, and environmental problems associated with discharge of fresh water effluent may be eliminated. Also a process recently developed at Massachusetts Institute of Technology may turn concentrated brine into useful chemicals, making desalination more efficient.

In August 2009, a 5 million gallon desalination plant, expandable to 15 million gallons per day was approved by the board. In 2010, Measure S, put on the ballot by the board, passed with 69% of the vote. It authorized the district board to undertake any actions necessary prior to construction or financing related to desalination without requiring voter approval.

In 2013, the California Supreme Court rejected a challenge to the environmental impact report and further stated that conservation would not meet residents' water needs in dry years.

The board, despite the need, has not pursued any further action since 2010, deciding to halt further planning work on the \$115 million reverse osmosis plant.

"We have conserved our way out of it," board member Larry Bragman said in a Marin IJ article published in 2016. "We have created a reservoir of conservation."

Unfortunately that "reservoir" will be closer to zero without considerable rain next year.

In reading the district's 2020 urban water management draft report to the state water board, it becomes clear that the Marin Municipal Water District had no plans to increase our water supply. It relied only on additional conservation.

Buying water and shipping it over the Richmond-San Rafael Bridge is not a permanent solution. With much of California facing a drought, finding water sources willing to sell will be problematic and no doubt expensive.

There have been objections to the amount of energy required for such a facility. The energy costs and environmental concerns of fossil-fuel use can be mitigated by the addition of a wind or solar or hybrid wind/solar installation to supply energy and the use of energy recapturing devices during the process.

As of 2015, there were 18,426 desalination plants worldwide. They are producing water for more than 300 million people.

There are 11 desalination plants operating in California, with 10 more planned. San Diego County's Carlsbad plant is the largest and most technologically advanced and

energy efficient. It produces 56,000 acre-feet of water per year at a cost of 0.7 cents per gallon.

We are currently in another drought crisis, which somehow district officials couldn't predict and isn't prepared for.

District officials should remember that, after nine months of extreme water restrictions in 1979, 80% of voters approved the \$19 million bond measure for the Soulajule reservoir to increase the agency's supply.

The Marin Municipal Water District board should immediately and proactively pursue all measures. This includes voter approval and financing (at historically low interest rates) of long term municipal bonds needed.

The agency must build a sustainable water source for the future of Marin residents and account for the development mandated by the state to occur in the county.