

The Thirst in Los Angeles

by

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The Good, the Bad, and the Ugly

“California’s very existence is premised on epic liberties taken with water.”

—Marc Reisner

The city of Los Angeles is a bustling, booming, and successful metropolitan city filled to the brim with opportunities and dreams. Its appeal is not going to fade anytime soon, especially with the glitz and glamour of Hollywood in the background. However, there is a deeper and grimmer story of Los Angeles: the story of how the city has quenched its thirst for water over the past century. As the city’s population has become increasingly larger, the demand for this most essential compound has also grown. However, the thirst of Los Angeles has had dire consequences. Water sources are going dry. For over the past 100 years, the city of Los Angeles has been destroying ecosystems in the Sierra Nevada with hardly a blink of an eye. Yet, the city has failed to slow demand, especially as the population creeps towards the ten million mark (United States, Census Bureau). Instead, the city has repeatedly depleted numerous water sources, creating social and ecological hazards. The thirst of the city is in need of reform. Otherwise, Los Angeles will shortly become victim of its own greed. Therefore, the city needs to learn from the past, to acknowledge the need to conserve energy and water, and to save the current ecosystems from further destruction.

Water—Abuse

“Water...most precious of natural resources.”

—Western Water Policy Review Advisory Commission

Do you know that the average American wastes 40 percent of his or her daily water consumption by flushing the toilet? This equates to 20 to 28 gallons each day going down the drain! The average American uses 50-75 gallons of water a day, but only two to four gallons of water goes towards human consumption for drinking and cooking (Mancl). In dry and hot Southern California, the daily average almost triples to 300 gallons of water per day per person, as reported by the United States’ Western Water Policy Review Advisory Commission (2-25). Author Karen Piper shows, further, not only that “50 to 70 percent [of Southern California] home water is used outdoors to water lawns and garden,” but also that such usage is “lauded as a sign of progress and civilization in the West” (179). This waste is incredible, considering that more than a billion people in the world do not have even have access to clean drinking water, while most Americans waste 300 to 800 gallons of water a month on too small and frequent laundry loads (Specter; “Water Conservation Tips”).

The 300 gallon-per-person average in Southern California excludes the water that goes towards switching on the bathroom light, turning on the air conditioning on a hot summer day, and the 20 gallons a day from a dripping faucet (“Water Conservation Tips.”). Clean, distilled water is essential for most electric power plants; Pace University’s study of water consumption reveals that

“nuclear and fossil fuel power plants drink over 185 billion gallons of water per day.” One could only assume that as the population grows in the Los Angeles area, so does the demand for electricity, leading to a higher demand for water. The question is: where is this water coming from and at what price?

This water often comes from distant lands, and the mounting demand for it has destroyed local economies that once thrived on local ecosystems. Many farmers and ranchers have suffered the price of urbanization and mass consumption. Ecosystems have been lost to cultural and personal desire and economic growth, as “decades of habitat alteration have [ed] to the extinction or near-extinction of many aquatic species” (United States, *Western Water* 2-13). This heavy thirst has a past of pure greed and has led to the destruction of some of the most beautiful regions in the United States of America.

The First Drop of Water

*“The Los Angeles aqueduct would bring with it a long story of inevitable
“progress”*

—Karen Piper

The area in and around Los Angeles is naturally dry and arid. In the late 1800s and early 1900s, Los Angeles was more like a town, sustaining 100,000 people (Hering 35). According to scholar Janet Hering, Los Angeles’ water supply originally depended on three natural water sources—rainfall, ground water, and the small Los Angeles River (35). Nevertheless, as the population increased due to the gold rush and migration, the city could no longer sustain

itself solely on the Los Angeles River; it had to allocate a larger water source. This would prove to be a grand feat. Southern California is a semi-desert and has little to no natural wetland to sustain life or growth. Fred Eaton, an engineer and head of the Los Angeles City Water Company (LADWP), saw an opportunity for the greater good and for great wealth. Eaton, along with William Mulholland, set on the task of creating an aqueduct to quench the thirst of Los Angeles. The new source of water, the Owens Lake, was 235 miles away and 4,000 feet uphill in the Sierra Nevada (Hart 32).

The construction of the gravity-fed aqueducts began in 1908. Within five years, on November 5, 1913, "the first Owens River water poured" downstream to feed the water-hungry city below (Hundley 153). By 1920, Owens Lake was dry. It was not enough for the City's increasing population, especially at a time of drought. To compensate, the LADWP began taking groundwater from deep within the Owens Valley. Local ranchers and farmers were outraged. They had been led to believe that the land and water was for the Valley's irrigation project, not for the sole benefit of a city 235 miles downstream. Soon the Owens Valley communities were depleted of water, thus leading most of the local businesses to collapse (Wheeler).

The Los Angeles' aqueducts of 1913 were still not sufficient for the growing city. The city was parched and in need of yet another water source. Fifty miles north lay an isolated bowl of water, the terminal Mono Lake (Hart 14). Mono Lake is a jewel inside the Sierra Nevada. As a terminal lake, it has no water source or water run off, making it just a body of water. It is a triple-water lake (saline, alkaline, and sulfurous) that uniquely provides life to brine shrimp, alkali

flies, and many species of birds, plants, and flora (Hart 14-16). Some birds even traveled over 3,000 miles for the abundant food supply at the shores of Mono Lake (19). However, things were about to change. By 1941, Los Angeles set its eyes on depleting Mono Lake as well. The City made no effort in decreasing consumption levels even after drying up Owens Lake.

As Mono Lake's water levels fell rapidly, nature reacted. Suddenly thousands of birds died, unable to find an adequate number of flies and brine shrimp. The water became increasingly salty, and in 1941, terrible dust storms started to occur (Hart 50-52). The land lost its beauty to Los Angeles; "for people, Mono shorelines became less pleasant, less useful...sandy beaches gave way to miles of sticky mud" (50).

Despite environmental warnings and impacts from Owens Valley, especially the Mono Lake, Los Angeles continued to pump water and find new water sources, furthering the already irreversible damage. Norris Hundley points out the problematic history of plundering even more water sources, explaining that "[i]ronically, Los Angeles did not need the additional water. ... Water from [Colorado River and Feather River] was more expensive than that from Mono or the Owens Valley" (333-334). Consequently, this greed has caused so much damage to the land, climate, and life of animals.

The worst damage came from the dust storms, which to this day continue to plague both the Owens Valley and Mono Basin. The low levels of water exposed the lakebeds containing fine alkali sand. The sand is so fine that the strong gales easily whip it up, creating a thick layer of dust in the air. Owens Valley has the most problems with the dust. A recent article in the *Los Angeles*

Times reveals the terrible air pollution in Owens Valley: "Acid dust storms [have] the ability to etch the paint off your car . . . [the dust] burns your eyes and your nose" (Sahagun and Kennedy). The dust from the two dry lakebeds is harmful to human health and any living thing. Once breathed in, the dust particles, called PM-10, are trapped in the lungs. When the valley is hit with high gales, PM-10 value can be up to "3,000 micrograms per cubic meter, 20 times the national standard" (Hering 40) The problems do not stop there; the dust contains high levels of arsenic, which is a toxic chemical (Hering 40). Additionally at Mono, as early as 1979, the Great Basin Unified Air Pollution Control District found air pollution to be violating both state and federal standards of PM-10 (Hart 104). Mono and Owens are experiencing similar air pollution and ecosystem deterioration.

Karen Piper, a native of Owens Valley, is a victim of Los Angeles' thirst. In her book *Left in the Dust*, she describes how the dust brought death and disease to her town, thus tearing apart her close circle of friends and family. In her book she states:

My town is full of cancer...so many people [are dying] in their forties. ...
My sister now has a form of lupus, and three other girls in my
neighborhood were also diagnosed with this disease; two have since
died...I have suffered from bouts of pneumonia and asthma my entire life,
as well as life-threatening allergies. (4)

The dust storms occurring at Owens Lake are rare for a dry lakebed. Dried lakes around the world possess few dust problems, but Owens Lake is different—it is the youngest dry lake in the world. As Los Angeles rapidly and artificially depleted

the water, the lake was unable to stabilize and adapt to the new conditions, thus creating a valley of death (8).

Currently, 18,000 people live in the Inyo County, Owens Valley (Piper 7). Many are Native Americans who have dealt with years of dust-related health and economic problems. Also, emergency room visits drastically increase during dust storms, with some doctors in the area stating that visits go up ten times the normal amount (1). However, 18,000 does not entirely count the number of victims, for the Owens Lake has been dry and blowing dust into surrounding towns for over 80 years, causing high blood pressure, pulmonary fibrosis, and scarring lung tissue (4). Not only was the natural beauty removed from the lands of Owens Valley and Mono Basin, but so were the lives of the native people.

The destruction of the ecosystems in both the Owens Valley and Mono Basin have not gone unnoticed by the public—bird watchers, environmentalists, biologists, hippies, and journalists were and still are outraged at the LADWP. On September 9, 1979, on the edges of Mono Lake, a group of about 250 people gathered to protest to “save Mono Lake” (Hart 1). For almost 30 years, campaigns, lawsuits, and protests have battled on in attempts to restore and replenish Mono Lake. Some progress was made when Los Angeles stopped pumping water from the lake on June 5, 1989 (135). This effort sought to restore the water level, but not until 1994 when the State Water Resources Control Board required the LADWP to actively fund and aid the restoration, was there a future for Mono Lake’s ecosystem. However, as Hundley argues, “what the future holds for Mono Lake is far from clear”; there is still much work to be done on the water allocation of Los Angeles (341).

Owens Valley did not benefit from legal action until 1998 when the Great Basin Unified Air Pollution Control District ordered the city of Los Angeles to flood sections of the dry lakebed. Irrigating the dry lakebed controls some of the toxic dust storms. This method of regulation and restoration continues today with a \$400 million budget (Maisel). Despite the efforts of numerous environmental organizations, legislative acts and public outcry, the Owens Valley is a battle of dust, pollution, and water to this day, as well documented by Karen Piper in *Left in the Dust*.

Nothing can be done to completely reverse the damage done to Owens Valley or Mono Basin. The debt cannot be paid back to the people whose livelihoods were taken away. President Theodore Roosevelt was utterly incorrect in stating in 1906, "It is a hundred or thousand fold more important to state that this water is more valuable to the people as a whole if used by the city than if used by the people of the Owens Valley" (qtd. in Piper 30). Action must be taken now to reduce further damage to our water sources and to this earth.

Future of California—Learning From the Past

"Los Angeles became almost a caricature of its earlier self—a megalopolis connected by a ribbon of steel and concrete to 'water' colonies hundreds of miles away."

—Norris Hundley

The projected increase in California's population for 1995-2020 is a 15 million people boost (Harrard 1). One can only imagine that the demand will

continue to arise from this drastic increase in population. California's government has become very aware of the high water demand and, in turn, has implemented guidelines for its use. However, these guidelines seem to bear little actual accountability, for "despite numerous violations, no one, not even flagrant repeat lawbreakers, had their water supply restricted or turned off" (Hundley 412). Demand in Los Angeles is as high as ever, amounting to 230-300 gallons of water per day per person ("The Eternal Challenge"). Despite the depletion of the water supply from Owens and Mono Lakes and instead of restricting consumption, the city has turned to other distant sources such as the Salton Sea and Colorado River (Piper 185).

The Salton Sea is known to many scientists and environmentalists as "California's crown jewel of avian biodiversity" (Salton Sea Authority) It is the largest lake in California and unofficially was the best fishery in the world (Salton Sea Authority). However, the future looks grim for this ecosystem jewel. At this very moment, it is being slowly drained away—indirectly by the city of Los Angeles. Water is pumped from the Imperial Valley to San Diego. The city of San Diego, in turn, sells the Salton Sea water to the ever-thirsty Los Angeles. Now this sea is also shrinking. Like the Owens and Mono Lakes, it has no outlet and, thus, its water is becoming increasingly saline. The fish are dying, causing not only a horrid smell, but also the loss of food source for the massive population of birds settled there. The shorelines are exposed as the water levels decrease, leading to dust storms, which parallel the Owens and Mono Lakes (Piper 184-185). In fact, the Salton Sea case could become much more catastrophic. "As the Salton Sea dries up, however, the dust from its surface threatens to cover all of

Los Angeles, San Diego, Palm Springs and other cities in Arizona and Mexico...[immense] number of people who would be affected" (185). In other words, Los Angeles and its surrounding areas will become victims of their own crime if nothing is done to save the Salton Sea.

Southern California's water appetite affects not only Americans but also Mexicans. The Colorado River runs through Wyoming, Colorado, Utah, New Mexico, Arizona, Nevada, and California leading to the river's delta in Mexico. Since 1922, it has provided a large water supply to all seven western states through the construction of dams and aqueducts. In 2000, California took the most water from the river at 4,916 acre-feet per year (Gelt). However, the heavy strain on water allocation to the United States has left the delta in Mexico with a mere trickle of water. The once-verdant delta is now dry and only sustainable through agricultural drainage water or groundwater seepage (Gelt). This depletion has not only affected the lives of local Mexicans, but also "95 percent of the marine life has been wiped out" (Dye). If all seven states fed by the Colorado River were to reduce water intake and provide 10 percent more water downstream to the delta, it would greatly benefit the marine life and that of the Mexican citizens alike. Without some control, the delta will be reduced to a desert, much like the Owens Valley. The Center for Biological Diversity's Colorado River Campaign presents a dire picture of the devastation: "Dust blows where water once flowed in most of the delta region at the river's mouth – in many areas barren salt flats are all that remain" ("The Southwest's Great River"). This image only begins to illustrate the vast demand. Piper maintains

that there is no reason to repeat the mistakes of Los Angeles to meet the pressure for new water sources:

If Owens Lake is “cleaned up” by withholding water from border towns in Mexico...the burden of risk will have simply shifted...if, however, the lawns of Beverly Hills finally go dry in order to protect the health of Owens Valley residents, we will know that equity is growing. (179)

The Mexicans of the Colorado Delta deserve to live and prosper without falling victim to the thirst of Los Angeles, or even the United States, for that matter.

It's Just Water, Right?

“Our society's need for water is not merely biological, like the needs of the fish whose streams we tap. We use water for shifting purposes.”

—John Hart

Economic and urban growth in areas of Los Angeles accounts for California's loss of over 90 percent of its wetlands (“Colorado River Project”). To further understand the scope of this water problem, it is important to define wetlands:

California's wetlands are the bogs, swamps, estuaries, and marshes connected to streams, groundwater, rivers, lakes, and coastlines. The majority of California's wetlands are semi-aquatic links in a water-based chain extending from the Sierra Nevada to the Pacific Ocean. (“Colorado River Project”)

As lakes and rivers are sucked dry by the increasing demand for water, wetlands disappear. Wetlands are among the most important ecosystems in the world, and they provide not only local benefits, but even have numerous benefits for distant cities and towns. The concern is that California could lose the remaining 10 percent of its original wetlands if cities like Los Angeles do not learn from the history of Mono and Owens Lakes.

Wetlands have unique benefits for the environment. They are natural downstream water purifiers. Wetlands, called the “kidneys of the landscape,” absorb impurities in vegetation and soil (“Colorado River Project”). These “kidneys” are so remarkable that one-acre can filter 7.3 million gallons of water a year (“Colorado”). This filtered water not only spares fish and wildlife, it also conserves vast amounts of energy when received for purifying at commercial enterprises. The benefits of wetlands do not stop there. They can also reduce the threat of floods by acting like a sponge when excess water flows from run-offs, thus preventing the mudslides that so often threaten the hills of California. Wetlands replenish the many underground aquifers, on which California’s urban areas are increasingly relying for a source of water. Shorelines are also protected from erosion by the wetlands’ ability to minimize the effects of wave action, and this, in turn, can improve the area visually. The wetlands’ oxygen production and carbon reduction are comparable to that of coral reefs and rainforests, providing a wonderful habitat for wild and marine life. Moreover, if the wetlands of California were to be saved from urban sprawl and high water demands, the “quantifiable social benefits of the remaining 450,000 acres of

wetlands are worth \$10 billion annually" ("Colorado"). This price value clearly questions the net benefit of satisfying and continuing the thirst of Los Angeles.

The destruction of wetlands is the destruction of a resource. At this time of global warming and limited fossil fuels, we need to reevaluate the resources that this earth provides. The wetlands upon this earth are not just puddles of mud and water. They serve as a source of oxygen, profit, and aesthetic value, as well as a proven benefit to humanity, wildlife, and the overall environment. By saving lakes and rivers, society will be preserving this imperative link to water, for future generations.

What Needs To Be Done

"Los Angeles is [currently] getting water...six hundred miles to the north [and] on Interstate 5, there is a sign posted that reads, 'Owens Valley II?'"

—Karen Piper

For centuries, water has been viewed as an infinite resource, but times have changed—"scarcity, is a characteristic of most resources and something society must constantly deal with" (Hart 182). Humans have come to realize that water is not solely for human consumption and economic growth. Our environment requires water as much as our societies do. However, human intervention with the hydrologic cycle can have dire effects, leaving behind destruction and death, as exemplified by Mono Lake and Owens Valley. The city of Los Angeles is one of the worst culprits in this battle for water allocation. Although water made it possible for the city to grow and prosper, grave

consequences including death followed. The city's past is covered with a thick and dark layer of dust. The dust needs to be wiped off and reform set in place. To prevent repeating history, new methods in conserving water are on the agenda. Los Angeles is a desert, and so water is naturally scarce. The problem lies in the allocation and uses of water by the public, for the earth's water resources belong to humans and to nature. To help minimize this problem, a high price on domestic water could be adopted, so that consumers bear the financial burden, especially concerning unnecessary green lawns and car washes. Electricity prices could be raised since masses of clean water are used in the production of electricity. Water is an essential resource utilized in every aspect of life and should be revered as "liquid gold."

The battle now is not only to preserve our environment and ecosystems but also to secure resources for the future generations. Water is getting increasingly harder and harder to find and allocate, not only because of Los Angeles' rapid depletion of lakes and rivers but also because of the smog, pollution, and waste that seeps from the city's cars, houses, and factories. Global warming is slowly and drastically affecting the water supplies in California and all over the world (Stark). Winter months are now filled with rain; the Natural Resources Defense Council (NRDC) reports that "coastal mountain ranges have . . . lost 60 percent of their snow pack over the last 50 years," increasing the chances of deadly mudslides ("Current Science"). Moreover, when summer arrives in Southern California, there is little snow to melt and create runoffs to battle the new and long droughts. Soon the water sources will be left dry. For example, the NRDC predicts that in the Colorado River basin, "average snow

pack ... will decrease by 30 percent by mid-century. Total water demand for the Colorado River basin will exceed available supply" ("Current Science"). The root of the problem is wastefulness and neglect of limited resources. Los Angeles and rest of the humans upon this earth must come to realize the true value of precious resources and the ecological impact of the water supply's overuse.

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