

A Golden Myth: The Truth Behind California's Gold Rush

Eric Rapps
McGill University

The California Gold Rush of 1848 was one of the most transformational events in American history. In terms of America's demographics, California became one of the most attractive destinations for Chinese, French, and Latin American immigrants, in addition to the 250,000 American migrants who moved there in search of gold.¹ The abundance of gold in California and the economic contribution that gold mining made to the American economy in the second half of the nineteenth century were the main reasons why California earned statehood after only three years as a territory.² From a social history perspective, Californians developed an identity based on materialism because their sole motivation for moving out west had been to get rich off of gold—the ultimate symbol of wealth.³ However, popular romanticism of the Gold Rush overlooks the environmental impacts of the event. Not only did the hydraulic mining associated with the Gold Rush destroy some of California's most important water sources, but the mining and dredging that went along with it led to the deforestation of significant portions of California's landscape as well. While it seemed that America's major corporations at the time were willing to sacrifice the environment for financial gain, the Southern Pacific Transportation Company played an important role in promoting environmental regulations. It was largely thanks to their activism that the federal government adopted legislation to preserve sites like Yosemite, Sequoia, and the Sierra National Forest, which successfully prevented mining companies from further damaging California's landscape.

Throughout the Gold Rush, mining companies experimented with different types of mining, including river mining, lode mining, and dredging, but no method had more profound

¹ H.W. Brands, *The Age of Gold: The California Gold Rush and the New American Dream* (New York: Doubleday, 2002), 193.

² Clark Spence, "The Golden Age of Dredging: The Development of an Industry and Its Environmental Impact," *Western Historical Quarterly* (1980), 401-414.

³ Robert Dawson and Gray Brechin, *Farewell, Promised Land: Waking From the California Dream* (Los Angeles: University of California Press, 1999), 46-47.

effects on California's rivers than did hydraulic mining. Equally disastrous was the increase in tensions that hydraulic mining caused between Californian farmers and miners supported by America's major mining corporations. In the initial stages of the Gold Rush, argonauts—people who moved to California in search of gold—correctly assumed that water carried gold, and subsequently mined along rivers.⁴ Once the first wave of gold rushers explored all the land along water currents, the second generation of argonauts faced a much greater task in excavating the dry land located farther away from water currents. Therefore, they decided to practice river mining, a type of mining that involved ditching, damming, and manipulating streams in other ways to elevate sand bars and access the rocks and soil of the riverbed.⁵ As the Gold Rush progressed, advanced mining techniques were introduced, and in 1853 hydraulic mining became the predominant type of mining throughout California. Hydraulic mining used the erosive power of water to penetrate bedrocks, which facilitated the digging stage.⁶ It accomplished in minutes what it would have taken multiple workers several weeks to remove.⁷

However, the water pressure was so powerful that entire mountainsides broke loose, causing debris flows and flooding in the towns located below the mountains where hydraulic mining was practiced.⁸ Prior to hydraulic mining, the Yuba River, which runs from the Sacramento Valley to Feather River in Marysville (the middle region of California), had steep banks ranging on average between 15-209 feet high, depending on the seasonal water level. The land located along the Yuba River consisted of black alluvial soil where, as one judge characterized it at the time, “some of the finest farms, orchards, and vineyards in the state” were

⁴ Brands, 220-221.

⁵ *Ibid.*, 222-225.

⁶ “A Great Gravel Mine,” *The Daily Transcript*, Nevada City, CA, July 30, 1879.

⁷ Brands, 227-228.

⁸ Carolyn Merchant, ed., *Green Versus Gold: Sources in California's Environmental History* (USA: Island Press, 1998), 112.

located.⁹ However, once miners began practicing hydraulic mining, runoff filled the Yuba River with soil up to 25 feet high, destroying the previously rich land with sand and mining debris. Consequently, farmers were forced to abandon their farms and search for new plots of land that would yield sufficient amounts of produce to ensure their subsistence. Moreover, the water from the Yuba River became useless for irrigation because it was filled with clumps of debris and sand.¹⁰ From 1843 to 1913, 600 million cubic yards of mining debris were deposited in the river. The inordinate amount of debris altered streams by cutting new channels, creating sandbars and islands, and causing severe flooding. “Floods have always been a normal periodical natural phenomenon of the California rivers,” geographer Randall Rohe has noted. “Mining debris, however, exaggerated flooding on the lower rivers. The periodicity, the destructiveness, and the area of inundation all increased.”¹¹

It was at this point when tensions between miners and farmers intensified. Miners in the Sierra Nevada formed the Hydraulic Miners Association and farmers formed the Anti-Debris Association of the Sacramento Valley.¹² Their antagonistic relationship is a clear illustration of the interconnection between the environment, American industry (in this case, gold mining), and social coherence. To appease both sides the State Engineer proposed a solution in which the North Bloomfield Mining and Gravel Company was to build dams around the north bank of the Yuba River to hold the debris, and farmers were to build levees to constrict rivers. The State Engineer’s recommendations were entrenched in the Drainage Act of 1880.¹³ While the problem appeared to be resolved, the dams eventually overflowed with debris that continued to fall into

⁹ Judge Lorenzo Sawyer, “Woodruff versus North Bloomfield Gravel and Mining Co.: The Sawyer Decision of 1884,” *The Federal Reporter* (1884).

¹⁰ *Ibid.*, 753-818.

¹¹ Randall Rohe, “Man as Geomorphic Agent: Hydraulic Mining in the American West,” *Pacific Historian* (1983): 14.

¹² Robert Kelly, “The Mining Debris Controversy in the Sacramento Valley,” *Pacific Historical Review* (1956): 341-342.

¹³ Kelly, 341-345.

the Yuba River, damaging farmers' land. Even worse, excessive rainfall broke the levees and resulted in mass flooding throughout Marysville.¹⁴

To protect their property, Marysville farmers rallied behind a local farmer named Edward Woodruff and filed a lawsuit against the North Bloomfield Mining and Gravel Company in 1882. In *Woodruff v. North Bloomfield Mining and Gravel Co.*, the defendants argued that upon admitting California to the Union, Congress authorized "the use of the navigable waters of the Sacramento and Feather Rivers for the flow and deposit of mining debris."¹⁵ However, Judge Lorenzo Sawyer of the U.S. Circuit Court ruled that mining companies were not permitted to "mine in such a manner as to destroy or injure the property of others, even in the district or diggings where the local customs and usages of miners are sanctioned by the statutes."¹⁶ Judge Sawyer's famous ruling officially ended hydraulic mining in the Sacramento Valley.

To understand the magnitude of Judge Sawyer's ruling, it is necessary to look at its national implications. Sawyer's ruling went beyond protecting Californians' property from the destructive effects of gold mining, a regionally myopic view; it was a fundamental departure from East Coast adjudication that served the best interests of the corporation rather than the individual. For example, from 1850 to 1870 a New Hampshire-based waterpower company named Lake Company won all five of its lawsuits against individuals claiming that their property rights (farmland and use of water) were damaged as a result of Lake Company's damming and milling.¹⁷ Environmental historian Ted Steinberg explains the harmonization of adjudication and corporations' interests when he states, "In all, they [eastern water law cases] were part of that new corpus of water law emerging after 1850, a flexible body of ideas more consistent with

¹⁴ Sawyer, 770-818.

¹⁵ *Ibid.*, 786.

¹⁶ *Ibid.*, 802.

¹⁷ Sawyer, 156-162.

economic development.”¹⁸ Judge Sawyer’s ruling in *Woodruff vs. North Bloomfield Mining and Gravel Co.* not only defended the individual against industrial capitalists, it also established precedent for how Californians, and to a certain extent all Americans, should treat their environment.

What hydraulicking and other forms of mining had in common, besides their detrimental impact on the environment, was that they required large amounts of timber to fuel mining machinery. Miners converted oak, juniper wood, pinyon pine, and mountain mahogany into charcoal to fuel machinery, and in the case of lode mining, to fuel stamp mills and smelters. The problem was that lumber had always been scarce in California, even prior to the Gold Rush.¹⁹ Yet, when nearby sources of lumber were depleted, miners did not question how their quest for gold and wealth was transforming their landscape. Instead, they traveled as far as was necessary in their search for more lumber. In Comstock, Nevada, the sight of one of the first major ore discoveries in the U.S. (located along the eastern slope of Mount Davidson), lumber became so scarce that American and Chinese laborers had to travel over 20 miles to the Carson River and the eastern slopes of the Sierra Nevada to cut wood. In an average season, woodcutters sent more than 150,000 cords of wood floating down the Carson River. Over a thirty-year period, the Comstock Lode consumed more than 800 million feet of lumber.²⁰ Essentially, the Gold Rush drastically accelerated the rate at which miners deforested California.

Whereas various types of mining were similar in that they required timber for fuel and construction purposes, they differed in the degree to which they otherwise affected vegetation. The quality of the soil on which mining was practiced also influenced whether or not an area

¹⁸ Theodore Steinberg, *Nature Incorporated: Industrialization and the Waters of New England* (Cambridge: Cambridge University Press, 1991), 156.

¹⁹ Randall Rohe, “Man and the Land: Mining’s Impact in the Far West,” *Arizona and the West* (1986): 300-319.

²⁰ Rohe, “Man and the Land: Mining’s Impact in the Far West,” 310-338.

fully returned to its pre-mining conditions. For instance, Clark Spence, an expert in western and mining history, has found that dredging for gold spoiled fertile farmland, prevented animals from grazing, and caused phylloxera throughout California's vineyards.²¹ However, Rohe argues that within 50 years after dredging halted near Hornitos the land was overgrown with grass. Similarly, once dredging ended south of Jacksonville (California), an abundance of digger pine, scrub oak, and berry vines sprung up.²²

Unlike the impact of dredging, there is greater consensus among environmental historians on hydraulic mining's effect on vegetation. As a result of hydraulicking, landscapes in Columbia and Springfield, California, were unrecognizable, as large masses of white limestone covered the soil and mountains.²³ As several nineteenth-century observers of hydraulic mining commented, "Certainly by no other means does man more completely change the face of nature than by this method of hydraulic mining. Hills melt away and disappear under its influence... The desolation which remains...is remediless and appalling."²⁴ While these comments clearly confirm hydraulicking's baneful ecological consequences, they also reveal that there were Californians sympathetic to the degradation of the area's landscape.

It is misleading to assume that Californians and all major corporations that conducted business in California were blinded by their pursuit of wealth to such an extent that they neglected the environmental damage of their actions. Obviously, agriculturalists living in California during the Gold Rush were more conscious of the effects of gold mining than argonauts, since agriculturalists' livelihoods were fundamentally transformed as a result of the

²¹ Phylloxera is a plant disease in which insects feed off of the roots and leaves of grapevines, resulting in deformations to the roots of grapevines, and consequently blocking the flow of water from the root to the rest of the vine. See Spence, 401-414.

²² Rohe, "Man and the Land: Mining's Impact in the Far West," 320-334.

²³ Rohe, "Man as Geomorphic Agent," 11.

²⁴ *Ibid.*, 5-9.

ecological damage caused by mining. However, a minority of miners recognized that their gold-seeking endeavors were altering California's landscape in ways unseen in the history of the American West. Ironically, towards the end of the nineteenth century, miners tried to restore California's terrain and save it from further erosion by adopting new mining techniques and equipment that were popular in New Zealand. These new techniques kept the ground level and its soil on top, thereby preserving the fertility of the land. Additionally, New Zealand-imported sluices, suction machinery, and sand pumps were used. Ultimately, the New Zealand style of mining proved practically ineffective. Nonetheless, Californian gold miners' willingness to adopt new mining techniques for the preservation of California's agriculture proves that there was a legitimate concern among Californians to safeguard their environment from the wounds that their mining inflicted.²⁵

No person, politician, or company did more to protect California's environment than the Southern Pacific Transportation Company. In understanding the role of the Southern Pacific as an agent for conservation and preservation it is necessary to distinguish between the contributions made by the company, and those made by prominent environmentalists such as George Perkins Marsh, Gifford Pinchot, and John Muir. At their inception, both conservation and preservation lacked widespread appeal, and as a result Marsh, Pinchot, and Muir, the intellectuals of these movements, allied with politically influential groups to bring about the changes that they advocated. Southern Pacific was one such group.²⁶ For instance, as a result of California's deforestation (caused by the need for lumber to fuel mining machinery), flammable dry underbrush grew in the place of forests, which made wildfires more prevalent and destructive. Working in conjunction with Nevada Senator William Stewart, Southern Pacific's

²⁵ Spence, 408-414.

²⁶ Richard J. Orsi, *Sunset Limited: The Southern Pacific Railroad and the Development of the American West: 1850-1930* (Berkeley: University of California Press, 2005), 349-352.

Land Agent William H. Mills lobbied for the creation of a national park at Lake Tahoe and the preservation of Lake Tahoe's forests. Mills' efforts paid off in 1899 when President McKinley established the Lake Tahoe Forest Reserve.²⁷ Mills, working on behalf of the Southern Pacific, became instrumental in convincing Congress to pass the legislation that ultimately placed Yosemite, Sequoia, and the Sierra National Forest under the federal government's protection.²⁸

However, it was not only Mills, the company's land agent, who supported environmental groups and their causes. Even the highest-ranking members of the company, its presidents and executives such as Leland Stanford and Charles Crocker, promoted agricultural development and a permanent end to gold mining. For example, Southern Pacific Vice-President, Chief Counsel, and Political Manager William F. Herrin worked with John Muir from 1904-1906 to persuade Congress to include Yosemite Valley as part of Yosemite National Park, and hence, under the federal government's ownership.²⁹

What made Southern Pacific's environmental initiatives so surprising was the fact that in constructing the transcontinental railroad the company was responsible for "an unprecedented assault on natural ecological systems" as they damaged hills, blocked watercourses, and excavated sand.³⁰ Was the company's support of environmental organizations just a front—a type of repentance for the environmental destruction its own actions caused? Anti-corporatists might make that argument, but such an accusation is incorrect. Southern Pacific recognized that agriculture was the best way to develop the West. As Richard J. Orsi, author of *Sunset Limited: The Southern Pacific Railroad and the Development of the American West: 1850-1930*, states, "...the railroad's future depended on the replacement of mining and open-range livestock raising

²⁷ *Ibid.*, 372.

²⁸ *Ibid.*, 373.

²⁹ Orsi, 369.

³⁰ *Ibid.*, 349.

with diversified farming as the basis for economic development....”³¹ From this viewpoint critics of the company likely pointed out that there was no difference between Southern Pacific and mining companies such as North Bloomfield since they both relied on the environment for economic gain. However, mining companies *abused* California’s ecology to generate higher revenues while the Gold Rush lasted; Southern Pacific *promoted* California’s ecology because agriculture was the most efficient way to develop the West over the long-term. Moreover, as Southern Pacific executives realized, this development would attract more visitors to California, and they would undoubtedly use the railroad to get there.

But Southern Pacific was not only unique because it encouraged the American public, and state and federal governments, to reconsider how they used America’s landscape; the company was distinguished because it represented California and the West’s environmental interests at a time when corporations, primarily mining companies, had legal justification for abusing the environment. Orsi puts it best when he writes that “the hydraulic companies, aided especially by mining towns and the San Francisco business community, remained entrenched in the legislature and state courts, and almost all attempts to end, or even control, the debris went for naught...” Southern Pacific, on the other hand, “attacked hydraulic mining on environmental grounds that were surprisingly broad for the time.”³²

Reinterpreting the California Gold Rush from an environmental history perspective is thus significant for several reasons. First and foremost, it allows people to understand the extensive ecological consequences of gold mining. For example, over 10 million cubic meters of mining debris were dumped into the San Francisco Bay from 1853 to 1884, resulting in a drastic

³¹ *Ibid.*, 51.

³² Orsi, 208-209.

decrease in the bay's salmon population.³³ Besides causing the reduction of fish in the Sacramento River and San Francisco Bay, hydraulic mining contaminated California's water with arsenic and mercury.³⁴ Secondly, retracing the Gold Rush helps explain 150 years of environmental damage in California that has required the state to implement clean air and water policies to this day. Lastly, analyzing the Gold Rush provides a compelling narrative about the abuse and protection of California's environment by American corporations, and how it took a progressive company like the Southern Pacific to make state and federal courts and legislatures reconsider their approach to the environment.

³³ Fredric H. Nichols et al., "The Modification of an Estuary," *Science* 231, no. 4738 (1986): 567.

³⁴ Charles N. Alpers et al., *Mercury Contamination from Historical Gold Mining in California*, U.S. Geological Survey, Sacramento.

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