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Editorial: Hetch Hetchy reclaimed - The dam downstream

Computer: You don't need Hetch Hetchy

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Seventeen years ago, Interior Department Secretary Donald Hodel had a provocative idea for Hetch Hetchy, Yosemite Valley's smaller twin:

Dismantle the dam that has kept the valley underwater since 1923, thus restoring the granite peaks and signature waterfalls to the national park system and the American public.

President Reagan's appointee met a reaction as swift and mighty as a wall of water unleashed by a storm. He didn't have a sound alternative for replacing San Francisco's water supply, which Hetch Hetchy largely provides. It was no surprise that his plan for Hetch Hetchy soon died.

What Hodel needed to make his case didn't exist then, but it does today. That ally is CALVIN, a new, water-modeling computer program also known as the California Value Integrated Network.

With a blissful ignorance of politics and conventional wisdom, CALVIN concerns itself largely with two questions: How much water can be delivered, and with what plumbing?

Using state and federal dollars, the University of California, Davis, invented CALVIN in 2001 to calculate how changes would affect a water system. It has come in handy in other California water quandaries thanks to its dispassionate, outside-the-box view of the world.

Last year, the minds behind CALVIN tried an interesting exercise. They programmed CALVIN to consider Hodel's idea. CALVIN punched a virtual hole in a virtual Hetch Hetchy dam. It added a virtual pipe and a virtual pump downstream. CALVIN then calculated whether San Francisco would be short of water.

The results surprised its human operators. CALVIN found minimal impact. Hetch Hetchy's dam, CALVIN announced, is expendable.

How could that be? CALVIN examined the flow of the river, the Tuolumne. It examined its four dams and, based on the river's typical flow, concluded that the other three dams could do the job.

Besides Hetch Hetchy, the Tuolumne's flow is interrupted by the Cherry, Eleanor and New Don Pedro dams. San Francisco owns Hetch Hetchy, Cherry and Eleanor. Hetch Hetchy provides nearly 85 percent of the city's water and a large portion of the water for Alameda, Santa Clara and San Mateo counties. Irrigation districts for the Central Valley communities of Modesto and Turlock own New Don Pedro, which can store 5.6 times the water Hetch Hetchy can.

New Don Pedro rests alongside San Francisco's existing pipeline system from the Sierra, but they are not connected. CALVIN, applying a computer's cold-eyed logic to the situation, connected them.

They aren't connected today because of politics. Legal agreements meticulously divide the Tuolumne River's water among Modesto, Turlock and the Bay Area. Since 1913, when Congress allowed San Francisco to build the dam in Yosemite National Park, four legal agreements have governed the water distribution. Draining Hetch Hetchy would require a fifth agreement. It would need to allow San Francisco to draw its

supply downstream and outside the park, from New Don Pedro instead of Hetch Hetchy.

Computers don't write legal agreements. Lawyers do, ones hired by water district leaders. These lawyers are a risk-averse breed. They crave certainty. They trust concrete.

Their instincts serve them well in many cases, but not in all. San Francisco is planning to replace a local reservoir in the East Bay's Calaveras hills with one that has potentially more capacity than Hetch Hetchy. New Don Pedro has the potential to be raised slightly to add even more storage.

The prospect of "new storage" in exchange for eliminating some "old storage" at Hetch Hetchy offers a kind of balance at a time when California continues to weigh the competing interests of the environment and development. CALVIN wouldn't appreciate the symmetry in the least. It deems the proposed East Bay dam unnecessary. But CALVIN wouldn't have the last word. It has done its job, which is to reveal whether a river system is flexible enough for change. This one is.

Secretary Hodel's idea seemed like folly back in 1987. Today, CALVIN reports that his wasn't an outlandish proposal after all. A Yosemite National Park with two spectacular valleys wide open for the public? Twin valleys reunited? Hetch Hetchy regained?

Imagine the possibilities. Donald Hodel did in 1987, though unsure of how to make them a reality. Californians can imagine them again today, with the knowledge that they are within reach.

Coming Monday:

San Francisco is green, green, green - everywhere but in Yosemite.

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