III. Economics

NAWAPA Would Have Prevented the Southern California Fires— It Will Transform North America

by Richard Freeman

Feb. 8—In the month of January 2025 alone, four major fires ignited in Southwestern California: in the Pacific Palisades western section of the City of Los Angeles; in Altadena-Eaton, located to the east of Los Angeles; in Hurst, located to the northeast of Los Angeles, and in the City of San Diego, 120 miles to the south. Each fire was fed by the 50- to 70-mile-per-hour, searingly hot Santa Ana winds, which originate in the Nevada-Utah-centered Great Basin Desert. These morphed each of the four fires into raging infernos, skipping over hills, throwing embers miles in each direction, and causing great damage. The four fires set ablaze 57,528 acres, equivalent to 89.8 square miles or 232.8 square kilometers. This is nearly twice the area-equivalent of the city of Boston.

Collectively, the four fires killed 29 individuals, including some unable to escape from their homes or cars in time, and destroyed 16,255 structures, including more than 12,000 homes as well as work places, schools, and places of worship. The Jan. 24 *Los Angeles Times,* in an article, "Estimated Cost of Fire Damage Balloons to More Than $250 Billion," reported, "Early estimates by AccuWeather and JP Morgan put the damage in the $50-billion range, but the expected toll quickly rose to more than triple that amount," adding that when the total economic impact, including lost economic activity, is counted, the cost is best estimated at a quarter of a trillion dollars.

The tragedy is, that with the same underlying physical-geographical, hydrological, and weather conditions continuing to prevail, new and equally destructive fires could occur again next week—or in six months. There have been about 25 major fires in southern California during the past 25 years. Moreover, the morphology and geological conditions of this area indicate that extended periods of bone-dry drought, accompanied at times by fires, have occurred repeatedly over the past millennia.

CC/P. Rivas

View of the Hurst fire immediately northeast of San Fernando this past January 7.

Employing technologies that increase the capacity to fight the fires is vital, such as maintaining the water pressure of fire hydrants even when many are in use, and rigorously cutting the underbrush, including chaparral, which become tinder for fires. This also means ignoring the infamous California environmental groups, opposed to almost anything that, in their view,

"upsets the ecological balance."

When California's last major water project, the State Water Project, was completed in 1973, the state had just over 20 million people. That number has now nearly doubled, yet no major water infrastructure projects have been built in the meantime.

But to solve the problem, it is necessary to adopt programs which operate on a higher level.

The Road Not Taken: NAWAPA

There is a real pathway that the United States could have taken six decades ago when it was first designed and elucidated, whose adoption is existentially urgent today: the North American Water and Power Alliance (NAWAPA). First advanced by the Ralph Parsons engineering company in 1964, its efficiency was greatly improved by a LaRouche science-research team in 2012 by adding a nuclear-powered component. NAWAPA destroys the environmentalist shibboleth that man has destroyed nature—allegedly by causing global warming—and must step back from extending civilization, or leaving any footprint, and must instead apply ferocious, life-annulling austerity and population reduction, to live timidly as the slave of nature. Instead, NAWAPA is a Promethean means to extend mastery over nature, in which man rationally develops and enhances that which the Creator and nature have started very promisingly, such as rivers and water basin systems, but which are not fully completed.

Parsons Corporation

The original NAWAPA plan.

NAWAPA is a system of water conveyance that would divert runoff from the water-surplus areas of Northwest North America and bring it to the water-deficient Southwest through a series of man-made canals, using pumps, lifts, and a system of reservoirs. By doing so, it would enrich the system of transpiration and precipitation, transform local weather and perhaps climate, and increase the water's overall productivity in photosynthesis and sustaining life.

This is essentially a 25- to 30-year project, employing up to 2 million productive workers, if one includes the needed production of equipment and materials, in which unemployed youth can apprentice. In addition to greatly developing the economy, NAWAPA can transform the Great American Desert, including the Great Basin, where the Santa Ana winds originate, likely significantly mitigating the character and destructiveness of the Santa Ana winds. NAWAPA's added water will greatly increase available water throughout the United States for irrigated agriculture, industry, hydroelectric power, and the filling of underground springs for use as drinking water. The U.S. will be able to replenish the critical Colorado River system as well as the Ogallala Aquifer in the west-central part of the United States, whose water levels are receding.

This is a Promethean project in terms of science

and its scope.

The City of London–Wall Street oligarchy, which has virulently opposed NAWAPA for half a century, will raise the question in order to stop it: "Where will you get the money to pay for NAWAPA? It can't be done." The $250 billion cited by the *Los Angeles Times* as the cost of damage caused by the January 2025 Southern California fires, is approximately the cost of building NAWAPA, which may be a little higher. This amount can be issued as productive Hamiltonian credit by the U.S. government, as well as by the Canadian and Mexican governments, involving as well lending by the commercial banking system. Rather than the loss of lives and burned homes, the U.S. would have permanent productivity built into the topology of America, advancing the U.S. to growth in a higher domain.

Physical Reality versus Global Warming Lies

Before looking at the particular features of NAWAPA, we present two of the features of the physical circumstances in Southern California contributing to fires—the Santa Ana winds and the long-standing conditions for drought.

But here, one confronts a miasma of environmentalist lies, pushed by the so-called news media and academia. For example, on January 8, the Sierra Club issued a press release on the L.A. fires, which said, "Such fires were once highly unusual so early in the year. However, the effects of climate change, from higher global temperatures to increased drought conditions, have increased the likelihood of extreme weather events and raised the risk of unnaturally large and more dangerous fires across the country." On January 15 the *New York Times* chimed in, in an article about the fires, "'We're in a New Era': How Climate Change Is Supercharging Disasters."

This is a deliberate lie, and dangerous. Exposing it serves a double function: It reveals the lying peddled to the population and also gets at the underlying physical conditions in southern California.

We look at two examples.

Santa Ana winds. These winds turn ordinary fires into firestorms. Some environmentalist media have reported that global warming has made the winds faster and hotter. This is not true. The Santa Anna winds appear to have been continuous for 5,000 years and fed hundreds upon hundreds of fires.

The winds occur from 8 to 12 times a year, mostly in the period from November through February, originating in the area known as the Great Basin Desert, which covers nearly 95% of Nevada, about 50% of Utah, and parts of California, Oregon, and Wyoming. These systems originate from high pressure (and generally colder) air masses over the Great Basin (and also the adjacent upper Mojave Desert). Simultaneously, there are usually low-pressure areas over the Pacific Ocean, off the coast of Los Angeles and Southern California. There is a pressure gradient: air naturally moves, on most occasions, from high pressure regions to low pressure regions.

The high pressure, cooler air of the Great Basin moves westward through the Transverse Mountain Ranges that stand between it, Los Angeles, and the Pacific Ocean. As the winds blow through passes in the mountains that channel the winds, they increase in speed and temperature. It is reported that the Santa Ana winds, as they descend under compression, warm up about 5° F for every 1,000 feet of elevation change (1° C for every 100 meters of elevation change). By the time they reach Southern California and the Pacific Ocean, they have a humidity index of less than 10% moisture—very dry—and reach terrific speeds.

These winds turbo-charged the Los Angeles and San Diego fires, creating something that resembles a mixture between a war zone and an inferno. Firefighting planes and helicopters, loaded with water and retardants, were often so badly buffeted by the winds that they aborted their missions.

But this is not a new phenomenon created by "global warming." In an Oct. 15, 2008 article in the *Los Angeles Times*, "Fire, the Price We Pay," author Tim Rutten wrote, "Eight thousand years ago, the Tongva and Tataviam peoples, who made their homes in what we now call the Los Angeles Basin and the San Fernando and San Gabriel valleys, did exactly what many of us have been doing for the last few days: They inhaled the bone-dry air of a wind-scoured fall afternoon and watched the hillsides above them burn.

"The smoky conflagrations they witnessed—more than 5 millenniums before the first European sailed up the California coast—were, even then, an annual ritual of nature so ancient and reliable that it had set its evolutionary stamp on the chaparral [underbrush] itself."

It is possible that, through NAWAPA, a transformed, life-supporting Great Basin would transmit Santa Ana winds that would be moister when they

traverse to Southern California, which itself would not be so arid. This combined effect would modify and make less destructive the Santa Ana winds. (*EIR* is exploring this hypothesis with relevant engineers.)

Drought. Then there is the laughable environmentalist claim that global warming has produced "more severe droughts." The reality is that 38% of California is desert, according to the U.S. Geological Survey, and has experienced periods of extreme drought for thousands of years.

Dr. Scott Stine, a paleoclimatologist at California State University at Hayward, in a June 16, 1994 article in *Nature* magazine, "Extreme and Persistent Drought in California and Patagonia in Medieval Time," writes that California suffered two mega-droughts from 892 to 1112 AD, and again, 1209 to 1350 AD. Thus, the state was in a drought for a combined period of at least 350 years. Moreover, the depth of the droughts was such that the water levels dropped during these periods by as much as 50 feet (17 meters). These events occurred during what is called the Global Warming of the Middle Ages, but no one could possibly attribute this to anthropogenic causes, as even the first phase of the Industrial Revolution had not occurred. This drought pattern manifested itself in the millennia-old permanent cycle of droughts, like the droughts of 1928-1935, 1986-1992 in Southern California, and so forth.

CC/Grigory Heaton

An Erickson Aero Tanker MD-87 Fire Bomber drops fire retardant on the south slopes of the San Gabriel Mountains to prevent the spread of the Eaton fire.

CC/Ariam23

The Palisades fire burns along Palisades Drive on January 7, 2025.

In fact, despite significant periodic droughts during the 20th Century and the first quarter of this one, these times may have been among the "wetter" periods of California's history!

These two examples—the Santa Ana winds and droughts—show that California has been beset by these problems for thousands of years. While activities and improvements to control fires must be undertaken, only by transforming the environment with a higher-order project like NAWAPA can the country solve the underlying geophysical-hydrological conditions of the West.

Great American Desert

Source: EIR

NAWAPA's Purpose and Construction

The magnificent NAWAPA would collect 11% of the river runoff in the Continental Northwest—rivers in Alaska, the Yukon Territory, and British Columbia—which is almost entirely *unused*, and instead divert it to the continent's water-deficient southwest (and some portions of the interior). The water diverted southward will constitute an immense 138 million acre-feet per year (MAFY), which is equivalent to 45 trillion gallons (171 trillion liters) of water per year, and will be a critical element in revolutionizing the economy.

Consider the impact NAWAPA will have on Southern California. A significant portion of its water will flow into the Great Basin Desert, providing irrigation for agriculture and enhancing vegetative and other life, therefore affecting the conditions which generate the Santa Ana winds.

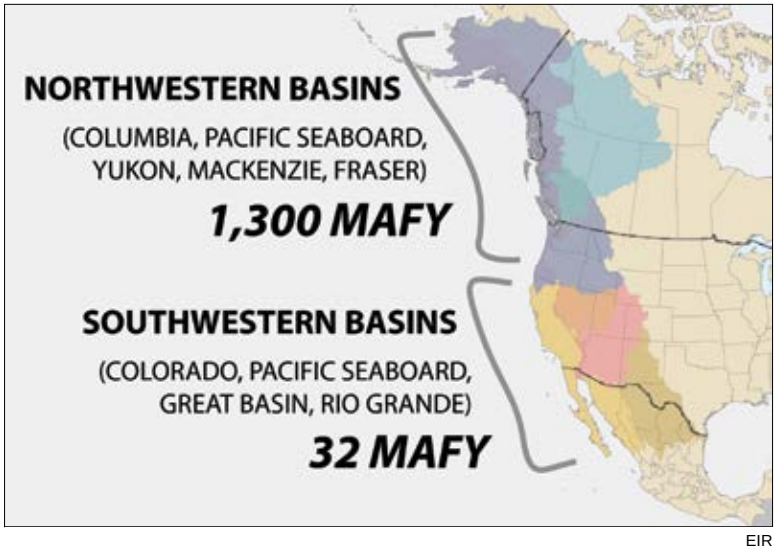
Sections of the desert would bloom, just as engineers decades ago transformed what is now California's Imperial Valley from desert into what is today one of America's major agricultural producing regions. The local weather pattern in the Imperial Valley was transformed so that the increased vegetative life trapped water through the precipitation-transpiration cycle, to produce a regular cycle of increased rainfall.

There is a great water runoff discrepancy in Western North America. In the Northwest, the water runoff is 1,300 MAFY—41 times that of the Southwest's 32 MAFY. NAWAPA will transport water from where it abounds to where it is scarce.

NAWAPA will upshift the economies of the United States, Canada, and Mexico across the board. In addition, a high-speed railroad corridor could be built parallelling NAWAPA up to Alaska and the Bering Strait to industrialize Alaska and contiguous territories. In conjunction with building multiple new Pacific Ocean seawater desalination plants and furthering research into land-based ionization systems—which can potentially transform rivers of moisture in the sky into rainfall—NAWAPA will produce an even greater abundance of water, enough to build, as well, ten new cities and develop the lightly populated American West and Southwest.

Scale and Potential

The U.S. portion of the NAWAPA water-diversion project is perhaps the grandest in U.S. history, employing machinery and manpower on a gigantic scale. We will examine a few of the construction features, and then delve into what NAWAPA proposes to do. Under



EIR

The Great Western Discrepancy map of water availability.

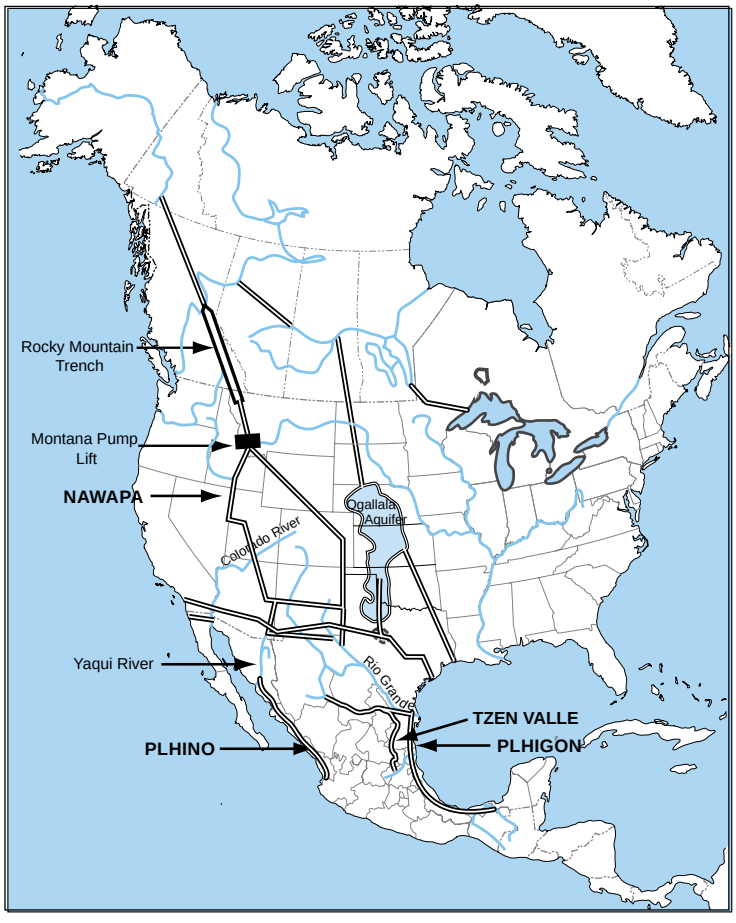
a unified management, it will direct flows to best use topographical-geological-hydrological characteristics of the North American continent.

The project revolves around the great disparity in North America's weather and precipitation patterns. The moist air over the Pacific Ocean moves inland with the westerly winds contributing to heavy precipitation along the mountainous coasts of Alaska, the Yukon Territory and British Columbia. An example of this is the Yukon River, which is 1,980 miles in length. It runs from its source in British Columbia, through Canada's Yukon territory, and westward into Alaska, emptying into the Bering Strait. Almost all the water is largely unused for any productive purpose or plant growth before dumping into the Bering Strait. However, the Yukon River's drainage basin, where water accumulates, is an immense 330,000 square miles (855,000 square kilometers)—25% larger than the state of Texas.

By erecting six dams, NAWAPA would form reservoirs in Alaska and in the Yukon River Basin. A fraction of this water would be directed southward and pump-lifted up 300 feet once in northern British Columbia, and pump lifted once again in northern British Columbia, up 670 feet into a reservoir at 3,000 feet elevation, created out of the Rocky Mountain Trench, a natural valley canal in the Rocky Mountains, which engineers would upgrade. (A portion of the waters from the Peace and Liard Rivers would also be directed into this trench.) The waters in this trench would flow through British Columbia into the United States. The water would be pump-lifted once again at the Sawtooth Mountains in Idaho, and from there would travel by man-made aqueducts into the Colorado River, Rio Grande, and other river systems; it would continue southward into northern Mexico's water systems.

NAWAPA also diverts water in Canada eastward, establishing a navigable trans-continental waterway stretching from Vancouver, B.C. to the Great Lakes-St. Lawrence Seaway, as well as barge canals linking Central Canada to ports on Hudson Bay, opening thus a vast resource potential in Canada for development and export. The LaRouche science team's NAWAPA XXI, proposed in 2012, would build canals to convey NAWAPA water to the Ogallala Aquifer in the Great Plains, which supplies water to eight states, which could be used for irrigation. A portion of the Ogallala Aquifer, now being significantly depleted, can be refilled. Overall, NAWAPA would allocate water to 17 U.S. states.

North American Water and Power Alliance (NAWAPA)



Sources: Parsons Company, *North American Water and Power Alliance Conceptual Study,* Dec. 7, 1964; Hal Cooper; Manuel Frías Alcaraz; *EIR.*

The very act of constructing NAWAPA will itself deliver a highly charged jolt to the U.S., Canadian, and Mexican physical economies, producing actual physical growth rates of 6 to 10% per year. To construct this immense system will require 32 reservoirs; 39 concrete-lined tunnels, mostly through mountains; 28 power plants; 8 pumping stations; 4,515 miles of canals; 46 locks; 95 dams; and countless miles of roads. All of these will require the manufacture of thousands of earth-moving machines to move tremendous mounds of earth; three billion cubic yards of cement; 441 million tons of steel, etc. But it goes further: To construct one hydroelectric power plant will require the manufacture of penstocks, head gates, turbine wheels, small and large tubes, generating units, switchgear, transmission lines, and so forth. The construction of one nuclear plant that lifts and pumps water, requires an even

greater array of equipment.

To meet the manufacturing needs for all the needed machinery and finished goods, North American factories will have to expand production. It is estimated that at any one time, 100,000 construction workers will be working on the NAWAPA project. But this will require civil, rail, electrical and nuclear engineers, skilled machinists, welders, heavy equipment operators, linemen, carpenters, electrical workers, riggers, pipe fitters, designers. Combining those in direct construction with those in factories making the equipment and materials, and so forth, will require up to 2 million productive workers, and up to 5 million from the increased economic activity once completed. Unemployed, unskilled youth could work on this project in a Civilian Conservation Corps arrangement, as apprentices, and take classes in the evening.

Water Productivity as A Higher Principle

To convey the higher manifold of economics involved in building NAWAPA, let us consider the productivity of water as a higher principle. Water has value in production only when it is in a context where it can be properly used. Water can be valuable in agriculture when it is combined with sunlight and adequate temperature.

Using information provided by NASA's Earth Observing satellites, one can measure the amount of new plant growth each year per unit of water for different regions of the world. The average productivity of the water cycle in the Continental Northwest as a whole is one million tons of plant life per cubic kilometer of water flow (per year).

By comparison, the average productivity of the water cycle in the Southwest is 5.5 million tons of plant life per cubic kilometer of water flow—a 5.5-fold greater yield. This means the movement of water from north to south increases the agricultural productivity of the continent as a whole.

But there is a supplementary feature. It is estimated that 40% of water precipitated over continents returns to the ocean as runoff or ground water discharge. However, the remaining 60% remains inland, and is either deposited into a body of water or is incorporated into plant life. It then re-evaporates or transpires and falls back onto land, recycling itself an average of 2.7 times before returning into the ocean. By redirecting water in the Northwest that would normally run into the ocean, to the North American continent's interior and southward, that means that 60% of that rescued water will re-evaporate or transpire from a plant or tree and fall back onto land, with a recycling ratio of 2.7 to 1. That water is further being put to work.

To get greater work out of the same drop of water is a least action principle of the water cycle. Were a desert area to get irrigation and an overall greater presence of water—so that trees and grasses grow, capturing and holding more water, which then evaporates, and returns to the ground as precipitation—then the pattern of precipitation is changed and increased in that area. This generates a regular precipitation cycle. This, in turn, produces weather-moderating behavior. This is what NAWAPA can do, and it may well be able, therefore, to moderate and mitigate the Santa Ana winds, and just as importantly begin to roll back and green the Great American Desert, and on a scientific basis, greatly reverse the tendency for, and incidence of, fires.

At the same time, NAWAPA will be enhancing the economy through all its other marvelous features.

The financing of such a momentous project need not be difficult. Assume the project costs $300 billion, and the United States' share of the cost to the three countries—the U.S., Mexico, and Canada—is $150 billion. The U.S. government could finance that out of a capital budget account in the U.S. budget over 20 years, at $7.5 billion per year. The U.S. Treasury bonds issued to finance the NAWAPA capital budget could be earmarked as "NAWAPA bonds," which might find eager purchasers, or they could be issued as ordinary Treasury bonds. Other financing methods involving credit issued by a Hamiltonian National Bank created by nationalizing the Federal Reserve, could be employed.

NAWAPA is an indispensable, singular program to scientifically correct the underlying physical roots and problems of drought and fires which arise from geological-hydrological conditions that have dominated for at least five to eight millennia, and likely far longer. It will also revolutionize the economy. The natural course for the human species is to develop. Building NAWAPA will give the American, Mexican, and Canadian people a new opportunity to contribute something of durable value with their lives.

Underlying features of California's physical geography and hydrology will not go away. Had NAWAPA been built, the damages from the January southern California fires could have been dramatically lessened. Understanding the implications of the fires, and that they could occur again next week, should be sufficient force to cause you, the reader, to act.