

The Yosemite You've Never Seen



One of Yosemite National Park's most awe-inspiring sites is buried beneath a 300-foot deep, man-made lake. Now, after eighty-one years, an innovative plan and a UC Davis computer program may allow California to reclaim this national treasure.

Read *Hetch Hetchy Reclaimed* – A series of editorials starting Sunday, August 22 in the Forum section and appearing over several weeks, only in The Bee.

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EDITORIAL

Sunday, August 22, 2004

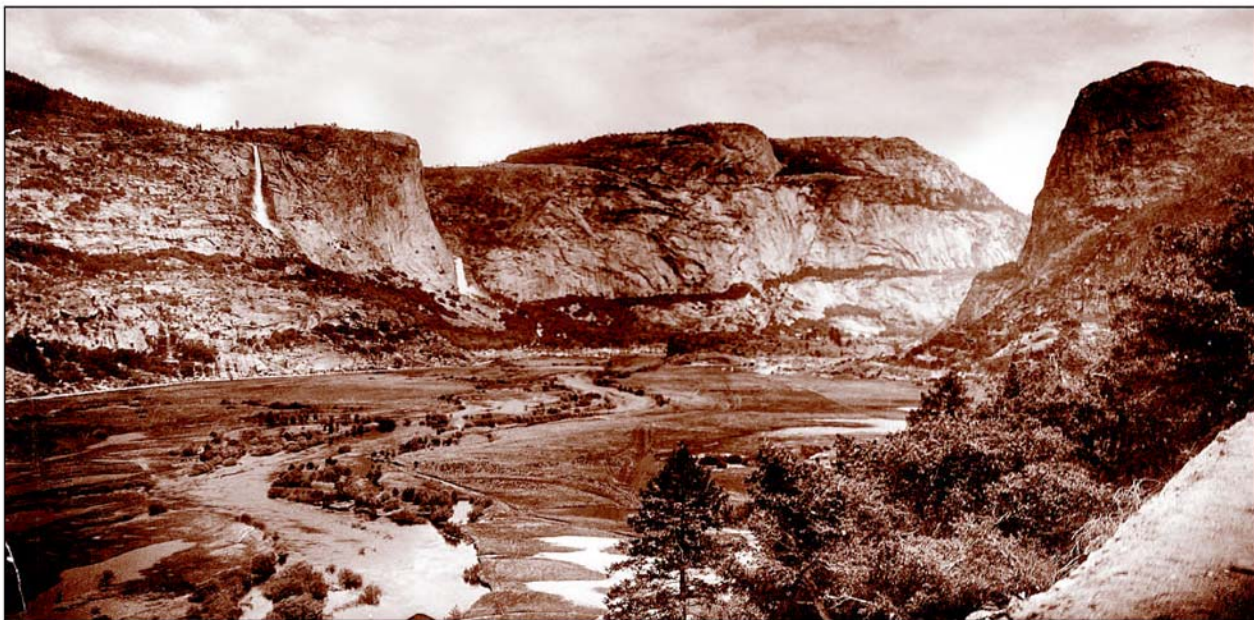
HETCH HETCHY RECLAIMED

“San Francisco years ago awoke to the fact that she had to get additional water.... She settled on Hetch Hetchy.”

– Sen. George Norris of Nebraska, 1913



From a water engineer’s perspective, the glacial valley of Hetch Hetchy is ideal for a dam 900 feet long and more than 300 feet high. The dam forms a lake that runs almost nine miles into the valley.



Bee Archives

“The world is so rich to have two Yosemites instead of one,” John Muir wrote of Hetch Hetchy, shown above before it was flooded.

Looking again at Hetch Hetchy

Nine decades after senators debate flooding Yosemite’s twin jewel, the arguments still resonate

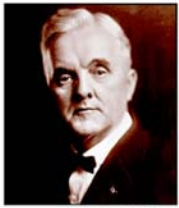




Sacramento Bee photographs / Bryan Patrick

Above, Hetch Hetchy's Wapama Falls, which routinely has a bigger flow than the famous Yosemite Falls and lasts longer into the summer, snakes downward until its water disappears into the rocks below. At left, a visitor stands on the top of the dam at Hetch Hetchy, the flooded valley that is the least visited natural feature in Yosemite National Park.

Three voices that argued over Hetch Hetchy's future



Associated Press

Sen. George Norris

"Pass this bill, and its ultimate effect is going to reach away beyond the lives of any men who live," said the Nebraska Republican, who in 1913 was among the leading advocates of the dam that would inundate Hetch Hetchy a decade later.



National Park Service

John Muir

"Woe is he and thee and me and all the world's beauty-lovers that such dollar-dotted tangles should approach our sacred Sierra temple," wrote the great California naturalist who died less than a year after leading the national opposition to the dam.



Utah State Historical Society

Sen. Reed Smoot

"Why would it not be better for San Francisco to take (another site) and develop the water and power and not interfere with Hetch Hetchy at all?" asked the Utah Republican who waged a long but unsuccessful fight in the Senate against the dam.

More than 90 years ago, just before the stroke of midnight on Dec. 6, 1913, the U.S. Senate voted to flood one of the jewels of the national park system.

By a vote of 43-25, the senators approved San Francisco's proposal to build a dam in Yosemite National Park that would flood the Hetch Hetchy Valley, a smaller twin of the Yosemite Valley. Signed promptly by President Woodrow Wilson, the bill, known as the Raker Act, allowed San Francisco to build the dam to supply water and electricity.

"It was the first time in American history that anybody said no to development," said Bob Righter, a retired Southern Methodist University professor who is writing a book about Hetch Hetchy to be published next year. "They knew they were going to lose," he said of congressional opponents, "but put up the best fight that they could."

The debate about the young national park system weighed public values -tourism versus wilderness versus urban needs. Over the years, some have suggested the decision be revisited, but they never got anywhere. Any change at Hetch Hetchy

would mean changing the Raker Act, and a new national debate would arise.

That debate is worth having, as a series of editorials beginning today on Page 4 of this section explains. Nearly 91 years after the debate, there is mounting evidence that it is possible to see another way to accomplish the Raker Act's aims while restoring Hetch Hetchy to the national park system and the American people.

That debate is likely to echo much from the landmark 1913 debate in the Senate. Here, taken from the Congressional Record, are excerpts of that debate. The rhetoric may seem a bit flowery and stilted to the contemporary ear, but the issues and arguments foreshadow the debate ahead about Hetch Hetchy's future.

NEBRASKA SENATOR GEORGE NORRIS: Mr. President, when I was interrupted, I was about to describe the Hetch Hetchy Valley, and I started in to use the Senate chamber as an illustration. Let us suppose that the Senate chamber represents the Hetch Hetchy Valley. It will then represent an irregular floor containing between two-and-a-half and three square miles, surrounded by cliffs that rise 5,000 feet into the air. The floor will be the ordinary meadow land, irregular it is true, and the walls not straight, as those of the Senate chamber are, but irregular and varying, as we would naturally expect in a large canyon of that kind. The floor of the valley has some timber on it, but nothing of any value, although there are thousands of honest people who believe that the flooding of this valley is going to ruin some of the great trees of California. The trees in the valley are ordinary scrub pines.

Away over yonder in the distance there is a waterfall, the Tuolumne River, that comes down over the cliffs, falling between the rocks, and then trickling through the outlying rocks into a stream that runs through the valley. At the outlet of the valley the walls of this great chasm come almost together, so that they are at the opening less than 65 feet apart. There are thousands of people in the United States who honestly believe that this beautiful waterfall coming down over the cliffs is going to be ruined if we pass this bill, but I shall show you that it not only will not be ruined, but that it will be made accessible.

TEXAS SENATOR MORRIS SHEPPARD: The senator was speaking of the fact that the valley was a hopeless swamp during certain seasons and that the surveyors had to wear gloves for protection against mosquitoes.

NORRIS: Think of it for a moment. There has never been in that valley a vehicle. We have read circulars by the thousand that have gone over the country describing it as the nation's playground. In the sand of that valley there has never yet been made the impression of a child's foot. As far as I know, the eyes of no woman or child have ever beheld it. It is true that the government of the United States by the expenditure of a couple of million of dollars could build roads in there, but who is there here who thinks for a moment that it is going to do it?

COLORADO SENATOR CHARLES THOMAS: If the Senator from Nebraska will allow me, I will say, for the

information of the Senator from Michigan, that the maximum number of visitors to the Hetch Hetchy Valley is 279.

NORRIS: San Francisco years ago awoke to the fact that she had to get additional water. She has spent thousands and thousands of dollars and years of time surveying all of the country, all of the watersheds, not to see whom she could destroy or injure, but to see where, under all the circumstances, was the best source of supply. She examined all of the other sources that have been mentioned and some that have not been mentioned. She settled on Hetch Hetchy.

Mr. President, there are hundreds and thousands of horsepower going to waste in this valley. It seems to me almost a sin not to do it.

Hold up your calloused hands, you senatorial strap hangers, who for years have been riding on cars here and paying for something you did not get. Defeat this bill and you will receive the plaudits, the acclaim, and the praise of every hydroelectric corporation in the State of California. Pass it and you give into the hands of the people a power that God intended should do some good for man.

UTAH SENATOR REED SMOOT: I approve of all the Senator has said in regard to harnessing this mammoth power, but I wish to say to the Senator that the city of San Francisco can create very nearly the same horsepower by using the Cherry Valley drainage area and the Lake Eleanor drainage area, and do all the Senator has said for the good people of San Francisco.

NORRIS: No; she can not.

SMOOT: That is what the report says, Mr. President.

NORRIS: Pass this bill, and its ultimate effect is going to reach away beyond the lives of any men who live. If by some convulsion of nature the country out there is not destroyed, in a thousand, yes, a million, years from now the people will still be getting the benefit of this legislation, which can hurt or harm absolutely no man on earth. Pass this bill, sir, and millions of children yet unborn will live to raise their tiny hands and bless your memory.

RHODE ISLAND SENATOR HENRY LIPPIT: I found myself very strongly moved by two directly opposing influences -my appreciation of the benefits of natural scenery, my great sympathy with the people who enjoy them, and the importance and value of water.

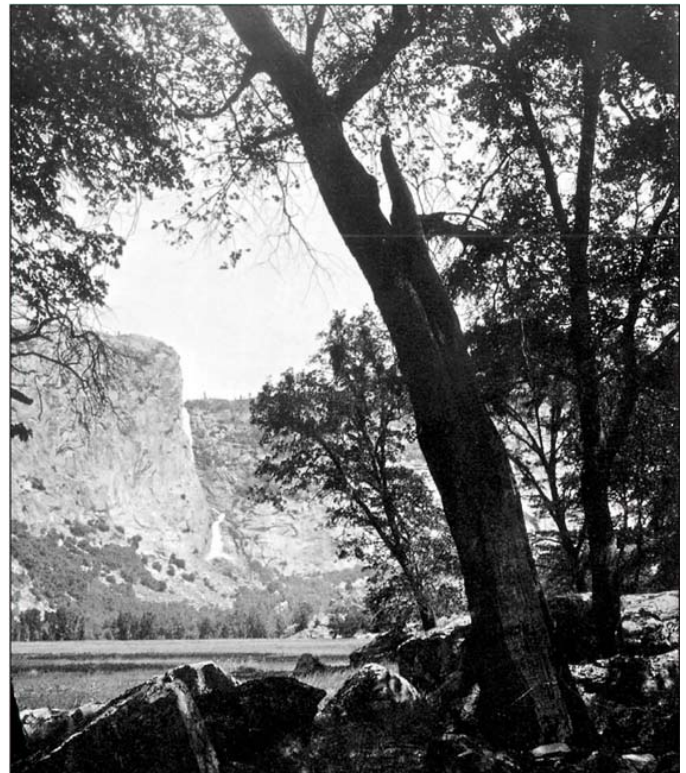
The grandeur of its cliffs is still going to be there; the beauty of the Wapama Falls is going to be there uninterfered with; and, what is more important, there is going to be a means provided for the general public of seeing these things. There is no use in natural beauty that is inaccessible, and the present condition of that valley is such, as I understand it, that no wagon has ever penetrated to its interior.

Under this project there is going to be built a first class wagon road, the cost of which will be over \$600,000, which will circle the valley. It is going to be so located that the scenic effects will be readily accessible, and I think that all of this is a strong recommendation for the project.

SMOOT: I want to call the Senator's attention to the fact that there can be developed on the Cherry Valley drainage area and the lake Eleanor drainage area 98,000 horsepower.

The water from that source, according to the report, amounts in Cherry Valley to 160,000,000 gallons daily, and the Lake Eleanor 130,000,00 gallons daily, which will be sufficient for a city of 2,000,00 population, 100 gallons per day for each man, woman and child. Why would it not be better for San Francisco to take that and develop that water and power and not interfere with Hetch Hetchy at all?

LIPPIT: I will say in reply to that, that I am a Yankee, and the Yankees very frequently answer one question by asking another. I might very well ask the Senator why would it



Wapama Falls as seen from the floor of the Hetch Hetchy Valley around 1900.

Sierra Club/ Joseph N. LeConte

be better? I do not ask him to answer that question now, because I know his fertile mind will find a great many most excellent reasons why it will be better, but I will tell him why I think it is better to adopt this measure now. The reason why I think so is because I want both sources of supply developed.

SMOOT: The claim has been made, and made strenuously, that San Francisco can not get water anywhere else; that she can not get power anywhere else; that this is the only source of supply.

MISSOURI SENATOR JAMES REED: It seems to me that if this is not a case of "much ado about nothing," it surely is a case of much ado about little. The Senate of the United States has devoted a full week of time to discussing the disposition of about 2 square miles of land, located at a point remote from civilization, in the very heart of the Sierra Nevada Mountains, and possessing an intrinsic value of probably not to exceed four or five hundred dollars. The great national park in which the paltry two square miles to be taken is embraced contains, I am informed, over 1,100 square miles

of territory. It is merely proposed to put water on these 2 square miles. Over that trivial matter the business of the country is halted, the Senate goes into profound debate, the country is thrown into a condition of hysteria, and one would imagine that chaos and old night were about to descend upon the land.

Women's societies are meeting and passing resolutions. Business organizations are solemnly pondering the tremendous question. College professors who never have been near enough the Yosemite Park to know anything whatever about it are enlightening us with reference to our duty. The degree of opposition increases in direct proportion with the distance the objector lives from the ground to be taken. When we get as far east as New England, the opposition has become a frenzy.

NEW JERSEY SENATOR JAMES MARTINE: I wish to suggest that that may be very much a matter of taste. It may be the judgment of the Senate from Missouri that it would add very much to the scenery, but just as fairly and honestly it may be the judgment of other senators that it would detract from it.

REED: Mr. President, there are people in this world to whom the mere mention of water is obnoxious (laughter).

RHODE ISLAND SENATOR LEBARON COLT: I am opposed to the passage of this bill because I think, on principle, the national parks of this country should remain devoted to the uses for which they were intended, in the absence of some grave public necessity. I am opposed to the passage of this bill because I think that Congress occupies a peculiar relation toward the people with respect to the national parks; that we are in a broad sense the custodians and trustees of the people -to protect and safeguard these parks -and that, therefore, in the absence of any urgent public necessity, we should recognize what appears to be the overwhelming voice of the people in opposition to the passage of this act.

NEVADA SENATOR KEY PITTMAN: I want to call your attention to the fact that nearly all the protests against this bill have emanated either from Massachusetts or from some of the other New England states, and with the rapidity of slander have worked out through the East and the South. Is it not strange that a matter involving facts and physical conditions in the State of California should be first attacked in the far New England states?

WASHINGTON SENATOR MILES POINDEXTER: There is another source of supply, to which I want very briefly to refer, which has not been mentioned heretofore, and that is the Yuba River.

Yet it is proposed here, because the city of San Francisco has taken a fancy to the peculiar advantages of this valley for a site for the construction of a dam, to ignore the general interests of the country, and to refuse to take a comprehensive survey of the entire California Valley. Because they desire this particular water, it is proposed to take it, although there is other water equally as good which they could obtain elsewhere without doing injury to a single soul.

WYOMING SENATOR CLARANCE CLARK: We all know that this is a log rolling proposition.

Do not put yourselves in the position of a man in the rapids above Niagara. He knows he is in the rapids, but he is callous to his danger. He says there is no danger in the Falls; yet many chances to one the next day that gentleman will be fished out of the pools below, and the following day friends will be sending flowers to the church and condolences to the widow.

SEVERAL SENATORS: Let us vote now.

Yeas 43 Nays 25 So the bill was passed.

Thereupon (at 12 o'clock midnight) the Senate adjourned.



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EDITORIAL

Sunday, August 22, 2004



HETCH HETCHY RECLAIMED

The lost Yosemite

It's time to imagine Hetch Hetchy restored

Here's the best-kept secret of Yosemite Valley: It has a twin.

This little brother, as the late naturalist John Muir called it, has a thundering waterfall named Wapama, a feathery cascade named Tueeulala and a towering peak called Kolana. Below Kolana, a valley snakes between granite walls for eight miles to reach a staircase of rock known as the Grand Canyon of the Tuolumne.

Yosemite's little brother has a name. It is called Hetch Hetchy, derived from the Indian name for its native meadow grasses. But despite its grandeur and its presence in a park that is a national treasure, few people know Hetch Hetchy exists and few visit it.

There is a reason for this remarkable obscurity. Hetch Hetchy is underwater.

Since 1923, a dam that supplies water to the San Francisco Bay Area has submerged the valley's roughly three square miles. An act of Congress in 1913 gave San Francisco control of the valley, a precious resource that belonged to the entire nation.

No wonder, then, that Hetch Hetchy is today the least visited natural feature in the 1,189-square-mile Yosemite National Park. In one survey of Yosemite's popular sites, Hetch Hetchy finished last, below "other." No other national park has such a centerpiece jewel that is locked away from the public, both by the ranger's key at 9 p.m. every day and by 300 feet of sparkling, clear Sierra water.

Yosemite serves nearly 4 million visitors a year. Someday soon it will run out of room for the public. When that day comes, the choice will be stark: Ration the chance to experience the glories of the Yosemite Valley or create, literally, more valley.

Such an expansion is possible if an idea once considered fanciful, even quixotic, gains legitimacy: Drain Hetch Hetchy - an enlarged hole at the dam's base would do the job - and let nature begin to reclaim this spectacular setting.

That may sound simple, but it isn't. It would require some changes to the Bay Area's water system and a consensus among major holders of Tuolumne River water rights. But if the notion is complicated, it is not out of the realm of the possible and is well worth discussing. An upcoming replumbing of San Francisco's Hetch Hetchy system and a convincing restoration proposal generated by a new computer program at the University of California, Davis, make this an appropriate time for the conversation to begin.

Any debate about piercing the dam at Hetch Hetchy is sure to be heated. Debates about Hetch Hetchy always are.

The debate that led to the construction of the dam embroiled the U.S. Senate for a week. It ended near the stroke of midnight on Dec. 6, 1913, when senators weighed environmental and development values and made their decision. The vote was 43 to 25. The dam in Yosemite would be built. The Hetch Hetchy Valley would be inundated. And San Francisco would have the use of the water.

San Francisco first set its sights on this river for water in 1901. The city's leaders and residents would understandably be nervous and resistant to change today. Water and electricity are still precious commodities. Hetch Hetchy provides nearly 85 percent of the city's water and about a sixth of its electricity. It also supplies

a large portion of the water for Alameda, Santa Clara and San Mateo counties.

So any debate over Hetch Hetchy today would involve more players than in 1913 and even more factors to consider, such as climate changes in the Sierra. But a debate today could lead to a new conclusion because the Tuolumne River watershed and the world have changed so much.

Ninety years ago, the senators' collective clairvoyance was spotty. They had no way to anticipate that in 1971 the New Don Pedro Dam, creating a reservoir more than five times the size of Hetch Hetchy's, would be built downstream. They had no way to know that an invention called the computer would reveal to UC Davis researchers that the big downstream dam could do the work that Hetch Hetchy does now. They had no way to know, in other words, that they were making a decision that might someday be undone.

By design, dams are meant to be solid and permanent. Perhaps that is why their engineering so often defines conventional wisdom and the universe of the possible. The structures are seen as unchangeable features of the landscape, by politicians, by engineers and even by newspapers. As recently as 1987, these pages pooh-poohed the idea of draining Hetch Hetchy.

But Hetch Hetchy today is truly an unusual case and Californians can dare to regard the dam in a new way. If they look carefully at water and electricity options, they may just find the dam more expendable than the lost valley below. It is possible to imagine a different future, one that restores the glories of Hetch Hetchy to the public while satisfying the legitimate municipal demands on this river.

As coming editorials will explain, San Francisco doesn't have to lose water for Hetch Hetchy to be reclaimed. But Hetch Hetchy's restoration will involve more than San Francisco's interests. It cannot occur as an isolated political act. There would have to be a water package to address the needs of every interest. The many public purposes of the Tuolumne River - its spectacular Yosemite watershed, the downstream water demands of

San Francisco, electricity, Modesto flood control, Turlock agriculture - all are pieces of an intricate puzzle. The upcoming challenge is to fit them together - for the benefit of Californians and, where Yosemite National Park is concerned, for the benefit of all Americans.

In short, Californians don't have to be prisoners of a 90-year-old debate. Change is coming to the river. As part of that evolution, it is no longer unthinkable to imagine reuniting Yosemite's twin valleys. Something magnificent and unexpected could actually happen. A river could be allowed to run free through a glacial valley, just as it did before Congress locked it away nine decades ago.



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Coming next Sunday: CALVIN does the math and concludes there's plenty of water for San Francisco.



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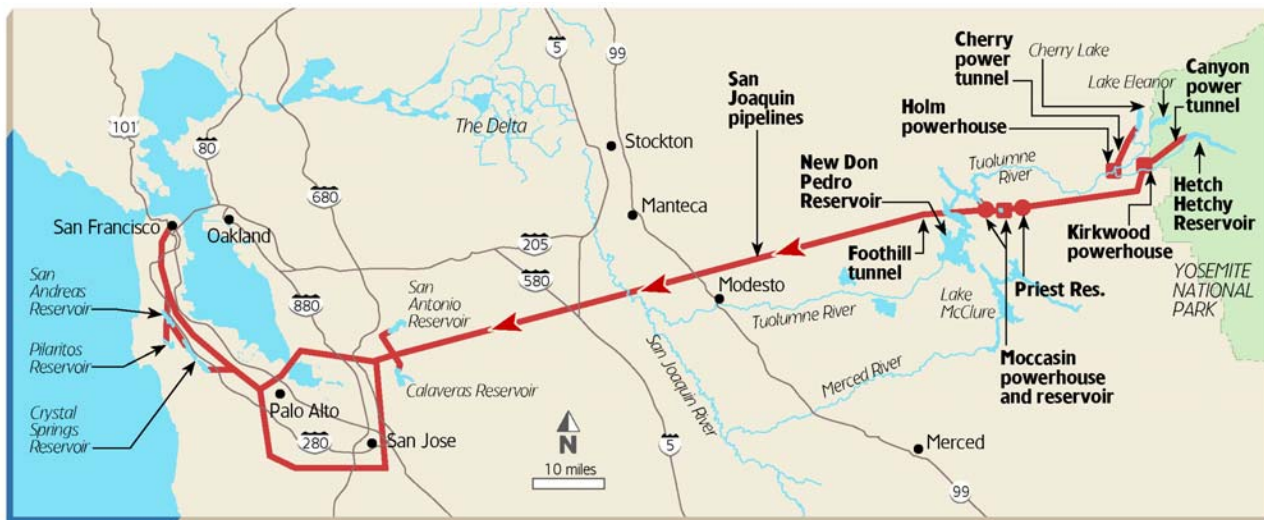
EDITORIAL/OPINION

Sunday, August 29, 2004



HETCH HETCHY RECLAIMED

By Tom Philp
BEE ASSOCIATE EDITOR



CALVIN says the dam can go Hetch Hetchy is expendable, new tool finds



University of California, Davis/Debbie Aldridge
Jay Lund, a professor at the University of California, Davis, and graduate student Sarah Null used CALVIN to study Hetch Hetchy

Can a computer see things that conventional wisdom overlooks?

A University of California, Davis, graduate student named Sarah Null took a new computer model that analyzes water management and asked the computer a century-old question: Does San Francisco really need to rely on a dam in Yosemite National Park? In 1913, Congress said yes. It allowed the city to construct the dam in one of Yosemite's two glacial valleys, the one known as Hetch Hetchy. The dam is on the Tuolumne River. Since 1923, Hetch Hetchy has been the city's primary water supply.

Today, however, three other major reservoirs occupy this river. Null and her faculty adviser, Jay Lund, the inventor of the computer model known as CALVIN, did what John Muir could only dream of. They assumed the dam at Hetch Hetchy wasn't there. Left intact were the other three reservoirs. They

plugged in more than 70 years of historical river flow data. They made minor changes in the plumbing. And they calculated how much water the different system could deliver compared with the existing one. It was nearly the same. That surprised Null and Lund at first. But the closer they looked, the more it made sense. Null and Lund explain:

BEE: How did you get the idea of analyzing Hetch Hetchy and the impact on San Francisco, Modesto and Turlock if this reservoir no longer existed?

LUND: The Hetch Hetchy system is a classic example. You go out and protect a watershed. You pipe it in from a high elevation. You make hydropower. You have essentially no operating costs for energy. You get very good quality water. And you don't need a lot of technology. So in the early 1900s, from an engineering decision, it was beautiful. Absolutely beautiful. But a lot of time has gone by. If you were to do it today, you would do it differently.

NULL: You wouldn't have a dam in a national park ...

LUND: ... Because you would have this other storage on the system. Hetch Hetchy, for California standards, is not a large dam. Hetch Hetchy is only 360,000 acre-feet. And downstream is a big reservoir. Two million acre-feet.

BEE: Going into this, did you have sentiments, personal sentiments, the longing to restore Hetch Hetchy, or was this more of an academic curiosity?

Hetch Hetchy:

Politics is key to any change

NULL: Probably mostly an academic curiosity. I have somewhat of an environmental lean, but not to the extent of taking out water supplies for large cities.

LUND: I thought it was a good opportunity to see how you might be able to modernize the operation of a significant part of the California water system.

BEE: Briefly describe the Tuolumne water system.

LUND: Basically, you have this huge reservoir, 2 million acre-feet, New Don Pedro. Upstream, there is Hetch Hetchy at 360,000 acre-feet. And Cherry and Eleanor, which combined are about 300,000 acre-feet. So that whole system has more than 2.5 million acre-feet of storage on a river that has about 1.8 million acre-feet of water as an annual flow. So already you have a system that is not poor for storage. It may be even a little bit wealthy on storage.

NULL: And there is local San Francisco storage.

LUND: Plus there is 100,000 acre-feet of additional storage in the San Francisco area.

BEE: The ownership of these reservoirs up there. San Francisco owns and runs Hetch Hetchy. Who owns and runs the others - the two other high-country reservoirs, Eleanor and Cherry - and who runs the big one downstream, New Don Pedro?

NULL: San Francisco owns Cherry and Eleanor, the two other high ones. And Turlock and Modesto irrigation districts own and operate New Don Pedro.

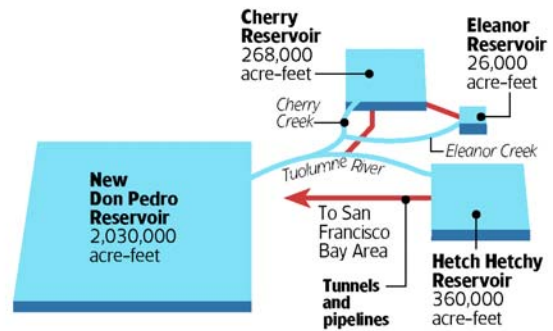
BEE: Could you describe what CALVIN is?

LUND: CALVIN is a model that does all the water balance accounting. So it makes sure the water flows and

agrees with the laws of physics. It limits the operation of the system within the physical constraints that you have, the

Hetch Hetchy delivery system

The Hetch Hetchy Regional Water System serves customers in San Francisco, San Mateo, Santa Clara and Alameda counties. Water customers served by the New Don Pedro Reservoir are in the Modesto and Turlock irrigation districts. Below is a schematic demonstrating how the reservoirs are linked by tunnels, river channels and pipelines that result in eventual delivery of water to the San Francisco Bay Area. An acre-foot is the amount of water that covers an acre to the depth of one foot or about 326,000 gallons.



Sources: San Francisco Public Utilities Commission

Sacramento Bee/Mitchell Brooks

capacity of reservoirs, pipelines, things like that. And then it operates within that range of feasible operations to maximize economic benefits.

BEE: So in this case, it knows how much historical rainfall there is, how much storage the system has, how much you're taking out if you take out Hetch Hetchy and how much it can then deliver?

NULL: Right.

BEE: Other than assume there was no Hetch Hetchy Dam, what other plumbing changes did CALVIN make?

LUND: For us, the only real creative thing we did was we added this inter-tie between New Don Pedro and the Hetch Hetchy aqueduct (to San Francisco).

NULL: If you assume that there is an inter-tie between New Don Pedro and the San Francisco aqueduct, according to CALVIN, there is very little difference in water supply.

BEE: So this inter-tie is basically a new pipe that connects this big downstream reservoir, New Don Pedro, to the San Francisco system. At the moment, San Francisco does not take water directly from New Don Pedro.

LUND: That's correct. There is not a physical ability to make that.

BEE: So how far away are these pipes that supply San Francisco from New Don Pedro?

NULL: They cross New Don Pedro.

BEE: So physically, it is not a huge challenge to connect the San Francisco water system to New Don Pedro.

LUND: It would probably require a pipeline and a small pumping plant.

BEE: So CALVIN assumed that if you no longer had a dam in Hetch Hetchy, San Francisco would have to take at least some of its supply directly from this inter-tie in New Don Pedro.

NULL: Right. Essentially, CALVIN just moves the storage of Hetch Hetchy down to New Don Pedro. And

because New Don Pedro is such a large reservoir, there aren't many differences.

BEE: Were you surprised at all at what CALVIN found?

LUND: Yeah, actually.

NULL: I was, too.

BEE: It seems hard to grasp that you can remove a dam, a water supply dam, and not really impact water supply abilities very much. Can you explain how you can get rid of this dam without significantly impacting the water supplies for Modesto, Turlock and San Francisco?

NULL: This is a unique case.

LUND: Storage is not water. If you have a system which is rich in storage, if you take some of that storage away, you're not taking away any of the water. In the case of the Tuolumne River system - including Hetch Hetchy, New Don Pedro, Cherry and Eleanor - it is well off in storage. So if you take away some of the storage, it doesn't affect the water supply deliveries very much.

BEE: Did CALVIN assume that San Francisco would still divert water into its pipelines and tunnels that exist just below the Hetch Hetchy dam as the water flows down the river?

LUND: Yes.

NULL: During the spring runoff, the Hetch Hetchy aqueduct would still be full in most years.

BEE: So you are still diverting water from the same pipes just below the valley. Based on CALVIN, you're just not impounding the water in the valley.

NULL: Right.

BEE: Has San Francisco contacted you to explore your findings?

LUND: Nope.

BEE: These findings don't exactly follow conventional wisdom in San Francisco.

LUND: There is an impression that there is only Hetch Hetchy and its 360,000 (acre-feet) of storage for San Francisco. Where, in effect, there is potential for almost 3 million acre-feet of storage.

BEE: Your CALVIN computer seems to be leaving out a little bit of the politics.

NULL: All of the politics.

BEE: The current political arrangements allow San Francisco to run its high-country dams - Hetch Hetchy, Eleanor and Cherry - and downstream, for Modesto and Turlock to run their dam. CALVIN is suggesting that, in order to eliminate the dam in the national park, San Francisco, Modesto and Turlock would have to essentially join forces, cooperate together and manage together the remaining three reservoirs.

LUND: They would all have to enter the same room, talk and leave happy.

BEE: But CALVIN is suggesting that it is less a question about adequate supply and more of a question about new political arrangements to keep everybody whole.

LUND: Yes. There seems to be enough water in the system. And there seems to be enough storage in the system if the parties can come to agreement to re-operate and reallocate the benefits in the system.

BEE: If you're looking at this from the Modesto or Turlock perspective, what's in it for them?

LUND: The farmers are certainly in a good negotiating position to have quite a favorable contract if they chose to go that route.



University of California, Davis/Debbie Aldridge
UC Davis professor Jay Lund, left, and graduate student Sarah Null work with CALVIN, the computer program Lund and his team developed to assess San Francisco's water supply, specifically the portion that comes from Hetch Hetchy reservoir.

BEE: What about global warming? CALVIN used historical rainfall data. What if the future portends more rain and less snow? Would the system, if it didn't have the dam in Yosemite, run short?

LUND: I think there is some risk in that. We have not run climate change studies. I think that would be something that would merit further examination.

BEE: Did you explore its impact on flood control? Would you have to use flood control space in New Don Pedro in order to capture the water?

LUND: We used the same flood control space as the Corps of Engineers currently has for New Don Pedro.

BEE: So what should the outside world take from your computer's advice, about the real-world feasibility of restructuring water supplies and restoring this Yosemite valley?

NULL: People have talked about it for a long time, but there was very little done quantitatively, looking at the numbers, seeing what could be done, what was possible.

LUND: A lot of time the political discussions and the public discussions are not so well-informed on that score. There is a lot of fear that any change in a water system would be bad. Sometimes that is not the case.



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EDITORIAL

Sunday, August 29, 2004



HETCH HETCHY RECLAIMED

The dam downstream Computer: You don't need Hetch Hetchy

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.

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Coming Monday:

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



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The Sacramento Bee

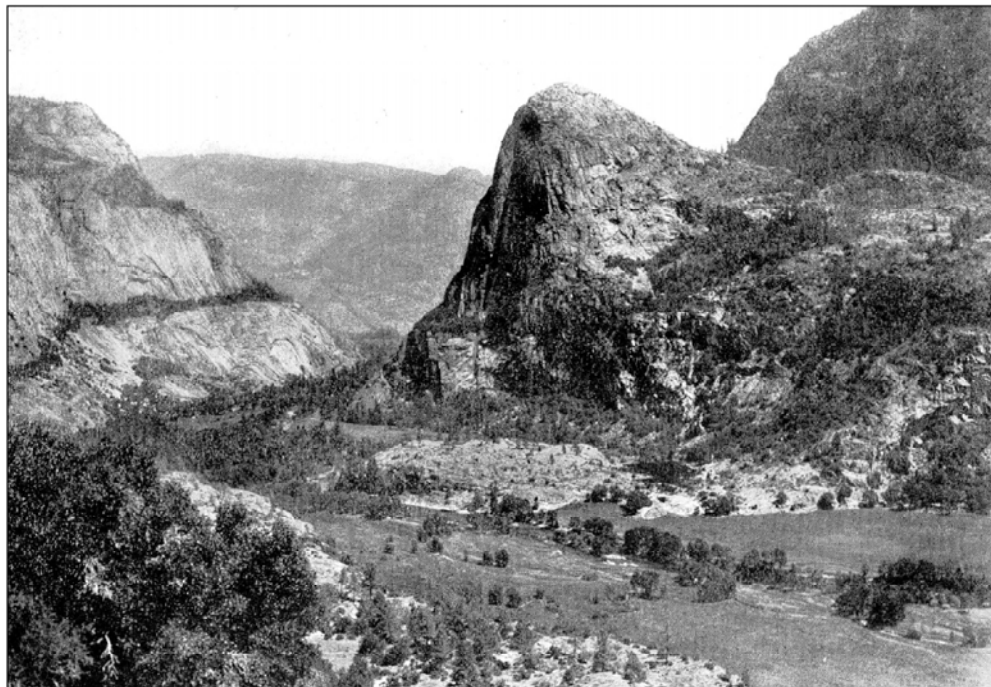
EDITORIAL/OPINION

Monday, August 30, 2004



HETCH HETCHY RECLAIMED

By Tom Philp
BEE ASSOCIATE EDITOR



Sierra Club/Herbert W. Gleason

Hetch Hetchy Valley seen from the Southside Trail, above, photographed in 1912. In 1923, the Valley was flooded to provide a water supply for San Francisco

In 1987, an attempt to bring back the valley

Was he ahead of his time or out of his mind to propose what he did?

In 1987, the interior secretary for President Reagan, Donald Hodel, sought to focus public attention on the smaller twin of Yosemite Valley, known as Hetch Hetchy. He suggested getting rid of the dam in the Hetch Hetchy Valley, restoring this landscape inside the national park and somehow replacing the water supply for the San Francisco Bay Area. Soon after he floated the idea, it sank. He attracted few allies from the liberal conservation community, mobilized fierce enemies, particularly San Francisco's mayor at the time, Dianne Feinstein, and generated more skepticism than excitement. He retreated. Ever since, no one with equivalent power has dared touch the subject.

The environmental community that failed to rally behind Hodel is now trying to revive the issue, spearheaded by Environmental Defense and Restore Hetch Hetchy, a nonprofit based in Sonoma. Today, they want what Hodel wanted but couldn't get: a comprehensive study to answer whether Yosemite can reclaim its twin valley while ensuring that the Bay Area and Central Valley retain their water supplies and electricity at a reasonable price. For that study to occur, someone with power at a state or federal level would have to champion the idea. That person would need a thick skin for the fight.

Hodel, now in private life in Colorado, revisited his old crusade and handicapped the new one:

Q: *What have you been doing since you were interior secretary; where do you live and what do you do now?*

A: When I left Washington, D.C., I moved to the mountains of Colorado because I'm an avid skier and established a consulting firm, mostly in energy and natural resources matters. In the vernacular, I have lived happily ever after.

Q: *Let's go back to somewhere in 1986 or 1987, and you are the secretary of interior. How did you initially get interested in Hetch Hetchy and the possibility of restoring the valley?*

A: I had become increasingly aware of the fact that Yosemite National Park is a million acres, and there are 5,400 acres that everybody wants to crowd into. And I had made some comment that Yosemite is not overcrowded, one part of it is overcrowded because of its scenic values and so forth. And somebody, maybe a park ranger, maybe a superintendent, said to me, "You know, there is another Yosemite valley."

I said, "What are you talking about?"

And I then learned about the history of the battle over Hetch Hetchy and the fact that this reservoir sits in that valley.

Somewhere down the line, we talked to the Bureau of Reclamation and said, "Is there any possibility that the water that is in Hetch Hetchy could be recovered in some fashion if Hetch Hetchy were removed?"

They did a back-of-the-envelope study. To my great surprise and pleasure, they came back in a few weeks and said that it looks like they could remove the dam and if San Francisco and the other water operators on the river would operate their systems in a more coordinated fashion, they could capture more water and get more benefits than they are right now.

Q: *How did you then go about proposing it?*

A: I made several phone calls. One of them was to a fellow I had gone to college with, Mike McCloskey. He had been the executive director of the Sierra Club. We were pretty much on opposite sides of the political spectrum. We were at odds on most things.

I had called him and told him we were proposing to do this. He knew me well enough to know that that is what I meant. I wasn't playing games or trying to mousetrap anybody. I genuinely thought it was worth getting a second Yosemite valley available.

And I also called Mayor [Dianne] Feinstein. And when I called her, I had hardly gotten the words out of my mouth on what I wanted to do, she began just listing aggressively all of the ideas why this was a terrible idea. I don't think she mentioned the fact that San Francisco was making about \$50 million a year net on the sale of power. I informed certain senators. And then I went out and spoke at the [San Francisco] Commonwealth Club and made a presentation.

Q: *Were you jeered?*

A: I had a computerized slide show, which included pictures of the old Hetch Hetchy ... coming back to life. We had a picture of the reservoir with the water behind it, and the reservoir was lower and the dam removed and a barren valley

then began to take life, the vegetation came back. It was really impressive for the day.

The Commonwealth Club was not staunchly environmental. Frankly, economic interests generally are not quick to jump on an idea that has possibly negative economic consequences. It was polite, although my recollection was that during the question-and-answer period, there were some fairly strongly hostile questions, which I thought I handled admirably (laughing).

Q: *Did you ever visit Hetch Hetchy?*

A: I did. I visited Hetch Hetchy with Mayor Feinstein.

Q: *Now was this before or after you had suggested dam removal?*

A: After she came back down out of orbit.

Q: *Describe the aftermath of the next few months.*

A: Feinstein and others of the same opinion went to the Congress. The House of Representatives was in the control of the Democratic Party. Sidney Yates of Chicago was the chairman of our appropriations subcommittee. At their urging, he wrote into the appropriations bill that no money could be used to study Hetch Hetchy. And that was it.

Q: *Does that prohibition still stand, or was it just for that single year of appropriations?*

A: It was for that appropriations bill.

Q: *What was the broader reaction from the environmental community, San Francisco, newspapers and other interest groups?*

A: Pretty tepid. If it wasn't hostile, it was pretty tepid. The Sierra Club was, if not alone, one of the few organizations that actually said that at least it is worth a study. They were so hostile to Ronald Reagan and his administration that many of them couldn't bring themselves to say anything positive about a proposal coming from a Reagan secretary of interior. And it was close to a presidential election, although Reagan wasn't running any longer.

Q: *Looking back, what were the lessons learned? Was this the right idea from the wrong person at the wrong time? Was the idea itself in error?*

A: I believe it is an idea that is absolutely worth an honest study. Because if it could possibly be true, if we could restore Hetch Hetchy to the national park system, there is nothing like it in the world. Just imagine. Where else are you going to find in that kind of locality a new Yosemite valley that you can add to the park system? It just doesn't exist. What is that worth to the country, to the world? It is absolutely worthy of study if there is any reason to believe that it is possibly true.

Q: *When you proposed this, in hindsight, did you feel that you had solid enough data, preliminary data, to hold the discourse for a while?*

A: Unquestionably. Nobody wanted to look at it. Nobody challenged it. They would say things like it can't possibly be true - based on prejudice, but not based on knowledge. Had I any idea that Dianne Feinstein would be so implacably and staunchly - I was going to say violently - opposed, I probably would have spent some time thinking about who could speak with her to whom she can't react angrily. I would have spent

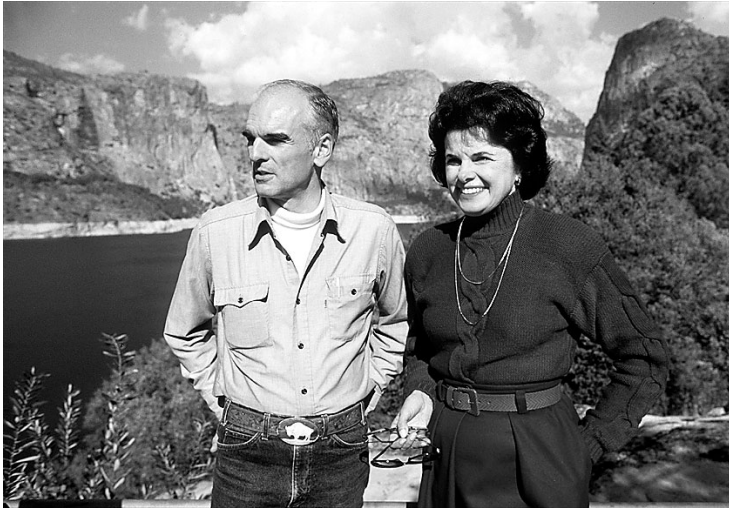
much more time finding a way to at least neutralize those people who were the most ardent opponents.

Q: Is Feinstein the key here in terms of opening some political legitimacy to studying this?

A: I don't know today whether that's the case. It is a sad situation if she is.

Q: How could this possibly be in the Bay Area's interest, either today or in 1987?

A: Remember the Panama Canal debate when the U.S. senator from California said we stole it fair and square? I suppose San Francisco could argue that [the dam] should not be removed because it stole this valley fair and square. It is receiving an economic benefit of disproportionate significance



Sacramento Bee/Skip Shuman

At left, in 1987, the-U.S. Secretary of the Interior Donald Hodel and San Francisco Mayor Dianne Feinstein visited the reservoir. Hodel's plan to restore the valley fizzled.

out of a national resource because they stole it from the public trust. And the issue is, because they once stole it, do we leave it there forever? I think the burden of proof is really on them to show why they should continue to occupy and burden the national park in this way.

Q: That gets to another issue, the rent that San Francisco pays for the valley.

A: That has gone up I understand. It was \$30,000 when I was in office.

Q: It still is. The Bush administration proposed a higher rent. That got shot down.

A: Oh boy.

Q: Is raising the rent a way to approach this?

A: It certainly would be appropriate for the National Park Service to receive a more reasonable rent for use of the national park. But if it is looked on as a precedent - that if you pay enough, you can occupy a national park with a dam - I would oppose it.

Q: Let's say you are Don Hodel, secretary of interior for George W. Bush. You have the same idea. Would you advance it?

A: I would not advance it in an election period.

Q: Do you know if there are any closet supporters within this existing Interior Department?

A: I don't know.

Q: What ingredients do you think are needed for the idea to gain enough legitimacy for the water districts, the state and the federal government to study the various water and hydro options?

A: (Laugh). I think there needs to be a substantial groundswell of public support so that finally political leaders see greater benefit in responding to the public support than in listening in private to the objections of the water interests. It is very hard to imagine that the water interests will ever think that even studying it is a good idea. I used to run the Bonneville Power Administration. I remember the reaction to proposals from California that there should be a study of whether water



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The Sacramento Bee

EDITORIAL

Monday, August 30, 2004



HETCH HETCHY RECLAIMED

San Francisco's paradox A green agenda everywhere-except Yosemite

When it comes to San Francisco's environmental sensibilities, no cause is too distant, no endeavor too bold.

In recent years, San Francisco has vowed to reduce its greenhouse emissions by 20 percent and to produce enough electricity from ocean tides to power 1,000 homes.

It has voiced its support for tightening hazardous chemical regulations in the European Union and protecting arctic Alaska from oil development.

It has discouraged consumption of Chilean sea bass and promoted the pro-vegetarian Great American Meatout.

It plans to recycle 75 percent of its garbage and wants to convert restaurant grease into fuel for city buses.

It promises someday to appropriately honor an environmental hero of the Bay Area, the late David Brower, the first executive director of the Sierra Club and founder of Friends of the Earth and the Earth Island Institute.

"[He] awakened us to our responsibility to enrich and protect our habitat," according to a city proclamation, which calls for "a suitable and permanent memorial."

But did Brower truly awaken San Francisco? He certainly didn't think so, at least where it mattered most.

Brower spent a half-century following the lead of the great naturalist John Muir. Like Muir, Brower championed the goal of providing two spectacular valleys in Yosemite National Park, not just the Yosemite Valley most tourists see today. Like Muir, Brower failed.

Muir died in 1914, having failed to stop Congress from approving a plan to flood Hetch Hetchy Valley with 300 feet of Sierra water. Brower died in 2000, having failed in his efforts to restore Hetch Hetchy to the American public.

Since the beginning of the 20th century, San Francisco has been steadfast in its contention that a municipal reservoir is the highest use of Hetch Hetchy. In 1913, Congress agreed with San Francisco and approved the dam's construction. Since 1923, Hetch Hetchy has been underwater, relegated to obscurity. Today, it is the least visited natural feature in the park.

Like Muir, Brower implored San Francisco to get its water elsewhere on the Tuolumne River, outside Yosemite National Park. San Francisco never did.

"It belongs to everybody," Brower said of the Hetch Hetchy Valley when he visited it in May 2000, six months before he died. "We happen to be the current custodians. And San Francisco happens to be the current pirates."

Hetch Hetchy is San Francisco's great civic contradiction. While the city's environmental agenda spans the globe, it keeps a glacial valley locked away close to home. San Francisco claims part of a national park, a public treasure, for its own utilitarian purposes of securing water and electricity.

Hetch Hetchy provides nearly 85 percent of San Francisco's water and a major portion of the supply for San Mateo, Santa Clara and Alameda counties. The system, then and today, is an engineering marvel. It captures and conveys water for 160 miles solely by gravity's force, along the way spinning turbines that provide electricity to run the city's famous cable cars and other municipal services.

The water system is no ordinary source of civic pride. Hetch Hetchy, said the former mayor Dianne Feinstein, is the city's "birthright." No wonder that by 1988 she had quashed the effort by Interior Secretary Donald Hodel to study the valley's restoration.

Nothing, in San Francisco's view, seems broken. What is there to fix? Nothing, if the view is a narrow one.

But if Californians pull back and take a broader look, they will see that Hetch Hetchy is not San Francisco's birthright. It is the country's. In Yosemite, buried beneath glacial waters, is part of a park that was set aside for all Americans. Surely San Franciscans and Feinstein, now a U.S. Senator and the state's most seasoned leader on water issues, can envision the grandeur of a national park made whole.

Modern-day environmentalism calls for examining old assumptions, rebalancing public values and accepting new findings. Some decisions need recalibrating, especially ones made 90 years ago.

Could San Francisco, as Brower and Muir said, get its water someplace other than Yosemite National Park? Researchers at the University of California, Davis, asked the question and, with a computer's help, found that it could. San Francisco could take its water downstream, from the New Don Pedro Dam, whose reservoir is more than five times Hetch Hetchy's size. A replacement reservoir, Calaveras, proposed in the East Bay, would be larger than Hetch Hetchy.

There is ample reason to ponder a different future for Yosemite Valley's little twin - to talk about restoring Hetch Hetchy, modifying the Tuolumne River water system, replacing lost hydropower and removing San Francisco from the national park.

This will be a serious and contentious discussion for the state as well as for San Francisco. But it will be worth the trouble.

Imagine the possibilities. No longer would San Francisco be, as Brower declared it years ago, the pirate with the stolen national treasure. Instead, a city that prides itself on environmentalism could set its sights on a new cause: restoring Hetch Hetchy, a public jewel close to home.

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Coming Sunday:

A chat with John Muir.



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The Sacramento Bee

EDITORIAL

Sunday, September 5, 2004



HETCH HETCHY RECLAIMED

Muir's plea; A voice for the ages and for Hetch Hetchy

Naturalist, author and activist John Muir introduced Yosemite to the outside world more than a century ago through his exquisite writings. He championed the creation of the national park. And when San Francisco proposed to dam one of Yosemite's two deep glacial valleys - the Hetch Hetchy Valley on the Tuolumne River - Muir led the opposition. In 1913, he failed. Congress granted the city the authority to build the dam and establish its water supply in the national park. Less than a year later, Muir died at age 76.

That did little to diminish Muir, then and now, as the leading voice for Hetch Hetchy. No living activist ever saw the valley before it was flooded. It was submerged in 1923.

Muir's role, as the witness and environmental conscience for the debate over the valley, is unchanged. His lasting power comes from his extensive collection of articles and letters about Yosemite, about San Francisco, about politics. They are remarkably timeless. So timeless, that with a little journalistic license, questions facing Hetch Hetchy today can be answered using quotations from Muir's writings nearly a century ago. The imaginary conversation would go something like this:

Bee: Congratulations on Gov. Schwarzenegger choosing your image to adorn the official California quarter.

Muir: You don't know how accomplished a lobbyist I've become.

Bee: And Yosemite Valley will be on the quarter as well.

Muir: Valleys.

Bee: Pardon us.

Muir: Nature is not so poor as to have only one of anything. Hetch Hetchy is one of a magnificent brotherhood of Yosemite valleys.

Bee: We have only seen Yosemite Valley. Hetch Hetchy could not possibly compare.

Muir: It is a wonderfully exact counterpart of the great Yosemite.

Bee: So where is its El Capitan?

Muir: Standing boldly forward from the south wall near the lower end of the valley is the rock Kolana. Facing Kolana on the north side of the valley is a rock about 1,800 feet in height, which represents a bare sheer front like El Capitan.

Bee: OK, where's Hetch Hetchy's big "Yosemite Fall?"

Muir: The great Hetch Hetchy fall, called Wapama by the Tuolumnes ... is about 1,800 feet in height, and seems to be nearly vertical when one is standing in front of it. Its location is similar to that of the Yosemite Fall.

Bee: A miniature of the Yosemite Fall?

Muir: The volume of water is much greater.

Bee: But is there a fall as delicate as Bridal Veil?

Muir: Tueeulala. It makes a free descent of a thousand feet and then breaks up into ragged, foaming web of cascades among the boulders of an earthquake talus. The only fall that I know with which it may fairly be compared is the Bridal Veil, but it excels even that.

Bee: Sounds peaceful.

But Hetch Hetchy is peaceful these days because it is submerged.

Muir: It would be just the same thing as saying that flooding Yosemite would do it no harm.

Bee: But this is San Francisco's water supply.

Muir: I am heartily in favour of a Sierra or even a Tuolumne water supply for San Francisco, but all the water required can be obtained from sources outside the park.

Bee: Are you surprised that all these years later the Hetch Hetchy debate is still alive?

Muir: Never for a moment have I believed that the American people would fail to defend it.



John Muir
National Park Service

Bee: It all boils down to money. Probably taxpayer money. Or water ratepayer money. How much should be thrown at San Francisco, Modesto and Turlock to restructure their water supplies and water agreements to regain Hetch Hetchy?

Muir: Woe is he and thee and me and all the world's beauty-lovers that such dollar-dotted tangles should approach our sacred Sierra temple.

Bee: There you go. This is why you failed back in 1913. Where's the pragmatism?

Muir: We are preparing data ... which will demonstrate that San Francisco can obtain abundance of pure water from other sources than Hetch Hetchy.

Bee: Data?

Muir: They will see what I mean in time.

Bee: Soon maybe? San Francisco may have to look at options, including Hetch Hetchy, as a legal requirement to expand its plumbing system. That would be a first. Would you settle for a fair independent study of how to ween the city from Yosemite and see just how feasible this truly is - or isn't?

Muir: Evidently we have to fight the battle all over again, and must stir our pegs accordingly. Truth and right must prevail at last. How this business Hetch-hetches one's time. It won't even let me sleep.

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Coming Tuesday: San Francisco's bargain: tent-cabin prices for a valley



FOUNDED 1857

The Sacramento Bee

OPINION

Tuesday, September 7, 2004



HETCH HETCHY RECLAIMED

Hetchy Clients need equal water supply

(By Art Jensen)

Special To The Bee

The Bay Area Water Supply and Conservation Agency (BAWSCA), created in 2003 by 28 cities, water districts and water companies, and the 1.7 million water users it represents are very interested in the discussions taking place about the proposal to drain Hetch Hetchy reservoir.

The agency represents those districts that depend on Hetch Hetchy that are outside the city limits of San Francisco. These are water districts in San Mateo, Santa Clara and Alameda counties.

We believe there should be broad public debate about this matter, and we want to be part of it. The health, safety and economic well-being of our agencies' customers are the underlying reasons for the state legislation that enabled BAWSCA's formation, and currently the Hetch Hetchy water supply is directly related to meeting those objectives.

Below is our position on the issue:

- Draining the Hetch Hetchy Reservoir to provide increased recreational opportunities in Yosemite National Park, one of America's great natural resources, is an idea that should be discussed by all interested parties.

- A central issue for 2.4 million residents, businesses and community organizations, including schools, in Alameda, San Francisco, San Mateo and Santa Clara counties is their health, safety and economic well-being. They depend on the Hetch Hetchy system for all or most of their water.

- Before proposals to drain the Hetch Hetchy Reservoir can be considered seriously, the affected parties and their government representatives, who are empowered to make such decisions, would have to be

assured of the availability of an alternate, reliable supply of equally high-quality water at a similar fair price.

- Consideration of this idea should be an open process involving all stakeholders. Since final action will be in the hands of local, state and federal officials, they should be part of this process.

- Meanwhile, San Francisco's capital improvement program to rebuild the regional water system should proceed with all possible speed. The antiquated, earthquake-vulnerable water system must be fixed so that water can be delivered to customers and protect communities, regardless of the source of water. This is literally a matter of public health and safety.

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FOUNDED 1857

The Sacramento Bee

OPINION/EDITORIAL

Tuesday, September 7, 2004

**HETCH HETCHY RECLAIMED**

Yosemite on the cheap San Francisco got a valley for a bargain

(Philp, Tom)

What can you get for less than \$85 in Yosemite National Park?

If you're a member of the public, \$84.70 will buy you and your family a night in one of the park's tent cabins in Yosemite Valley. If that sounds like a bargain, wait until you hear about the deal San Francisco gets.

To enjoy free rein in Hetch Hetchy, the neighboring glacial valley that features Yosemite-like waterfalls and granite peaks, the city of San Francisco pays the federal government even less - \$82.19 a day, to be exact.

Not that anyone from San Francisco - or anywhere else, for that matter - can see the Hetch Hetchy Valley as it once was, with its wildflowers, meadows and groves of oaks and pine. For \$82.19 a day, San Francisco gets to submerge the valley under 300 feet of water.

Where else but Hetch Hetchy has a fee stayed the same since Franklin Roosevelt's administration? In Yosemite Valley, lodging rates go up every year. Compensation for the loss of the Hetch Hetchy Valley, meanwhile, hasn't changed since 1938.

The frozen fee reflects politics frozen in time. Congress in 1913 decided to sacrifice Hetch Hetchy, the roughly three square miles regarded by naturalist John Muir as Yosemite Valley's smaller twin. San Francisco wanted to flood the valley to supply water and electricity to the Bay Area, and Congress agreed.

That 1913 decision locked in two fee increases that San Francisco pays the federal government, from \$15,000 a year in 1918 to \$20,000 in 1928, then to \$30,000 in 1938, the equivalent of \$82.19 a day. The fee, like the 1913 decision to flood the valley, has been untouchable ever since.

It is the only payment the nation receives for losing this valley.

San Francisco likes to point out that it also pays the park service about \$3 million annually for rangers and high country maintenance, but this expenditure is entirely self-serving. It

pays for patrols to keep any trace of human activity out of the super-pristine watershed. As a result, the water flowing from Hetch Hetchy is so pure San Francisco is spared the expense of filtering it.

Time for reappraisal

It's only natural that San Francisco would want to hang on to that kind of deal. After 66 years of giving San Francisco such a bargain, however, it seems only reasonable that the park's landlords -that is, the American public -should question whether they are getting their money's worth.

Even in 1913, Congress haggled over financial and environmental tradeoffs.

During the Hetch Hetchy debate that December, Sen. George Norris, a Nebraska Republican, lamented that with "hundreds and thousands of horsepower going to waste in this valley," it seemed to him "almost a sin" not to allow the dam to be built for San Francisco's benefit.

Sen. Porter McCumber, a Republican from North Dakota, held a different view. He warned that Congress was about to turn over to San Francisco a valley "that which has great value, without the slightest idea among any of us of what the real value is."

Nearly 91 years later, the late Sen. McCumber still has a point. But today there are differences: Other water options exist for San Francisco and economists have viable methods of assessing costs and benefits of public treasures. When economists set out to value beautiful places, they consider two numbers. One could be called the "chamber of commerce" value for calculating any direct economic benefit. In Hetch Hetchy's case, the number would correspond to potential tourism. Then there is what might be called the "John Muir" value: the estimate of how much the interested public would value reopening a beautiful place in Yosemite.

Today, the park serves nearly 4 million visitors a year. Roughly one in seven of them come from other countries; the interest in this park, and a restored valley, would span the globe.

Valuing Western gems

Economists have calculated similar values for other important Western landscapes. A generation ago, Mono Lake, to the east of Yosemite, was dying a slow death as Los Angeles steadily drained it. Courts stepped in and forced its restoration. A restored Mono Lake was valued by an economic study at \$1.5 billion in 1987 dollars.

Today, Mono Lake is a recovering oasis for millions of migratory and nesting birds. The Elwha River in Washington state was once teeming with salmon, but that was no longer the case by the mid-1990s. In 1996 economists estimated the public value of restoring the Elwha's fishery at \$3 billion to \$6 billion. Today, two dams are set to be torn down in 2008 to bring back the salmon.

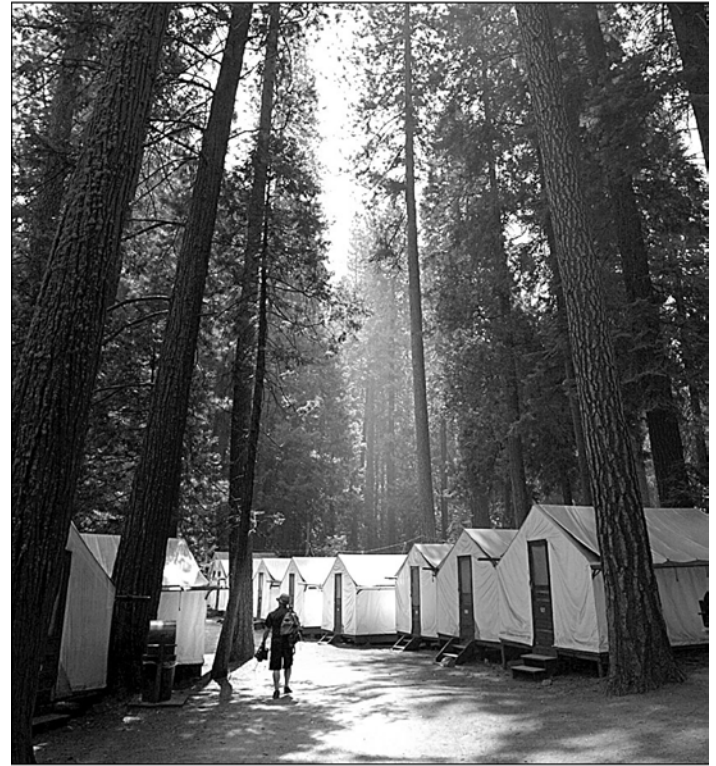
So what would a restored Hetch Hetchy be worth? The valley and the public deserve such a modern-day study to answer the question.

At the very least, shedding light on Hetch Hetchy's true value as the reunited twin of Yosemite Valley would help the public secure a suitable fee for a lost treasure. Maybe, at the end of a closer look, San Francisco, the valley's occupant, would move on.

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Coming Sunday:

It's pure! It's granite-filtered! No wonder San Franciscans can't get enough Hetch Hetchy water.



Sacramento Bee/Bryan Patrick

Yosemite deals of the day: tent cabins (above), \$84.70; a flooded valley, \$82.19



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The Sacramento Bee

EDITORIAL

Sunday, September 12, 2004



HETCH HETCHY RECLAIMED

SF: Proceed with 'extreme caution' at Hetch Hetchy

By Susan Leal – Special to the Bee

More than 2.4 million residents of the San Francisco Bay Area drink some of the highest quality water in the nation, delivered 160 miles by an engineering marvel of pipes and aqueducts from the Hetch Hetchy Reservoir in Yosemite National Park. Each spring, the melting Sierra snowpack and pristine headwaters of the Tuolumne River run strong, filling the valley to provide year-round drinking water for the people of the Bay Area, clean hydroelectric power for several counties and irrigation water for the Central Valley's Turlock and Modesto Irrigation Districts.

Like many cities in the West - Los Angeles, Las Vegas and others - the federal government has given the Bay Area access to protected public lands to ensure a reliable drinking water supply through wet years and dry. San Francisco's rights to Hetch Hetchy Valley were granted under the Raker Act, passed by Congress in 1913, following many hours of debate and a national public dialogue.

But from 1913 to today, there have been some who continue to weigh the loss of the valley against the public benefits of supplying reliable, high quality drinking water for the Bay Area, irrigation water for the Central Valley and clean hydropower for San Francisco. A recent thesis by a University of California, Davis, graduate student and an upcoming study by an environmental organization have again raised the question of whether the Bay Area could theoretically receive an equally safe and reliable supply of drinking water from other sources - namely the New Don Pedro Reservoir - without Hetch Hetchy.

The leaders of the Bay Area and the San Francisco Public Utilities Commission (SFPUC) are highly sympathetic to the well-meaning goals of those who advocate restoring Hetch Hetchy Valley, and we are extremely interested in these studies and their findings. First and foremost, however, we are accountable and responsible for protecting the safety, public health and economic vitality of the 2.4 million Bay Area residents who depend on the Hetch Hetchy system for safe, high quality drinking water.

Any proposal worthy of serious consideration or debate must go far beyond theory to address comprehensively the

very important practical, legal, financial and political realities of water issues in California:

Legislative Mandates & Legal/Water Rights

San Francisco is mandated by three state laws passed in 2002 and \$3.6 billion in approved funding to rebuild the entire Hetch Hetchy system, which is more than 80 years old and highly vulnerable to earthquakes and other events that could disrupt supply for weeks. These legal mandates were the result of a thorough public process that included numerous state legislative hearings, dozens of witnesses and hundreds of hours of testimony. Moreover, under the Raker Act, San Francisco must first divert water from Hetch Hetchy to the "senior" water right holders of the Turlock and Modesto Irrigation Districts. Proposals to replace Hetch Hetchy water with water from the New Don Pedro ignore these complex legal agreements between the SFPUC and our partners in the Central Valley.

Clean Public Power

The Hetch Hetchy water system annually generates enough hydroelectricity to supply the entire annual power consumption of San Francisco City government, including the MUNI public transit system and streetlights. Reducing the amount of clean power currently supplied by Hetch Hetchy would harm the environment, put a greater burden on California's overloaded power grid and potentially derail efforts to close polluting power plants in San Francisco - a serious environmental justice issue.

Adequate Supply, Capacity & Quality

As water demands grow in the region, we are expanding water conservation and recycling practices and exploring alternative water supply sources, including desalination. Furthermore, our entire water system is based on the presence of Hetch Hetchy and O'Shaughnessy Dam. Removing these core components raises the alarming possibility - and astronomical cost - of replumbing and reconfiguring the entire system. The loss of Hetch Hetchy would also degrade water quality and require new filtration and treatment plants that add financial, environmental and energy costs.

Climate Change

In a state that science tells us may be drier and warmer in the future, the storage and collection of water at its source in the Sierra will be more important than ever. For the first time, water planners are being urged by the state to consider the potential impact of climate change on their water systems.

Financial Impact & Political Realities

Who will pay for the enormous costs - likely in the billions - of building new treatment plants and pumping stations, buying additional electricity, buying water through New Don Pedro or the California Water Project, tearing down the dam and more? Water is a precious commodity - and becoming scarcer. With other California regions and Western states growing fast, who can truly guarantee the Bay Area that proposed alternative sources of water will not be seized by senior water rights holders and other politically powerful regions and states in the future?

The San Francisco Bay Area's water needs do not exist in a vacuum. Draining Hetch Hetchy and removing its water supply, storage capacity and clean power generation will create a "ripple effect" that impacts the region and the state. Even the most ardent environmentalist will acknowledge that in California, the politics of water can be a zero-sum game.

Sadly, more than 150 years of history prove that theory and science are often the easiest parts of the complex equation and reality of water issues in California and the West. We will certainly continue to cooperate with theoretical efforts that look at draining Hetch Hetchy Reservoir, but the financial constraints, legal mandates and political realities of water issues remind us that these efforts must proceed with extreme caution. They can never be allowed to put the public health, safety and economic vitality of the San Francisco Bay Area and our partners in the Central Valley at risk.



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EDITORIAL

Sunday, September 12, 2004



HETCH HETCHY RECLAIMED

Addiction explained What Yosemite purifies, S.F. drinks

How proud is San Francisco of its water?

You can buy it in a bottle as if it were Perrier, that's how proud.

"Hetch Hetchy," reads the bottle's label. "Contains mountain water from a municipal source high within the Sierra Nevada."

What's missing is the fine print about how the "municipal source" is a once-magnificent valley in Yosemite National Park. That valley now lies submerged under 300 feet of water, water that supplies San Francisco and much of the Bay Area.

Over the years, San Francisco and environs have acquired a taste for the naturally filtered water that flows over granite into a reservoir in the park. That addiction explains why the Bay Area will instinctively resist an emerging effort to restore Hetch Hetchy, a valley inundated for San Francisco's water supply in 1923 and a source for the cherished bottled water today.

There is one difference between the water you can buy in a half-liter bottle for \$1.25 and the water that flows from taps in San Francisco. Because of state regulations, Hetch Hetchy water is filtered before being bottled. Hetch Hetchy water that comes out of faucets in San Francisco is not.

Every other major urban water department in California has to filter its river water supply. For San Francisco and three surrounding counties that depend on the Hetch Hetchy reservoir, there is no such requirement. Yosemite does the filtering. As the snow melts in the high country and tumbles down Yosemite's granite falls, the granite naturally filters away most impurities.

The label on the bottled water features the feathery Tueeulala and thundering Wapama waterfalls of Hetch Hetchy, but it cannot reveal the lost national treasure that is the Hetch Hetchy Valley.

The valley is Yosemite Valley's smaller twin, the object of a crusade by naturalist John Muir nearly a century ago. Muir failed when Congress gave San Francisco the go-ahead to

build a dam in Hetch Hetchy. Now the valley is the least visited feature in the park.

San Francisco's occupation of the national park is attracting a fresh look, and deservedly so. The Bush administration for one, has questioned why the city should continue occupying such a treasure for the paltry fee of \$82.19 a day. A University of California, Davis, computer analysis shows that the Hetch Hetchy dam is expendable. Three other dams on the same Tuolumne River seem capable of capturing the necessary water for all who depend on the river. And on the political front, Environmental Defense is mobilizing a campaign to restore Hetch Hetchy, a crusade unmatched since Muir's time.



Sacramento Bee

The challenge is technical, to be sure. Draining Hetch Hetchy would require capturing the same quantity of river water downstream and outside the park. And the water would need filtering.

But the challenge doesn't end there.

Former San Francisco Mayor Willie Brown came up with the idea of bottling Hetch Hetchy back in

1998 because, in his words, "the quality of the water is superior to anything else we produce in the city." Hetch Hetchy, he said in the San Francisco Chronicle, "will be a brand name, with national appeal."

Anyone considering a restoration of Hetch Hetchy should not underestimate the political realities of the San Francisco palate or of San Francisco's pride.

But, in all due respect to Brown, who remains one of the state's sharpest political minds, the national appeal of Hetch Hetchy goes beyond what's found in a plastic bottle. If given the choice, wouldn't the nation prefer the chance to visit the Hetch Hetchy Valley? The national park's Yosemite Valley is crowded and growing more so. Wouldn't it be remarkable to have a second valley, Hetch Hetchy restored?

Would San Francisco be willing to swallow the change?

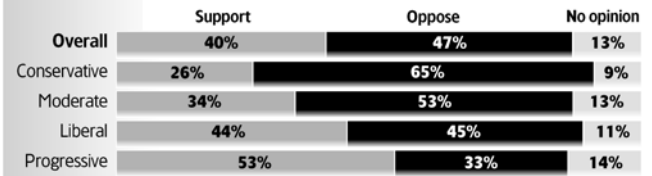
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Coming Monday:

The rajahs of the river will have a say, too.

San Franciscans on Hetch Hetchy

Do you support or oppose tearing down and removing Hetch Hetchy Dam in Yosemite National Park if an acceptable, alternative source of drinking water could be found to replace it? Sacramento pollster Jim Moore posed this question this spring to 600 San Francisco residents in a random telephone survey. This is what they said, broken down by self-identified political persuasion:



Source: Moore Methods

Sacramento Bee



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The Sacramento Bee

EDITORIAL

Monday, September 13, 2004



HETCH HETCHY RECLAIMED

A river's 'rajahs' Modesto, Turlock hold key to Hetch Hetchy

In the early years of the last century, a Central Valley congressman named John Edward Raker learned the hard way the overriding rule of California water law: first come, first served.

In 1913, San Francisco wanted the right to build a dam inside Yosemite National Park and flood the spectacular Hetch Hetchy Valley. Raker was point man in Congress for San Francisco's efforts.

Four times, Raker tried to get his bill passed, and four times he failed. He failed not because of national opposition to the idea of flooding part of Yosemite (although there was considerable opposition, led by naturalist John Muir). He failed because 26 years before, valley farmers downstream had formed the Modesto and Turlock irrigation districts and later constructed more than 450 miles of canals to tap the Tuolumne River. That gave farmers and the irrigation districts first claim on the river's water. That gave them an effective veto power over any proposal to dam the river that didn't meet their needs - first.

Only after cementing Turlock's and Modesto's older water claims into federal law (and dedicating to them a considerable amount of cheap Hetch Hetchy hydroelectric power) did Raker find the necessary votes. Among them was a Nebraska senator named George Norris, who described the water rights of Modesto and Turlock as "property of immense value, a patrimony that would do credit to a prince or that would ransom a rajah."

Once the river rajahs' needs were met and California's first-come, first-served water doctrine was obeyed, Raker could proceed. His Raker Act passed, and San Francisco got to build its dam.

The lesson of the Raker Act still rings true today, 90 years later, as this river returns to the public focus. Intriguing new evidence has emerged that suggests it is possible to undo part of Raker's deed, to drain Hetch Hetchy and to supply water to

San Francisco with downstream dams, existing and proposed, that Raker never imagined.

Obviously, San Francisco's role in restructuring a river deal is crucial if Hetch Hetchy is to be reclaimed. But today, as in 1913, nothing can be accomplished without the boards of the Modesto and Turlock irrigation districts. The path to change runs through them.

Water worries

Despite Norris' exotic language describing Modesto and Turlock, those communities have some everyday worries about water. Those worries make a good starting point on this path to change.

One worry is that San Francisco might take more water from the Tuolumne, leaving less for them. The Bay Area is eyeing a historic expansion of its Sierra-to-San Francisco water system: It seeks to build a dam perhaps even larger than Hetch Hetchy to replace its seismically unsafe earthen reservoir in the Calaveras hills. And it wants to construct one more pipeline to suck water from the Tuolumne.

The other worry is the opposite: Sometimes there is too much water in the river. San Francisco is under no federal obligation to reserve empty space behind the Hetch Hetchy dam for floods. That life-saving responsibility falls to Turlock and Modesto.

The irrigation districts thought the problem was solved in 1971, when they built a dam downstream in the foothills that created a reservoir more than five times the size of Hetch Hetchy. (In doing so, they refuted the assumption of the Raker Act that Hetch Hetchy was the only practicable site for a big dam.)

But the new downstream dam, New Don Pedro, didn't solve the flooding problem. New Don Pedro wasn't designed to protect the fast-growing communities spreading out in the Tuolumne floodplain.

Flood threats

Moreover, the irrigation districts' job is to assure adequate summer supplies. To do that, they keep New Don Pedro up to 83 percent full in the winter. If a big storm hits, the dam's gates are too small to quickly release enough water to create more storage space. That means water gushes uncontrolled over the dam's spillway.

This combination of management and design makes the big dam a weak weapon against floods. As recently as January 1997, the river raged through Modesto. New Don Pedro was no match.

The threat of flooding hangs over Modesto every storm season, but no relief is in sight. Possible solutions - building outlets on the dam that can release more water, raising the dam slightly, widening the downstream channel so it can handle more water, or some combination - don't even rank on any list of flood relief that Congress is considering. The rajahs' reach goes only so far.

A package deal

It is a lofty and worthy goal to restore the national treasure of Hetch Hetchy to the American people. As a practical matter, though, these are the other interests that any proposal to reclaim Hetch Hetchy must address: Water supply, hydroelectricity and flood protection - all intertwined with water rights that place Modesto and Turlock first.

Of these challenges, providing adequate water may prove the simplest. Recent work by scientists at the University of California, Davis, suggests that New Don Pedro could hold adequate water for the Bay Area. The proposed new dam in the Calaveras hills would store even more. As for flood control, Modesto could seek help from the federal government. As for farmers, they could use some money to install more efficient irrigation equipment (most farmers

around Turlock still flood their fields) and to make the most of groundwater supplies.

Putting together and enacting a plan that would do all these things would require long hours of work and great political skill. But the rewards would be great, too.

The American people would see a majestic valley restored to Yosemite National Park. And those who make it happen would create an environmental legacy of historic proportions. Hetch Hetchy and the river that runs

through it could use a John Edward Raker of this generation - whoever he or she may be - to turn the possible into reality.

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Coming Sunday:
Drain it. Then what?



Sierra Club/Joseph N. LeConte
Hetch Hetchy as it once was: a meadow on the valley's floor around 1900



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The Sacramento Bee

EDITORIAL

Sunday, September 19, 2004



HETCH HETCHY RECLAIMED

Drain it, then what? Restoration is a function of time, politics

The last time the Hetch Hetchy Valley emerged from 300 feet of Sierra water was during the severe drought of 1991.

To quench the Bay Area's thirst, San Francisco water officials sucked the reservoir almost dry. For a brief time they uncovered the glacial valley that had inspired paintings and prose a century before.

But in 1991, the Hetch Hetchy Valley looked more dead than alive.

One-hundred-year-old tree stumps studded the barren landscape. A dusting of silt and pebbles covered the valley floor. There were no signs of the valley's lush meadow. Gone were the groves of oaks and pine. The valley that naturalist John Muir championed in the early 20th century was unrecognizable.

Congressmen didn't listen to Muir in 1913, when he lobbied to leave Hetch Hetchy Valley intact for the American public as part of Yosemite National Park. They allowed San Francisco to build a dam and flood it in 1923. Only on unusual occasions, when serious droughts demand it, does the valley emerge again from its underwater fate.

Hetch Hetchy, the smaller twin of Yosemite Valley, might look dead on those occasions, but it's not, according to federal biologists who studied the matter. Its state is rather like that of a deep sleep.

A team of scientists from U.S. Fish and Wildlife Service, the California Department of Fish and Game and the National Park Service came together in 1988 to study the matter. Their job was to examine a controversial proposal by Donald Hodel, President Reagan's secretary of the interior. Hodel wanted Hetch Hetchy restored for the national park.

San Francisco leaders howled in protest. Hodel got nowhere with his idea. But credit him and the scientists who prepared the Interior Department report. They figured out the science of the restoration if not the politics.

A restoration of Hetch Hetchy wouldn't be a quick makeover. The scientists examined the main issues and concluded:

- The dam must stay, or at least a very large section of it must remain. San Francisco dug 118 feet below the riverbed to build the foundation for the dam. "The removal of the lower 118 feet of the dam would vastly change the river gradient at the narrow lower end of the valley and would probably lead to rapid erosion of the meadows in the lower chamber of Hetch Hetchy," the scientists said.
- The sediment isn't as big a problem as one might think. On many rivers, a dam will capture tons of loose dirt and small rocks and transport the sediment toward the sea. That didn't happen at Hetch Hetchy, which is a good thing. If it had, the valley would be more dead than alive. The sediment load "appears quite low," the scientists said. "The Tuolumne River descends from a watershed comprised largely of thin soils and great expanses of exposed and glaciated rock." (In 1991, barely an inch of sediment covered the floor.)
- The river channel probably remains. "The aquatic ecosystem of the Tuolumne River will return to near pristine conditions without management intervention," the scientists said.
- Two options exist for grasses, plants and trees. Let nature do the job, or manage what grows back. By leaving things alone, "within two years extensive areas on the floor of Hetch Hetchy valley would be covered with grasses, sedges and rushes. ... Willows would begin to colonize the riverbanks." The drawbacks: Grasses wouldn't be native grasses, and the native pines and oaks might face some competition. If the valley were managed, after five years, "conifers would be up to 15 feet high and black oaks would be about six feet high in areas planted the first year."
- The valley would have a "bathtub ring," but it wouldn't last forever. Eighty-one years of storing water has left a line along the granite walls. "It is the result of impounded water killing the native rock lichen colonies, which cover the granite walls. Natural restoration of such colonies would take between 80 and 120 years."
- Wildlife would return, possibly at breakneck speed.

Deer would return in the first year and black bears soon afterward.

As the scientists reported, awakening Hetch Hetchy is not a physical impossibility. It is a political challenge, and one that is receiving a fresh look by the University of California, Environmental Defense and others. They are unearthing some surprisingly achievable options, such as relying on three other dams on the Tuolumne River to store the water Hetch Hetchy supplies for the Bay Area today. Legislators have shown an interest: This week the head of the California Assembly's water committee, Joseph Canciamilla of Pittsburg, and Assemblywoman Lois Wolk of Davis, both Democrats, asked Gov. Arnold Schwarzenegger to study Hetch Hetchy anew.

The fate of a spectacular valley in a national park is worth another look. Restoration would certainly take years, even decades. But as a natural marvel, united once again with the Yosemite Valley to the south, Hetch Hetchy would be something to behold.

Muir said it best in 1890: "Imagine yourself in Hetch Hetchy. It is a sunny day in June, the pines sway dreamily, and you are shoulder-deep in grass and flowers. Looking across the valley through beautiful open groves you see a bare granite wall 1,800 feet high rising abruptly out of the green and yellow vegetation and glowing with sunshine, and in front of it the fall, waving like a downy scarf, silver bright, burning with white sun-fire in every fiber. ... It is a flood of singing air, water, and sunlight woven into cloth that spirits might wear."

For now that scene is a memory, a national treasure hidden away, underwater. It doesn't have to be that way. With political champions, the vista could become a reality once more, a place to be experienced and savored by all who visit our national park.

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Coming Monday:

If not now, when?



National Park Service/Jim Snyder

Hetch Hetchy's floor in the 1991 drought.



FOUNDED 1857

The Sacramento Bee

EDITORIAL

Monday, September 20, 2004



HETCH HETCHY RECLAIMED

Hetch Hetchy's future It is time for new chapter, new champions

Ninety years ago, Hetch Hetchy's fate in Yosemite National Park was decided, but it was not sealed.

On Dec. 6, 1913, near the stroke of midnight, a divided Congress gave up control of the valley. It voted to allow San Francisco to build a dam and flood Hetch Hetchy.

With that vote, San Francisco won water and electricity. The American public lost a treasure.

Today, the Hetch Hetchy Valley lies under 300 feet of water. Nearby, its larger twin, the crowded Yosemite Valley, is on the verge of being loved to death.

These twin wonders of nature, with their breathtaking waterfalls and imposing granite peaks, deserve to be treated as equals. They deserve to be the subject of a debate to rival the Senate battle of 1913.

Should they be reunited? The question is reasonable because the prospect is realistic. Hetch Hetchy's future, contrary to conventional wisdom, is not preordained.

Already, a new chapter is taking shape for Hetch Hetchy.

A computer analysis by scientists at the University of California, Davis, shows that San Francisco and its neighboring counties could get adequate water from three other reservoirs on the Tuolumne River instead of Hetch Hetchy.

San Francisco has said it wants to expand its water system, first by building a pipeline across the Central Valley to carry more Sierra water and, second, by building a new reservoir in the Bay Area to replace one that is seismically unsafe.

To accomplish that kind of expansion, San Francisco will have to push the boundaries of its water rights. That kind of question is usually resolved by the state or the courts.

Since the city is on course to address its water rights issues anyway, this is now an opportune time to examine which use

of Hetch Hetchy holds a higher value: as a magnificent public asset in the national park or as a utilitarian project for San Francisco and neighboring counties.

This is also the right time to ask whether a replacement reservoir in the Calaveras hills should be larger than the existing reservoir and whether San Francisco might secure new, additional sources for drought years beyond the unpredictable Sierra.

Put all these factors together and the result is clear. It is possible now to imagine a different future for Hetch Hetchy.

Two leading California Assembly members on water issues - Joseph Canciamilla of Pittsburg and Lois Wolk of Davis - are already pondering such a future. They wrote the Schwarzenegger administration last week urging a full-blown study of Hetch Hetchy. It was a short letter, barely a page. But it broke the political taboo on mentioning the lost valley.

The governor should join them by saying yes to the study. Facts about all the options - from an independent, trusted source - will be crucial. The job best falls to the state and federal

governments, which are the stewards of Yosemite, the Tuolumne River and water rights.

In California water wars, peace prevails when government provides the necessary technical information, when water district lawyers protect their clients and when politicians show a willingness to lead, accept change and compromise.

Who will lead on Hetch Hetchy? One possibility is Gavin Newsom, San Francisco's mayor, who has demonstrated his ability to tackle controversial issues.

Another is U.S. Sen. Dianne Feinstein, who long has opposed proposals to restore Hetch Hetchy. Even so, her emerging role as a deal-maker on water conflicts would suggest she could tolerate a study of an idea that she does not



personally favor. Crafting an epic deal that protects San Francisco but awards the American public its lost treasure would provide the single, missing piece of her environmental legacy - the Sierra.

A local congressman such as Yosemite's George Radanovich might lead the challenge, through his chairmanship of the House subcommittee on national parks.

And of course there is Gov. Arnold Schwarzenegger, who is insistent that he wants to leave an environmental legacy. It turns out that his top water official, Lester Snow, was working with Environmental Defense on an analysis of restoring Hetch Hetchy when the new governor came knocking to hire him. The governor loves the big stage and the grand gesture. What could be bigger or grander than the restoration of Hetch Hetchy?

The story of Hetch Hetchy already has taken some surprising turns and led to one conclusion: Reuniting Yosemite's twins is hardly fantasy. In fact, if the study provides credible evidence, it is within the nation's grasp. Sometimes the right moment comes along. This has got to be it.

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Top: Sierra Club/Joseph N. Le Conte Above: Sacramento Bee archives
The Hetch Hetchy Valley before it was flooded. Top, Wapama Falls from the valley floor. Above, the Tuolumne River meanders its way westward through the valley.