

**The Battle Over
Hetch Hetchy:
America's Most Controversial
Dam and The Birth of
Modern Environmentalism**

Robert W. Righter

OXFORD UNIVERSITY PRESS

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For Benjamin, Dylan, Zachary, and Sarah—
the future

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The Hetch Hetchy

HARRIET MONROE

Have you found the happy valley?

No? then follow—I have seen

Where it lies.

Shoon and staff—oh, leave your alley!

Pass the foot-hills, pass the green

Gates that rise.

Soft it slumbers, locked in granite,

Cliffs like silver-mailed knights

Ranged around

And the mountain breezes fan it,

Snow-plumed winds from hoary heights

Glacier-crowned.

There slim waterfalls dash madly,

Breaking, foaming, thundering

As they pass

Into blue-eyed brooks that gladly

Trail their gauzy gowns and ring

Bells of glass.

There the Rancheria, laughing,

Down her cleft of granite trips

Like a girl;

Leaps to meet her lover, quaffing

Cataracts through foamy lips

As they whirl.

And Tuolumne the river

From his plunges mountain-deep

Rests awhile;

Wind with many a curve and quiver

Down in flowery glades asleep

Mile on mile.

Come—'neath plummy cedars lying
We shall hear his crystal tune
 Filmy soft;
Watch his foamy fringes flying
 Till the mountain-climbing moon
 Rides aloft.

Then the stars will guard our slumbers—
 Never head in royal bed
 Lay so still—
While the stream sings lulling numbers,
 And the ghostly shadows tread
 Where they will.

Oh the golden days that shimmer
 In that deep entrancèd vale
 Richly bright!
Oh the twilights dim and dimmer,
 Till from granite shoulders pale
 Falls the night!

Come, friend, pass the frowning portals!
 Take the Magic Valley—stay—
 It's your quest.
Come, forget that we are mortals—
 Where the gods have had their way
 Men are blest.

FROM
HARRIET MONROE, *YOU AND I*
(NEW YORK: MACMILLAN CO., 1914)
195-7.

ACKNOWLEDGMENTS



IN CONTRAST perhaps to novelists, historians are highly dependent on others. Archivists and librarians deserve special praise. Somewhere in the past they decided to keep material, not knowing whether it might be useful or not. To those past archivists who had the foresight to keep Hetch Hetchy materials, I offer a hearty thanks. Those in the present I can thank directly. The staff at Southern Methodist University were particularly helpful. Michael Foutch helped dig out engineering books and journals, and the staff at Interlibrary Loan assisted in finding some esoteric material. The DeGolyer Research Library held materials on Hetch Hetchy that did, indeed, surprise me. Former director David Farmer, now retired, gave generously of his time. Present director Russell Martin and Betty Friedrich deserve my special thanks. No one can possibly do justice to the Hetch Hetchy controversy without using the invaluable collections of the Bancroft Library, University of California. The staff there, particularly Teresa Salazar, Susan Snyder, Jack Von Euw, and Walter Brem pointed me in directions I might have missed. Also, a special thanks to Jim Snyder, the archivist and librarian at the Yosemite Archives and Library, Yosemite National Park. Archivists at the San Francisco Room of the San Francisco Public Library provided materials unavailable elsewhere. Stanford University; the National Archives, College Park, Maryland; and the Federal Record Center, San Bruno, California, provided interior department and court documents which rounded out the story.

I have, of course, benefited from the help of specialists in the field of environmental history. Michael Cohen, Richard Sellars, and Mark Harvey made many substantive suggestions on one or more of the chapters. I have also profited from conversations with Karen Merrill, Donald Worster, Hal Rothman, Richard Orsi, Richard Lowitt, Richard White, and David Beesley. I owe particular thanks to Dan Flores, who spent hours listening to and com-

menting on the Hetch Hetchy issue on a memorable backpack trip down the Grand Canyon of the Tuolumne River.

I am appreciative of family members who have taken an interest in my history-writing efforts. My brother, Richard L. Righter, and my son-in-law, Loy Lack, read the entire manuscript and, in stimulating conversation, made numerous suggestions which altered my thinking. Daughters Trisha Lack and Bonnie Sanders, and Bonnie's husband Ron, expressed curiosity and offered shelter on research trips. Father-in-law Atwood Smith kept me working.

The history department at Southern Methodist University has been particularly welcoming to a historian who came along with his wife, Sherry Smith, to Dallas, Texas. As a confirmed Westerner, I find Dallas is a little too far east, but the history department has eased the transition. Ed Countryman liked the Hetch Hetchy idea. Tom Knock helped me to understand the Woodrow Wilson era and Christa Deluzio worked to sensitize me to gender issues. John Mears, with his broad interests in world history, broadened my perspective. David Weber, a fine scholar, showed unfailing interest. I must also thank Jim Hopkins, the chair, for his wonderful encouragement. Other members of the department gave valuable criticism when I delivered a seminar paper to the faculty in the spring of 2002. Finally, the department has been wonderfully generous in providing two grants that helped greatly in travel and in the writing of this book.

Ron Good, director of Restore Hetch Hetchy, generously shared his archival material collection. Patricia Martel, former manager of the San Francisco Municipal Utilities District, was gracious in allowing me a phone interview. Hetch Hetchy photographs enhance this story, and I found many excellent ones at the San Francisco Municipal Railroad headquarters, where Carmen Magana was most helpful, as were Katherine Du Tiel and Joe Cowan. I appreciate their assistance.

I want to also acknowledge my parents, Cornelius and Margaret Righter. They first introduced me to Yosemite Valley, and particularly the high country of Tuolumne Meadows. Furthermore, they chose to live in Northern California, a region where a certain conservation ethic seems part of the soil. Neither are with us today, but I like to think they would be pleased to know of their influence in this work, which springs from the experiences of my early life.

Copy editor Steven Baker deserves my praise and appreciation. Two persons have been involved with this project from its initial stages. Susan Ferber, editor with Oxford University Press, liked the ideas from the beginning and has given unfailing support. She offered extensive and excellent comments on a draft version that really was not ready for her excellent editing skills.

Sherry L. Smith, my wife and fellow historian, spent many long hours with the message of the manuscript and my writing style, always in need of repair and refinement. I would not blame her for the errors of the book, but if there is any graceful writing, she must be given the credit. Above all, she has listened and asked the important questions that are difficult to answer. Why does this story matter? Why would anyone want to read what you have written? I do not know that I have satisfied such questions, but I appreciate that she asks them. I admire her greatly and love her immensely.

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HETCH HETCHY CHRONOLOGY



- 1858 Spring Valley Water Works is established.
- 1882 Sending Tuolumne River water to San Francisco by aqueduct and ditch is first proposed.
- 1892 Sierra Club formed.
- 1901 Mayor James Phelan files for water rights in the Hetch Hetchy Valley.
- 1903 Secretary of the Interior Ethan Hitchcock denies San Francisco's permit application for water storage at Hetch Hetchy Valley.
- 1907 San Francisco rejects the Bay Cities Water Company proposal.
- 1908 Secretary of the Interior James Garfield grants San Francisco rights to develop Hetch Hetchy Valley.
- 1909 Establishment of the Society for the Preservation of National Parks.
- 1910 Secretary of the Interior Richard Ballinger asks San Francisco to "show cause" why the Hetch Hetchy Valley should not be removed from the Garfield grant.
- 1912 San Francisco hires Michael M. O'Shaughnessy as city engineer.
- 1912 The Freeman Report is published.
- 1913 Congress passes the Raker Act, granting San Francisco the right, with many regulations, to build a dam and develop power in the Hetch Hetchy Valley.
- 1914 Death of John Muir.
- 1916 Passage of the National Parks Act.
- 1918 Completion of the Hetch Hetchy Railroad.
- 1923 Completion of the O'Shaughnessy Dam.
- 1924 Completion of the Moccasin Creek Power Plant.

- 1925 Signing of the agreement between San Francisco (SF) and Pacific Gas and Electric (PG&E) to purchase Hetch Hetchy power.
- 1930 Spring Valley Water Company turned over to the city of San Francisco.
- 1930 Death of James Phelan.
- 1934 Death of Michael M. O'Shaughnessy.
- 1934 Completion and dedication of the Hetch Hetchy system.
- 1939 Department of the Interior wins its Supreme Court decision that the 1925 SF-PG&E power agreement violated the Raker Act.
- 1952 SF agrees to sell power to the Modesto and Turlock irrigation districts.
- 1987 Secretary of the Interior Donald Hodel raises the possibility of removing the O'Shaughnessy Dam and restoring the Hetch Hetchy Valley.
- 2000 Establishment of the Restore Hetch Hetchy organization.

CAST OF CHARACTERS



- Albright, Horace* Opposed the Hetch Hetchy scheme, but worked as a secretary for Franklin Lane. Became assistant director of the National Park Service and then director in 1930.
- Badè, William* Religion professor at Pacific School of Religion who was heavily involved in trying to save the valley. After Muir's death Badè edited a number of his works.
- Brower, David* Executive director of the Sierra Club and environmental leader who lamented the loss of Hetch Hetchy and supported the idea of restoration.
- Bourn, William* Wealthy president of the Spring Valley Water Company.
- Carr, Jeanne* Friend of Muir in Wisconsin and during his early years in Yosemite. Married to Ezra Carr and active in furthering Muir's scientific and writing career.
- Carr, Ezra* Geology professor at the University of Wisconsin and then the University of California. Influenced Muir's acceptance of the glacial origins of Yosemite.
- Colby, William* Secretary of the Sierra Club and an indefatigable worker who understood the political process. He directed the effort to save the Hetch Hetchy Valley.
- Cramton, Lewis* Congressman from Michigan who was a friend of the national parks. In the 1920s he exposed

- San Francisco's avoidance of provisions of the Raker Act.
- Freeman, John* Nationally known civil engineer who designed the Hetch Hetchy water system.
- Giannini, A. P.* Founder of the Bank of Italy, which evolved into the Bank of America. At a crucial point, his bank purchased San Francisco water bonds.
- Good, Ron* Executive director of Restore Hetch Hetchy, established in October 2000.
- Grunsky, C. E.* San Francisco city engineer appointed by Mayor Phelan in 1900.
- Hall, William Hammond* A talented engineer who became involved with the city's efforts to secure water rights on Lake Eleanor and Cherry Creek.
- Hearst, William Randolph* Editor and owner of the *San Francisco Examiner*. Strong supporter of the city's desire for Hetch Hetchy.
- Hodel, Donald* Secretary of the interior under President Ronald Reagan who first suggested the idea of restoring the valley in 1987.
- Ickes, Harold* President Franklin Delano Roosevelt's secretary of the interior who insisted that San Francisco comply with section 6 of the Raker Act.
- Johnson, Hiram* Elected governor of California in 1910. Favored municipal ownership of water and power and curbs on the political power of corporations.
- Johnson, Robert Underwood* Prominent literary figure and editor of *Century Magazine*. A leader in the fight to save the Hetch Hetchy Valley.
- Kent, William* Congressman from Marin County, California. A great admirer of Muir and a California Progressive, he eventually sided with San Francisco.
- Lane, Franklin K.* City attorney under Mayor Phelan. Appointed secretary of the interior by Woodrow Wilson. Strong advocate of San Francisco's position.
- Long, Percy V.* City attorney for many years, he headed the San Francisco legal team that prepared briefs and

- represented San Francisco's interests in numerous hearings.
- Manson, Marsdon* City engineer from 1908 to 1912. Although a Sierra Club member, he was an outspoken advocate of San Francisco's position.
- Marx, Charles D.* Highly respected civil engineering professor at Stanford. He favored San Francisco's position and often worked toward the city's goal.
- Mather, Stephen* A Chicagoan who supported the defender's position. In 1916 he became director of the National Park Service and in the 1920s protected Yosemite National Park from San Francisco's ambitions.
- McFarland, J. Horace* Executive director of the American Civic Association, and a consistent defender of the national parks and the Hetch Hetchy Valley.
- Monroe, Harriet* Well-known Chicago poet. Founder of *Poetry* magazine. Next to Muir, the most elegant defender of the valley.
- Muir, John* Famed naturalist who founded the Sierra Club in 1892. He was the spiritual leader of the effort to save the Hetch Hetchy Valley.
- Norris, George* Senator from Nebraska who viewed the Hetch Hetchy fight from the perspective of private versus public electrical power. He favored public ownership.
- Olmsted, Frederick Law, Jr.* Son of the famed landscape architect, he strongly supported the preservation of the Hetch Hetchy Valley and would play a major role in passage of the National Parks Act of 1916.
- Olney, Warren* Charter member of the Sierra Club. Deeply torn in his views on Hetch Hetchy, he sided with San Francisco.
- Parsons, Edward T.* Leader in the Sierra Club. In Muir's later years he assumed more responsibility. Married to Marian Randall Parsons.
- Parsons, Marion Randall* An accomplished fiction and nonfiction writer

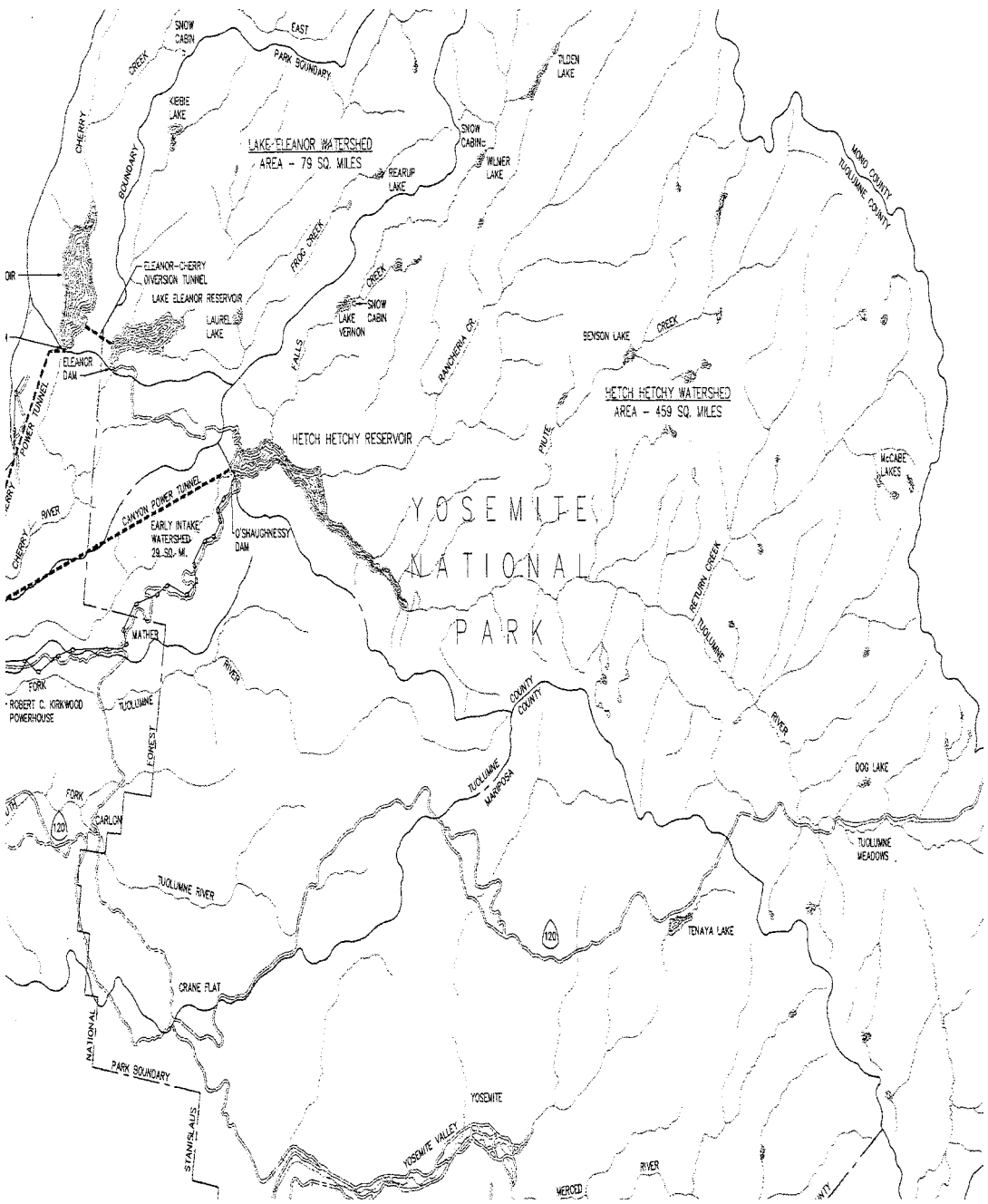
- who fought hard for Hetch Hetchy and acted as Muir's literary secretary in the last year of his life.
- Phelan, James* Prominent, wealthy San Franciscan dedicated to the Hetch Hetchy project. Mayor of San Francisco from 1896 to 1902 and U.S. senator from California from 1915 to 1921. He was deeply involved with the water and power project from 1900 until his death in 1930.
- Pinchot, Gifford* Head of the United States Forest Service under Theodore Roosevelt. On a national level, he was the most influential supporter of San Francisco's aspirations.
- Raker, John* California congressman who sponsored the Raker Act, giving San Francisco the right to dam the Hetch Hetchy Valley.
- Ruef, Abe* Notorious San Francisco city boss. His corrupt dealings in 1906 assured that the city would not consider a viable water alternative to Hetch Hetchy.
- Sampson, Alden* Hiker, climber, and friend of Muir. More than once he represented the Sierra Club at congressional hearings in Washington, D.C.
- Schussler, Hermann* Highly respected civil engineer for the Spring Valley Water Company.
- Watrous, Richard* Horace McFarland's very capable assistant at the American Civic Association.
- Wheeler, Benjamin Ide* Influential president of the University of California. He used his friendship with Roosevelt and Pinchot to advance San Francisco's case.
- Whitman, Edmund* Boston attorney and prominent member of the Appalachian Mountain Club. He represented the Society for the Protection of National Parks at hearings in Washington.
- de Young, Michael* Outspoken editor of the *San Francisco Chronicle*. Strongly favored the city's position.

LIST OF ILLUSTRATIONS

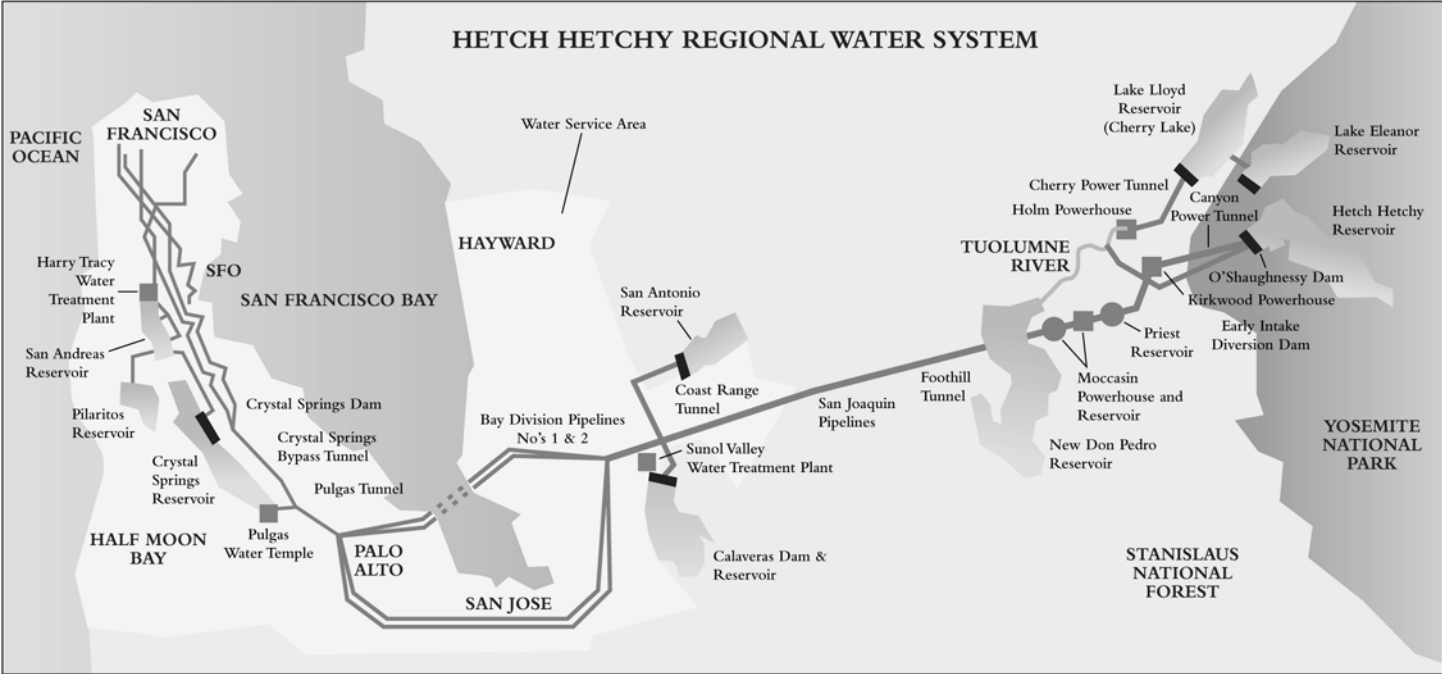


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MAP 1. This map shows a modern (1992) view of the mountain section of the Hetch Hetchy water and power system. *Courtesy of the SFPUC.*



MAP 2. The San Francisco water and power system as it is today. *Courtesy of the SFPUC.*

THE BATTLE OVER
HETCH HETCHY

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Introduction



ON A GRASSY knoll overlooking Crystal Springs Reservoir on the San Francisco Peninsula sits an unexpected, Roman Renaissance revival temple. As a child I accompanied my father as he drove past the Pulgas Water Temple to and from our home. Often he would stop at the site to let me stretch my legs and work off a little energy. I would run ahead alongside the reflecting pool, but slow to a walk as I approached the temple. The silence of the pool was replaced by the tumultuous roar of 34 million gallons of Hetch Hetchy water, arriving daily. Hesitatingly, I would climb the steps to peer over the low cement wall and watch the frothing water as its roar echoed and reverberated throughout the temple. The scene was fascinating, yet fearful. My father, a Stanford graduate, told me that freshmen students who joined an eating club had to walk blindfolded on a two-by-twelve-inch board across the abyss as part of their hazing ritual. Whether or not this was true, I resolved that I would never attend Stanford University.

More recently, I revisited the temple and for the first time looked up to read the etched inscription on the cornice: “I give Waters in the Wilderness and Rivers in the Desert to give Drink to my People” (Isaiah 43:20). The verse invoked God’s role in a project dedicated in 1934 and completed at the sacrifice of many lives and years of struggle and at an astronomical cost. The temple commemorated San Francisco’s achievement in bringing water from the distant mountains to the thriving metropolis. It would serve as a permanent reminder of a remarkable effort, and the notion that the bountiful resources of nature are won, not given.

The achievement, however, was not realized without great controversy. This book is the story of that controversy. The struggle over the fate of California’s Hetch Hetchy Valley represents a classic story in the ongoing debate over human land use. It involves water, a valley, and a city. In question was

the fate of a spectacular mountain valley located within Yosemite National Park. Would it become a reservoir, storing water for San Francisco's people, or would it remain a natural site, visited by recreationists and developed only to make it more accessible to tourists? The fight, which began in 1900, brought into broad relief conflicting values. It signaled the opening salvo of a century-long conflict over the "highest and best use" of natural areas.

On one side was San Francisco mayor James Phelan, a wealthy, distinguished, ambitious man who understood that his city, surrounded on three sides by salt water, was in trouble. If his dream of a cultured, thriving metropolis was to be realized, he had to find a reliable water supply. Neither groundwater nor nearby surface water was adequate. Phelan and the city leaders looked to the Sierra Nevada mountains, some 150 miles distant. There they found the Hetch Hetchy Valley, a potentially perfect reservoir site with the crystal waters of the Tuolumne River flowing through it. The site, if dammed, would supply the city's water needs for at least 100 years of growth and, hopefully, ensure future prosperity. As an added bonus, the new dam would be the centerpiece of a hydroelectric system to generate power for the metropolitan area.

Those opposed to the mayor's vision understood that the Hetch Hetchy Valley was spectacularly beautiful, nearly as impressive as its sister glacier valley, Yosemite. When leaders of the Sierra Club, formed in 1892, became aware of San Francisco's intentions, they protested. Led by the visionary, eloquent John Muir, the little club mounted determined opposition. Hetch Hetchy lay within the boundaries of Yosemite National Park, established in 1890. Club members and supporters considered the park sacrosanct, protected and free from intrusions. The city's plans represented a deep wedge driven into the integrity of the embryonic national park system. Beyond the park issue, Hetch Hetchy's defenders viewed the waterfalls, granite cliffs, and translucent river as a place of spiritual transcendence, one that should never be desecrated by a dam and a reservoir. In their view the city could obtain its water supply elsewhere.

The Hetch Hetchy fight, at first a regional issue testing competing visions of land use, gained a national spotlight. New priorities emerged, causing some people to question the received wisdom of nineteenth-century land use. For the first time in American history, a national audience listened, and often participated in the debate, as valley protectors questioned water development as the best use of a natural resource. Changing cultural values challenged immediate, material ones. The contenders also debated the dollar value of tourism versus water development, in the present and for the future. They asked difficult questions. Were scenic land and national parks impor-

tant to the American people? What should be the next human use of the valley? Should it continue to be low impact, preserving the area's integrity, or should Hetch Hetchy be transformed to meet the growing needs of the San Francisco Bay Area? Most Americans knew the answers, but a fresh century ushered in new ideas. For some Americans the idea of progress needed to be redefined, or at least modified. For a small but growing number, scenery and special public lands should be reserved from wholesale development. In their minds the ascendancy of technology and materialism symbolized American civilization gone wrong. It was time to listen to the earnest voices of moderation, rather than to hydraulic engineers with their charts and benefit projections. Five secretaries of the interior, three presidents, and Congress listened, but in the end, legislators passed the Raker Act in 1913, giving the city the right to build the O'Shaughnessy Dam. This resolution, while a victory for San Francisco, has never been fully accepted by the defeated.

Aspects of this story have been told before. When Ray Taylor wrote his book on Hetch Hetchy in 1926, he felt compelled to tell his readers that "more has been written about the Hetch Hetchy than any other subject connected with the city's history. Possibly no subject before a municipality ever was dissected and investigated so thoroughly as the city's water supply."¹ And yet Taylor's book was published eight years *before* San Francisco dedicated the Pulgas Water Temple and Hetch Hetchy water flowed through the city's household taps. Taylor's assessment referred to newsprint articles and official documents weighing in on the case, of which there was no shortage from 1905 to 1913. The issue often found the front page of San Francisco's vigorously competing newspapers, led by William Randolph Hearst's *Examiner*, the *Call*, and Michael de Young's *Chronicle*. Since Taylor's time there have been other books, as well as a number of articles.²

A number of issues remain, however. What was this fight all about? We know what San Francisco hoped to accomplish, but what did Hetch Hetchy's defenders want? In effect, if John Muir and the Sierra Club had won the struggle, how would the Hetch Hetchy Valley appear today? In *Wilderness and the American Mind*, Roderick Nash provided the interpretation that every environmental historian has embraced. In an oft-quoted sentence, Nash framed the issue as a battle over the competing claims of wilderness and civilization. I, like many others, accepted this statement unquestioningly, believing that the fight was for wilderness preservation. In the 1960s and 1970s we wanted to believe the Nash thesis. It was so right for the time. The problem with this assertion is that no matter how we might choose to define wilderness, it was not an issue in the Hetch Hetchy fight.

The defenders of the valley consistently advocated development, including roads, hotels, winter sports amenities, and the infrastructure to support legions of visitors. The land use battle joined over one question: Would the valley be used for water storage or nature tourism?

As it turns out, the Hetch Hetchy fight represents the seminal battle not over wilderness, but over public power. San Francisco, indeed California, was in the throes of Progressive-era reform. The Lincoln-Roosevelt League wished to curb corrupt control of city and state government, and with the election of Hiram Johnson as governor in 1910, the reformers positioned themselves to pass needed legislation. On a national stage, Hetch Hetchy became caught in the cross fire between the interests of private utilities ownership and those of municipal ownership. Put another way, if Congress denied the city of San Francisco the Hetch Hetchy Valley, the California Progressive leaders suspected that it would only be a matter of time before the emerging Pacific Gas and Electric Company would grab the area. If, on the other hand, San Francisco gained control, it would signal an important victory for public power, resulting in lower rates for the people. Senator George Norris of Nebraska cared little about water use or recreation potential but considered public ownership of the generation and distribution of electricity essential. He, as well as a number of legislators, believed that Muir and his friends were mere puppets, duped by Pacific Gas and Electric and the Spring Valley Water Company to do their bidding. The defenders of the valley never escaped the charge of collusion with private water and power interests, and it was a major reason why they lost.

The story of Hetch Hetchy did not end, of course, with the passage of the 1913 Raker Act. An ongoing battle over the conditions of the act flowed through the current of the twentieth century. Often city leaders, frustrated by the Raker Act's regulations, wished that they had never heard of Hetch Hetchy and the Tuolumne River. In retrospect, leaders could have met the city's water and power needs in less perplexing and less expensive ways if they had chosen one of the alternative sites.

Inappropriate engineering decisions head the list of problems. Although John Freeman, the engineer who designed the Hetch Hetchy system, commanded the respect of his profession, he was a man who liked to think big—too big. His system produced far more water than the city could consume, and cost far more money than the city could afford. Freeman believed in what we call today “economies of scale”: build big and let the city grow into its future projected population. This may be wise planning, if you can bear the expense. However, with no federal or regional funding, the city depended upon its citizenry. Could the city afford it? Initially the voters said

yes, but then they said no. The result was that the city received only 50 percent of what Congress granted under the Raker Act. In other words, Congress anticipated that San Francisco would establish municipally owned water and electrical systems. With great difficulty, the city finally purchased the water system, but the idea of public power soon became a distant memory. Today the Pacific Gas and Electric Company still owns the city infrastructure and provides electrical power to companies and residents. The Hetch Hetchy colossus, with its insatiable appetite for dollars, partially explains the city's rejection of public power. An engineering design that could be adjusted to the needs and growth of the city would have made better sense.

Because Freeman designed such an elaborate system, the challenge of its construction comprises a story in and of itself. Civil engineer Michael O'Shaughnessy took on the challenge of building a mighty dam high in the mountains, transporting pure water some 167 miles, and generating electricity along the way. Aside from the Panama Canal, and perhaps New York City's Catskill Mountains water project, it was the largest civil engineering undertaking of its day. In this demanding enterprise engineers faced problems and devised new solutions. Many hundreds of workers labored in a difficult environment. They took pride in their accomplishment, and I have tried to tell a little of their long-neglected story.

However, the greatest significance of the Hetch Hetchy fight lies in the legacies it has left us. Past decisions often have unforeseen consequences. Gifford Pinchot, the head of the United States Forest Service and a stalwart supporter of San Francisco's claim for the valley, devoutly wished to bring the national parks under the mantle of his agency. However, by his vigorous support of the city's position, he alienated influential people who would largely determine the future leadership of the parks through the National Parks Act of 1916. In effect, he ensured that his desire would never be realized. In a classic sense, he won his battle but lost the war. Moreover, ever since workers cleared the valley and built the dam, the Hetch Hetchy story has been involved or invoked in many fights over land use, often causing bureaucrats or civil engineers to wince or squirm at mention of the famed controversy. As an example of what should *not* be done to a scenic mountain valley, the story has no equal. While the sacrifice of Hetch Hetchy is not the sole factor, most dam proposals in national parks over the course of the twentieth century have been contested and successfully stopped.

Part of the legacy of Hetch Hetchy has surely been in the realm of historical memory. Many people, particularly Californians, are aware of the controversy. It is a saga that people with claims to environmental sensitivity

can recite. Because it is the keystone to the San Francisco Bay Area water system, it has strong name recognition. Area residents, who consider Hetch Hetchy an ongoing issue, raised a furor when Secretary of the Interior Donald Hodel proposed in 1987 that the O'Shaughnessy Dam might be breeched and the valley restored. The book's final chapter suggests that the reservoir may not be the final chapter in the story of the submerged valley. As one advocate of restoration told me in a hushed voice, "The valley is holding its breath." In 1913 San Francisco and its allies prevailed, but the final step, and one increasingly advocated by environmentalists, might be the breaching and removal of the dam and the restoration of the flora and fauna of the valley. Such a proposal is fraught with both financial and resource concerns. Although San Francisco officials have shown little interest, they may be in denial. In the new century, engineers will likely dismantle more dams than they build. In the years to come we can expect more proponents of restoration to arise.

Should San Francisco have fought for possession of the Hetch Hetchy Valley, and then made it, once acquired, the centerpiece of the city's municipal water system? For many, the answer is clearly no. The beauty of the valley is certainly a factor. But more important, alternatives existed. San Francisco officials became obsessed with developing Hetch Hetchy, to the point that they dismissed or discarded other rivers and valleys that would have served them better. Engineers became enchanted with the valley's water-storing capacity, as if it was created for their purpose. They were also fascinated with the daring challenges of creating a gravity water system originating high in the mountains and building a lengthy aqueduct to get the "product to market." Politicians fell under the sway of the engineers. They depended too heavily on the authority of technical experts. Rather than question the objectivity of city engineers Marsden Manson and Michael O'Shaughnessy, city politicians deferred to their judgment. Both men, competent in their profession, possessed the unfortunate trait of inflexibility.

The city turned its back on at least three respectable water alternatives to Hetch Hetchy. Regrettably, men of questionable character presented two of these options, thus precluding serious consideration. Later Oakland and the East Bay cities took up one of the alternatives—the Mokelumne River—creating a pure water system in less time, at much less expense, and with little political discord and no environmental controversy. Downriver from Hetch Hetchy the Modesto and Turlock irrigation districts built the Don Pedro Dam, and the enlarged structure today stores, mainly for irrigation purposes, almost six times the amount of water as the Hetch Hetchy Reservoir. There were plenty of viable alternatives, and the defenders of the valley