

## Audio Tour, Stop 8, Mather Road Overlook

Fires can impact a lot more than trees and hillsides. The damage done by the Rim Fire is hard to even express in words or final dollar signs. For starters, it blistered the paint from highways and melted guard rails. Water pipes and roadways were damaged. Directional signs were consumed and hiking trails destroyed. Eleven homes were demolished along with 98 outbuilding not to mention several commercial properties and restroom facilities.

Suppressing the fire cost 127 million dollars and stabilizing the area afterwards cost the Burned Area Emergency Response team over 10 million.

A study commissioned by the San Francisco Public Utilities Commission estimates damages from the Rim Fire to the environment and property could total between about \$250 million and \$1.8 billion. The effects of the Rim Fire took a front row seat with the commission when the water and power supply for 2.5 million people in the San Francisco area was impacted and the city spent \$900,000 to seek an alternative energy source when two of its three hydroelectric powerhouses were taken off-line during the fire.

As you look out over this canyon, you can see some of the infrastructure that was at risk such as power lines, power houses and the Lower Cherry Aqueduct, which was built in 1917. The aqueduct's main purpose is to supply water to the O'Shaughnessy Dam. This dam, along with the Hetch Hetchy Reservoir form the initial structures at the head of the hydrologic system that provides drinking water to San Francisco.

The battle for water has a long history for this metropolitan city. For starters, San Francisco stretches along a 40 mile peninsula and is surrounded by salt water on 3 sides. In the early days, peddlers sold water that was ferried on barges from Marin County. Donkeys even carried it on their backs to supply the early town. In 1851, a private company known as Mountain Lake Water Company started tapping into Lobos Creek and the water was transported into the city by flume. Over the years, several local water sources were tapped but by 1870 it became obvious to engineers that the city had an inadequate water supply, leaving residents at the mercy of private businesses to supply their growing needs.

By the turn of the century, the battle for water heated up. Some declared that destructive fires within the city grew because companies could not supply enough water to extinguish the blazes. By 1902, bay area residents had turned their eye towards the Hetch Hetchy Valley and Lake Eleanor as premier sources of water.

Water pouring from the mountains was pure and plentiful since 92% of the watershed was above 6,200 feet. In fact, much of the water in the area came from a glacier on Mt. Lyell. Though no claims encumbered this source of water, there was still an issue. Yosemite National Park, an area of pristine beauty that had been set aside for the American public, contained the headwaters.

Preservationists and conservations joined the fray over San Francisco's water problem. Advocates such as Joh Muir wanted to preserve the beauty of Yosemite for future generations and tried to uphold the cornerstone of the National Park Service's ideology. Conservationists, such as Gifford Pinchot, could see the value of a sustainable water system and wanted the park to

make a concession so a reservoir could be built in the Hetch Hetchy Valley. The battle got so bitter that at one point the city abandoned the idea completely. In 1908, an earthquake reinvigorated residents to find a secure water source. The seismic event impacted the infrastructure of the Spring Valley Water System, which was selling water to the city, driving home the need to find a cheaper more reliable water source. Eventually, the battle ended up in Congress and on Dec. 19, 1913 the Hetch Hetchy Grant, or Raker Act, was signed by President Wilson. San Francisco had won their enduring battle to secure a clean, reliable source of water.

Drought now has residents of San Francisco concerned about their water supply once again. In the spring of 2014, all 18 of the National Forests in California were experiencing either severe, extreme or exceptional drought. Since 50% of the surface water within the state flows from National Forest Lands, this has gotten many people thinking about water as well as the health of our Forests. Long term droughts, heavy fuel loadings and a warming climate tend to fuel more fires and catastrophic fires, as we have seen, can negatively impact watersheds.

The Rim Fire story bears a strong message on water. As you look across the canyon, you can see the Lower Cherry Aqueduct, which provides clear mountain water to the Bay Area. The fire damaged the aqueduct and a variety of supporting structures thus renewing the city's interest in maintaining a viable pipeline of water. Plans are currently underway to repair damage done by the fire as a result.

The story of Forests, wildland fires and drinking water are definitely linked on this landscape. With heavy fuel loadings in many areas of the forest, one wonders if it would make economic sense to increase fuel reduction measures throughout much of the Sierras. In other parts of the country, it has been shown that improving watershed health is a viable means of saving money for utility districts, while restoring the landscape.

New York City saved billions of dollars simply by investing in watershed protection. This same cost-savings has been repeated in Boston, Seattle and Portland. Locally, in the Mokelumne watershed, a scientific and economic analysis drives home the point: being proactive is a lot cheaper than being reactive. Plus it has the added benefit of supporting overall forest health.