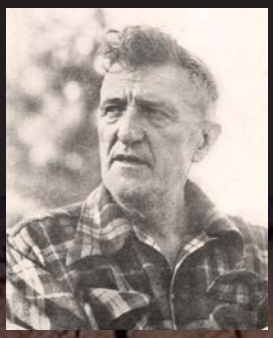
The Primary Water Institute

How Primary Water Can Solve the Global Water Crisis

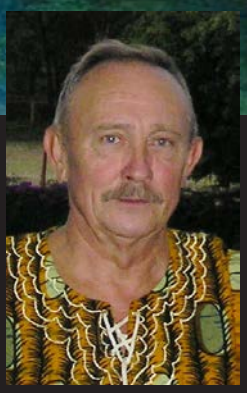
Volume 1, Number 2 *July 2023*

Adolph Nordenskiold
Finnish Explorer
1832-1901

Stephan Riess, 1898-1985
Geo-chemist, metallurgist, mining engineer and dowser, world renowned hydrogeologist.



Pal Pauer, 1941-2022
Primary Water expert, hydrogeologist, dowser, humanitarian



"It's hard to get the point across to many people in the U.S. that the Earth makes water. We can access it and solve our problems. Clean, virtually infinite sources of water are right under our feet." **--- Pal Pauer**

Primary Water Institute, Inc.
a non-profit 501c3 tax exempt organization

Pal Pauer, Founder, 1941-2022

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Why Care About Primary Water? *by Kim Glazzard*

1957-2023

Water is the elixir of life. Without it, life as we know it would not exist. We all depend on water for everything including personal hygiene, keeping hydrated, growing and produc- our food, energy production, manufacturing, ecosystem habitat, recreation, and on and on and on . . . Water is also a solvent and cleaning agent. A person can live without food weeks but cannot live without water for more than a few days.

With the current state of the world plagued by droughts and water wars, water really is the new gold. While the need for water is essential and permeates all life, how much do each of us really know about the true sources and amounts of water in our world? Likely, very little.

What if you were told that Earth's most abundant source of water is found deep in its core – and is stored in its rocks and magma to be released under the heat and pressure of geologic events and circumstances? What if you learned that the abundance of this water may exceed the amount of water in our oceans by at least 4-5 times and can most easily be obtained through strategic drilling?

While rarely acknowledged, though referenced in the Bible and other ancient texts, the Earth's magma and geology is in fact the source of our planet's most pure water. This water appears in unexpected places such as mountain springs and desert oases. Have you ever wondered how a spring could defy gravity and surface at high elevations on the top of a mountain, or provide a green oasis in the middle of a desert? Primary Water isn't a mystery, though access to this technology has been largely suppressed historically and only recently begun to emerge in open discussions within scientific communities.

Along with its abundance, the advantages and value of Primary Water include that it is clean water which has never been in contact with the atmosphere. As mentioned earlier, access is largely dependent on geography and geology rather than climate and atmospheric rainfall. It is readily available in drought as well as normal rainfall years. It can also be localized to certain areas and needs – and, under the right geologic conditions, is plentiful and readily accessible.

All water originates as Primary Water deep in the mantle of the Earth. Under pressure, it then makes its way to the surface via faults and fissures in the form of volcanic steam, artesian springs, geysers, and oases. The defining characteristic of Primary Water is that it has never before been on the surface of the Earth and is therefore free of surface pollutants. When it approaches the Earth's surface, Primary Water mixes with water already here and then becomes part of the Hydrologic Cycle. Skilled Primary Water experts are able to locate the water as it nears the earth's surface, thus reducing the depth of drilling normally required for water wells.

This Primary Water Magazine offers a snapshot of some of the 20th and 21st Century pioneers of Primary Water research as well as an overview of numerous success stories where Primary Water has come to the rescue - especially in drought years.

Thousands of Primary Water wells already provide fresh water in Australia, the United States, and Africa. Many villages in Africa have experienced tremendous improvements in their quality of life due to Primary Water wells. Primary Water is a valuable source of water that could also help refill reservoirs, resupply over-tapped rivers such as the Colorado River, and support agricultural needs.

Could Primary Water solve our global water crisis? And, might Primary Water offer hope for mankind – and the future survival of Planet Earth? A resounding yes on both accounts! Primary Water may well be a missing link to solving water shortages and hunger around the world.

We want to share the life-giving and abundant prospect that Primary Water offers the world and invite you to drill into and explore the many resources and expansive opportunities provided here to learn about this amaz-ing source of water. Welcome to the world of Primary Water!

The Primary Water Institute

Water Beyond Politics

Introduction to Primary Water

There is a source of fresh water that is never mentioned in the mainstream media, or widely understood by geologists. This forgotten resource is called *primary water*.

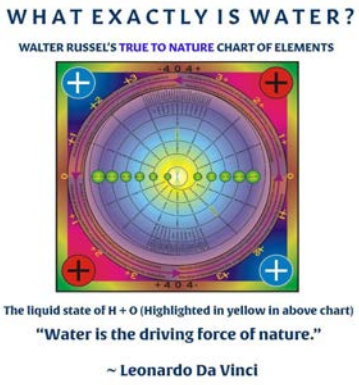
Most water conservation agencies today focus on managing *atmospheric water* in the form of surface runoff and ground water, while negligible consideration is given to *primary water*. Pressuring up from deep within the earth through rock fissures, primary water is virtually limitless and clean. According to recent research, ***water within the earth exceeds five times the amount of water in all the world's oceans***.

The practice of accessing primary water has been around for centuries. What early Greek philosophers like Aristotle and the Italian Leonardo DaVinci believed, and enlightened scientists working at well-known universities today are finding out, is that ***all water is created in the mantle of the earth and is available in limitless quantities worldwide***.

Drilling for primary water looks similar to drilling for ground water. The main difference in accessing primary water is that it requires ***drilling into a geologic fissure or fault*** to release the primary water that has risen near the surface.

Locating well sites for primary water requires special training and experience. There are countless primary water wells that have been functioning for decades all over California and around the world.

Primary water advantages:



- Provides excellent quality, clean, unspoiled water
- Is fresh and not subject to pollution or surface radiation
- Is created under pressure, so that it comes near the surface by itself, incurring less pumping costs
- Never dries up
- Unlike groundwater, is not subject to the effects of drought
- Does not cause subsidence like some groundwater wells
- Refills depleted groundwater supplies from below in some instances
- Is plentiful and replenishable
- Can create localized water supplies that is available ***where*** it is needed and ***when*** it is needed.

- Inexpensive horizontal drilling rigs can benefit fish and wildlife by refilling dried up streams, lakes and rivers.
- Primary water was used to refill Lake Elsinore in California (which went dry in the 1950s).
- Primary water wells can be used to supplement existing water transport systems like the California aqueduct.

Some history of Primary Water:

In the 1960's, the late Dr. Stephen Riess, a geologist and mining engineer, introduced the California government to the concept of primary water. He proposed a water delivery plan which included drilling 8,000 primary water wells along the **foothills of the western slope of the Sierra Nevada Mountains**. The State government at the time was geared toward managing only atmospheric water, so the Riess proposal was ignored and the California Aqueduct was built instead.

Had Riess' plan been endorsed, the output of these primary water wells, at a conservative average of 270 gallons per minute, would be producing more than 3,100,000,000 gallons of water per day (8,000 x 270 x 60 x 24), 365 days a year. It would be comforting to have this back-up system in place today.

By accessing primary water, it is unnecessary to use massive public works transport systems because water can be localized to meet the water needs of individual communities. Our government needs to explore and research primary water as a viable option to help communnities that have run out of water.

Be sure to check out the illustration showing both the primary and atmospheric water cycles. Technical papers are available on the Primary Water Institute's website, www.primarywaterinstitute.org. The Primary Water Institute seeks to train individuals to locate and drill for primary water in California and around the globe.

It is essential to consider both atmospheric water and primary water when managing California's precious water supply.

The mission of the Primary Water Institute is to train individuals to locate and drill for Primary Water in California and around the globe.

"One cubic kilometer of granite, under the right conditions, will yield one billion gallons of primary water."
-- Stephan Riess

www.PrimaryWaterNetwork.org

California's Missed Opportunity: The Stephan Riess Story

by A. M. Stinnett

The year 2015 saw the State of California, and indeed the American West, in the grip of a long-term drought. Everyone was thinking about water, or the lack thereof. Property owners were wondering whether it was time to get out ahead of a rush of people trying to leave a dry and thirsty land without suffering financial loss. One headline captured the ubiquitous malaise: "California's Epic Drought: One Year of Water Left."

Government and Water Resources bureaucrats were not standing about idle, and their efforts culminated in major legislation signed by Governor Jerry Brown on April 1, 2015, to effect drought relief by means of more usage regulation and restrictions, as well as the appropriation of seven billion dollars for drought relief projects to be submitted by local Water Resources agencies and private corporations.

Local newspapers published tens of thousands of words by journalists who threw themselves wholeheartedly into the work of investigation, interviewing experts, and reporting; yet in all this delving into a universally crucial topic, they failed to stumble upon a salient fact, a fact that since the 1990s is widely acknowledged by the scientific community. To quote just one of the many testimonials to this fact, Earth scientists of the University of Minnesota wrote in Physics Today in 2012: "Over the past 20 years, scientists have come to appreciate that vast quantities [of water] are stored in Earth's interior....Surface water is only a fraction of Earth's water inventory."

The failure to report, recognize, and act upon such a potentially beneficial reality is egre-gious in California, where for sixty years there lived an extraordinary man who confounded the California Water Resources establishment and the government by demonstrating over and over again the fact of an abundant availability of water even in desert and rocky places: Stephan Riess.

Stephen Riess, German-born geo-chemist, whose revolutionary theories on primary water have stirred a tempest among geologists.

Who Was Stephan Riess?

In 1923 Stephan Riess (b. Bavaria, Germany, 1898 – d. Escondido, California, 1985) emigrated to the U.S. at the age of 25, having completed his formal education in geology, metallurgy, and mining at the Imperial Naval Academy of Germany. He saw military service as a naval submarine executive officer in the First World War. Like many a young man in the New World, he headed West to get experience in his chosen field, mining engineering. He went to California and became a success among mining companies after he came up with a solution for an ore-processing problem. Thereafter he had no shortage of consulting jobs. His reputation earned him an invitation from President Herbert Hoover to join a metallurgical processing firm with the former president's two sons.

During his first decade in California, his diverse experiences in mining completed the academic geological training he had received. Two experiences led to his scientific probing of the question of what has come to be called deep-earth, or earth-generated water.
In the first, dynamite was set off at the bottom of a deep mine at high elevation in order to break up the rock. After the blast, the unexpected happened. Wa-

ter came gushing up from the rocks at 25,000 gallons per minute! Riess was struck by the fact that in all the geology and mining textbooks he had studied, not one dealt with this phenomenon. Yet among miners it is a truism that mines more often wash out before they work out. The temperature and purity of the water also suggested an origin other than groundwater. Riess resolved to investigate this phenomenon.

A subsequent incident advanced his understanding. He was in a mine shaft where a mill was processing ore. He saw water flowing unexpectedly, but it was not coming from the mill; it was bubbling up from beneath the mud. He heard a hissing sound like gas so he lit a match, setting off a mini-explosion. He surmised that catalysts in the ore-processing had also catalyzed the formation of water from hydrogen and oxygen. He later duplicated the water-producing process in a laboratory.

Stockholm professor of mineralogy, A. E. Nordenskjold, 1886.

Riess's discovery that new water is best found in rocks was not a first. He had encountered in the field what the Stockholm professor of mineralogy, A. E. Nordenskjold, had discovered in Sweden—water can been drilled for in solid rock! In 1896, he reported the phenomenon in his paper "About Drilling for Water in Primary Rocks." He had discovered that a new type of water was available, potable fresh water that is distinctly independent of the hydrological cycles of atmospheric water. He called this water "primary" due to its association with so-called primary rocks.

The essay earned him a nomination for the first Nobel Prize in physics, but his death in 1901 prevented the advancement of his nomination for the prize.

Riess found confirmation of his experimental knowledge from mining and lab work in the historical and geographical records: Writers from antiquity up through Leonardo da Vinci wrote about water coming from rock. The castle courtyards of Europe, situated on rocky promontories, had wells dug into solid rock that are still producing water. The arid lands of the Sahara and the Near East have springs that have been flowing for millennia from a source clearly not that of the atmospheric, or hydrologic water cycle. And in Brittany, modern-day Frenchmen still drill for water in solid granite.

Riess Proves the Hypothesis

A decade of work, study, and research had led to the formation of a strong hypothesis: the elements hydrogen and oxygen are present in the Earth's mantle. Primary water is generated in the rock strata when the right temperature and pressure are present. The new water is forced up towards the surface through the faults and fissures in the Earth's crust until it is halted by impermeable rock. Using the sciences of mineralogy, petrology, and structural geology precisely one could locate high-pressure, low-temperature hydrothermal systems like the ones routinely encountered by engineers in mine and tunnel flooding incidents.
In 1934 he was given the opportunity to test the hypothesis. A mining company in Nelson, Nevada, (25

Stephen Riess beside one of the wells he has drilled in Ventura County, California. He says this well is unaffected by climate conditions. Photo by the author.

miles southeast of Las Vegas) needed a source of water in order to make a mine profitable. Discarding the standard practice of contemporary geohydrologists, the plan was to drill into a mountainside for water. They struck water at a depth of 182 feet with sufficient flow to provide the needed water. The mine subsequently extracted four million dollars' worth of bullion till it closed in 1945. When a company came back to the area in 1977, they were able to reactivate the water well.

Riess' first big well on his property can produce up to 1,200 gallons a minute. Unlike the other water in the area it tastes like mountain spring water.

To Riess's mind the hypothesis was proven, so he decided to stake his own money to confirm it. He purchased a barren plot in the Black Canyon, above the Simi Valley in Ventura County. He brought in three wells which produced 3,000 gallons per minute (gpm), or 4 ½ million gallons per day!—enough to supply the daily needs of 10,000 people. Some of his neighbors benefited from free water from the Riess property.

Word of Riess's success in drilling water wells got around. He became a water developer throughout California. From San Francisco doctors investing in orchard groves, to horse breeders in Ramona, to aspiring citrus growers in the Coachella Valley near the Salton Sea, people turned to Steve Riess when they needed water. And he reliably came through.

David v. Goliath

Not everyone was delighted. The State of California was getting ready to invest heavily in a water transport system of dams, canals, and pumping stations, the first installment of which was the looming Feather River Project. Bonding issues necessary to fund it were being prepared to submit to the voters. A lot of money was being invested, and a lot was going to be made by some. But private individuals began writing to their water authorities questioning the need for such a vast undertaking when Mr. Riess had demonstrated that drilling inexpensive wells situated in the right spots yielded ample water. Moreover, California was not lacking the right geological structure, fissures, and faults for providing abundant water to the growing population throughout the State.

The confrontation between two competing understandings of the origins of water came to a head over the course of the mid-1950s.

A magazine article sparked the conflict. The headline of a two-part story published in 1953 by the Southern California magazine Fortnight proclaimed the potentially transformative reality: "Revolution in Water Seeking." The subtitle spelled it out: "Steve Riess has a new idea of how to look for water and 69 wells to support his theory." The magazine editorialized that the reason for Sacramento's displeasure was simply greed.

Sacramento sent out investigators who conducted a shallow investigation. They made a report without having spoken to Riess's clients, or Riess himself. They asserted that the Simi Valley wells were just tapping into ground water (an impossibility for the amount of water he had extracted).

This round in the Riess v. Sacramento fight was decided by an outsider. Texas oil and gas tycoon Clint Murchison heard about the wells. Since he was interested in investing in California real estate, he sent out a team of his own engineers to test the wells in order to prove their worth as an enduring water supply for a large housing tract. After eighteen months, they gave the green light. In 1955, the Ventura County Star-Free Press headlined the million dollar purchase, one of the biggest amounts paid for property in California at the time.

Round Two: Sparkletts Drinking Water had drilled wells for its Lakeside facility in San Diego following the advice of a Water Resources (WR) specialist. Within six months the water quality had declined and the supply was running out. The owner was desperate. After the Murchison purchase made the headlines, he got in touch with Riess. Riess ultimately drilled into

the bottom of an existing 400-foot well that had gone dry. He drilled down an additional five hundred feet till he struck high-grade water at 300 gpm. The plant was saved. (And in 2016, it is still supplying Sparkletts with water.)

Round Three: A situation then arose that pitted the scientific theories directly against each other. A University of California groundwater geologist and consultant for the State Water Resources Division advised a specialty grower in the Anza Valley, desperate for irrigation water, to drill in a particular place in order to tap into groundwater: the well yielded a mere 4 gpm. Meanwhile, an editor of the Christian Science Monitor working on a story about California's ongoing water crisis informed Riess about the situation. Riess convinced the desperate man to fund one more well. He chose as the site a 350-foot granite hillock on the property. State officials of the WRD learned of the plan and sent down six of their agents to try to talk the farmer out of doing it, to no avail.

Before drilling began, based on his knowledge of geohydrology, Riess predicted the depth (300 feet) and water volume (300-1,000gpm) he anticipated; he was spot on: the well produced from an occasional flow of 1,030 gpm to a steady 400 gpm. The UC professor's mind was totally unyielding to the evidence. He ascribed Riess's success to luck.

Just Lucky?

Word of Riess's ability to find water in desert places even reached the State of Israel. In 1958 Prime Minister David Ben-Gurion invited him to Israel. They needed water for the new city of Eilat, situated in the Negev Desert on the Gulf of Aqaba on the Red Sea. When Riess explained his methodology to Israel's hydrological experts, they at first resisted, but "encouraged by their superiors" they co-operated with Riess. He located a well a mile and a half outside the city near the Jordanian border, enough to supply a city of 100,000 inhabitants and twelve outlying villages. His success in Israel led to his being invited to Egypt, where he brought in three wells along the Nile for prominent individuals, and also to Saudi Arabia, where he drilled in the northeast of that country.

Second Theory: A Boon for Southern California
Back in California he had another opportunity to show the validity of his theory for locating water and to test another—the theory that a supply of water runs in the system of fissures under the Mojave Desert large enough to supply the needs of all of southern California.

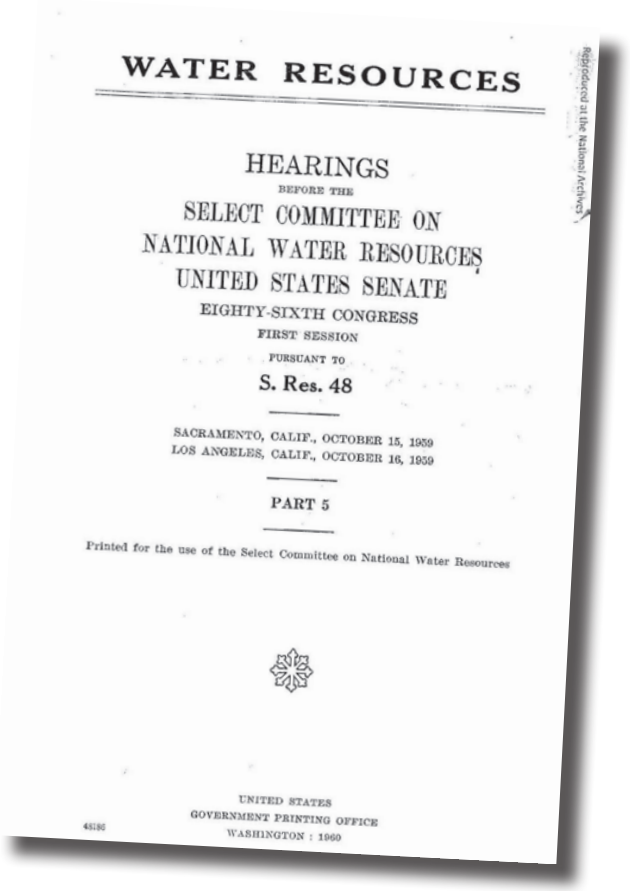
In 1958 a land developer wanted to make a huge development in the Mojave for which, obviously, he needed water. He hired Riess. Riess sunk three wells which enabled the huge tract of land to become California City. In order to assess the wells', and the new town's, long-term prospects, the land developer commissioned a quarter-of-a million-dollar study to test Riess's hypothesis. The study concluded that indeed a vast quantity of water was traveling in the fault system under the desert and that it had nothing in common with any water in "alluvium sedimentary aquifers," that is, ground water. The co-ordinator of the study, Olindo Romulus Angelillo, told the Christian Science Monitor that more than a million acre-feet flow under the desert, enough to meet the needs of five million people.

The Grand Coalition of the Status Quo Strikes Back
Decades before the 1950s, federal and state politicians had committed California to an immense system of dams, canals, and pumping stations to resolve the problem of providing water to the burgeoning populace. By the late 1950s, planning on the Feather River Project was advancing. In 1959 the expected cost was $14 billion (in reality it turned out to cost many billions more). Riess meanwhile had contracted with the San Bernardino Municipal Water District (SBMWD) to drill wells sufficient to supply the needs of the huge San Bernardino county in perpetuity for a sum "infinitesimally smaller than that to be levied against the district as its share of the Feather River Project." He brought in the first well at Yucaipa: 900 gpm in 600 feet of solid granite. Word of the success got back to Sacramento. When the well was on the point of being accepted by the SBMWD, Riess was summoned to a private meeting with the manager, who told him that Governor Brown had told him to shut down the well. Why? "Because he felt that if you couldn't be stopped from running around the country bringing in maverick water wells, the whole bonding issue was in jeopardy."

Riess went to court to collect his costs. He lost both cases in the lower and appeals court, but finally won

when the decision was reversed by the Supreme Court of California. Riess was given the opportunity to testify before a Select Committee on National Water Resources of the U.S. Senate in Los Angeles in October 1959.

Riess proposed that a serious study of water flowing in rock fissures be undertaken. Within the solid rock beneath the Earth's crust is a system of fissures—Mother Nature's own pipe lines. Surely it is more economical to pump water vertically 450 feet than to pump and transport it 450 miles!



WATER RESOURCES

HEARINGS
BEFORE THE
SELECT COMMITTEE ON
NATIONAL WATER RESOURCES
UNITED STATES SENATE
EIGHTY-SIXTH CONGRESS
FIRST SESSION
PURSUANT TO
S. Res. 48

SACRAMENTO, CALIF., OCTOBER 15, 1959
LOS ANGELES, CALIF., OCTOBER 16, 1959

PART 5

Printed for the use of the Select Committee on National Water Resources

UNITED STATES
GOVERNMENT PRINTING OFFICE
WASHINGTON : 1960

The State launched a counterattack. The California Director of Water Resources put out an Information Bulletin, "Is 'Primary Water' or 'Rock Fissure Water' a Potential Source of Water Supply?" (December 1960). It denigrated the Mojave Desert study as worthless and attacked Riess's ideas. It was distributed to all State offices.

But Riess did not quit. One of his colleagues relates that he conducted a hydrological survey of the entire State: eight thousand wells would enable California to have a limitless, secure, high-quality water supply at a cost of only two percent of the Sacramento River Delta water tunnels being planned in the 21st century. But the Governor's decision stood, and the proposal disappeared from institutional memory.

Riess remained active until his death in 1985. He had a career total of 800 productive water wells. His last year, he brought in a well at Escondido, California, on a site a thousand feet higher than the City's supply with a pumping cost 80 percent cheaper.

Truth vs. Vested Interests

Since his death, science has come around to Riess's way of thinking:

- Japanese researchers reported in Science in March 2002 that the earth's lower mantle may store about five times more water than its surface oceans.
- Earth scientists Hirschmann and Kohlstedt of the University of Minnesota reported in their 2012 article "Water in Earth's mantle," (Physics Today, 65 [3], 40 [2012]), "scientists have come to appreciate that vast quantities [of water] are stored in Earth's interior. . . . Surface water is only a fraction of Earth's water inventory."
- Australian scientists have discovered vast freshwater reserves beneath the oceans, miles out to sea. According to the report published in the December 2013 issue of Nature, there is an estimated 500,000 cubic kilometers of low-salinity water beneath the seabed along the continental shelves around the world.
- Scientific American (March 2014) documented the presence of vast quantities of water locked far beneath the earth's surface, generated, not by surface rainfall, but from pressures deep within: "There is a very, very large amount of water that's trapped in a really distinct layer in the deep Earth…approaching the sort of mass of water that's present in all the world's oceans."
- In October 2014, the Special Inspector General of Afghanistan Reconstruction reported that affordable deep-well technology has turned 200,000 hectares (about 770 sq. mi.) of desert in southwestern Afghanistan into arable land.
- In December 2014, BBC News reported the results of a study presented at the fall meeting of the American Geophysical Union, in which researchers estimate there is more water locked deep in the

earth's crust than in all its rivers, swamps, and lakes together.

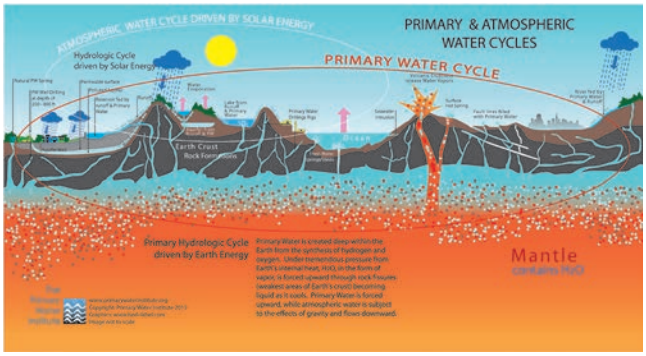
- So, a generation after Stephan Riess's death, scientists generally admit the existence of "vast quantities" of water within the earth. Moreover, engineers have proven that the water is readily accessible, since water projects in Afghanistan (but not, of course, in the U.S., although the Afghan water projects were funded with U.S. dollars) were able to transform 770 square miles of desert into arable land.

So, scientists, despite their vested interest in defending the theories they mastered in graduate school, have finally yielded to the evidence. Yet the politicians and Water Resources bureaucrats have not been keeping up with advances in science. They are still working from their 1950s' playbook. In 2016 they are still proposing the same policies advanced a half a century ago.

To conclude this survey of the career of a man who could rightly be called a pioneer and a genuine benefactor of mankind, it is fitting to quote the concluding remark of Aldous Huxley's foreword to the 1960 book by Michael Salzman that thoroughly examined the work of Stephan Riess, New Water for a Thirsty World:

"Vested interests are of many kinds. There is the intellectual vested interest of those who have taken their doctorates in a science at a certain stage of its development, who have taught and applied that science at that particular stage, and who regard any questioning of the postulates underlying that science at that stage as a personal affront and a menace to their position in the Establishment. And then, of course, there are the more substantial vested interests of contractors who make money by selling concrete for dams and irrigation works, of bankers who make money by handling state and municipal bonds, of bureaucrats who, obeying Parkinson's Law, feel an urge to expand their departments and extend their authority, of politicians who find it prudent to say yes to powerful pressure groups. But even against vested interest truth (particularly if it be a useful truth) will ultimately prevail. How long is 'ultimately'? That is the question."

Download HQ Primary and Atmospheric Water Cycle Poster
http://primarywaterinstitute.org/images/pdfs/PWI_poster_rev3_May2015.pdf



The earth has two major water cycles as shown above - the primary water cycle and the atmospheric water cycle. All of earth's water originates in magma in the earth's mantle and is transported in the form of super-heated, high pressure steam or vapor through geologic cracks and fissures to or near the surface of the earth. This is the primary water cycle as depicted above as the blue above the orange mantle and below the earth's crust. As this vapor reaches the earth's surface it is either released through volcanic steam and fumaroles, or has cooled enough to liquefy into water and forms artesian and other springs and lakes – even in the mountains. This is pure water that has never before been in contact with the atmosphere.

The secondary water cycle is the most familiar hydrologic cycle and moves what is also known as atmospheric water. The secondary water cycle takes the primary water which has reached the earth's surface and, with the sun's heat, utilizes the processes of evaporation, transpiration, and heating and cooling of the atmosphere, to create precipitation which is transported to re-supply the earth with cleansed water or snow - replenishing lakes, streams, rivers, and the ocean.

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The Foremost DR-24 is a perfect choice for drilling for primary water. It can handle any type of geologic formations. These rigs are in use all over the world.

Inexpensive horizontal drilling rigs can benefit fish and wildlife by refilling dried up streams, lakes and rivers.

All the Water We Need:
A New Paradigm for the 21st Century

By A.M. Stinnett

A recent article in *The Atlantic* monthly by two Harvard historians proposed the establishment by the President of the United States of a Council of Historical Advisors. The reason is obvious: as the truism puts it, those who ignore the past are doomed to repeat it. The past is replete with lessons for present problems and future outcomes.

This truism applies to the issue of water. Mid 20th-century California history is full of instruction for the present generation in its search for solutions to the state's recurrent droughts and water insecurity. It brings to light a fact of enormous import for policy discussions on water conservation, the Salton Sea, and water security; namely, there is no shortage of water on Planet Earth.

The truth of the matter is that the earth is a water generator. New water is continually being created deep down. The science actually goes back more than a hundred years. The first modern paper on the subject was published in 1896, and in the 1950s in California a man named Stephan Riess corroborated the fact by drilling hundreds of wells based on the updated knowledge he acquired from his work in mining. Since the 1990s, dozens of research papers have been published on various aspects of the science.

It is understandable why most people involved in water resources do not know about this. Because of Riess's activities, the issue was widely reported and debated in the 1950s. The U.S. Senate even held hearings in Los Angeles in 1959 to give Riess a platform from which to speak. But his contribution was rejected by an Establishment mobilized to protect the status quo, so that knowledge of the reality of another source of water faded away. And while university-level students are being taught about the deep-earth water cycle and earth-generated water (or primary water, as it is also called), the subject has not yet found its way into high school textbooks.

Consider the possibilities the reality of abundant water opens up. Every community in the desert could become an oasis. The eastern side of the Sierras could be "greened." Every locality in the State could have water security with back-up earth-generated water wells. The Delta tunnels project could be scrapped and billions saved for other purposes. The Salton Sea could be refilled by drilling wells: A California case study already exists—the saving of Lake Elsinore, celebrated by Governor Pat Brown in 1965. Places like Flint, Michigan, where the groundwater has been contaminated could drill for new water. Looking beyond the U.S., Northern Africa could become a breadbasket like it was in Antiquity. And so on!

Even if our local, state, and federal governments are ignoring the facts, private parties and other nations are not. Nor is the U.S. government when it is advantageous to apply it, as they did in Afghanistan to turn 770 square miles of desert into arable land.

The Coachella Valley's local newspaper, the *Desert Sun,* has been doing a tremendous job of covering water-related issues and has participated in community forums in order to get involved in helping the State resolve its perennial crisis of water insecurity. Its reporters have won national journalism awards for their writing. But as yet they have completely missed the paradigm shift, the water revolution, that is underway in the world.

Citizens, activists, and public officials cannot rely on the mass media to do their homework for them. The topic is too hot; the vested interests are too deep and of too long standing to let go of the status quo without prodding from the grassroots. They will only yield to the evidence when it is impossible for them not to.

Quite simply, a shift in thinking from a paradigm of scarcity to one of abundance needs to come about. And in order to envision a better future sometimes it is essential to revisit the past.

Online resources for more information: www.primarywaterinstitute.org.

Water For a Thirsty World: Lessons From a Maverick

Timothy Hall lectured on primary water at a recent meeting of WTI, a nonprofit in Highland Park. Photo by Christopher Nyerges

06/01/2021, By Christopher Nyerges

Timothy Hall, a former Highland Park resident who has worked globally to plant trees and find underground water, recently gave the Sunday lecture at WTI, a community service nonprofit in Highland Park.

Hall's topic was the life and work of Stephan Riess, a Bavarian-born mining engineer who came to the United States in 1923 and became a pioneer and maverick in the study of water, specifically, the source of primary water. Hall, a board member of WTI, had the good fortune to meet Riess in 1982 and apprenticed with him until Reiss' death in 1985.

Hall began his presentation by describing the prevailing "surface water" theory of the hydrological cycle which holds that the amount of water on earth is finite and constantly recycled through evaporation, condensation, and precipitation. The water from rain descends to the lowest level with rivers flowing into lakes and streams.

Stephan Riess, shown here shortly before his death in 1985, pioneered the study of "primary water" that is formed deep within the earth and stored in rock.
Photo courtesy of Christopher Nyerges

Reiss was convinced that the surface-water theory was incomplete, in part because during mining activity, large volumes of water were often encountered at the top of a mountain range, suggesting a water source other than run-off or ground water.

This observation led Riess to the lifelong study of "rock fissure aquifers." Unlike conventional ground water wells, which contain surface water that has permeated sand and gravel, rock fissure aquifers are virtually limitless "sources of pure, potable water flowing through the fissures of the otherwise solid and impermeable rocks," Riess wrote in 1959.

"Primary water" is the term used today to talk about water that is not part of the hydrological cycle, but rather forms deep within the earth and flows through impermeable rocks. Riess did not coin the term, but he spent his adult life proving its existence and drilling for it.

In his lecture, Hall reviewed the science on primary water, including the work of Steve Jacobsen, a geophysicist at Northwestern University.

Hall also reviewed the two main proofs of the existence of primary water. One is the volume of water that has been found in numerous drillings in areas where the hydrological cycle is too low to account for such plentiful water.

Another proof involves testing water for tritium, an isotope of hydrogen found in surface water. When water is tested and there is no tritium, it is assumed to be primary water, said Hall.

Shortly before his death in 1985, Riess was nominated by Christopher Bird, co-author of "The Secret Life of Plants," for The Right Livelihood Award, established in 1980 when the Nobel Prize committee declined to establish a prize in environmental science and protection. Unfortunately, Riess died before the selection jury gave full consideration. The book, "New Water for a Thirsty World," by Michael Salzman, is dedicated to Riess. WTI honored Riess for his life work in 1985.

Hall closed his lecture by explaining that drilling for water is a costly proposition that government entities are hard pressed to fund: At one point, Hall formed a company to locate primary water but was unable to get government contracts to drill for that water.

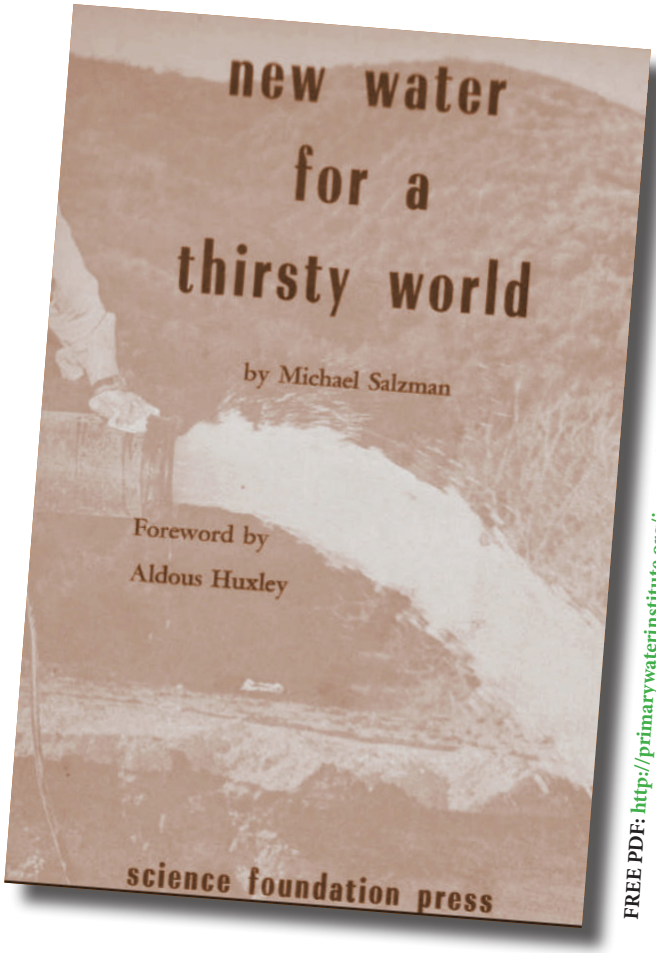
The day may come when primary water is more easily accessed, but for now, Hall recommends that people, especially in dry regions, treat water as a precious commodity that must be conserved and recycled. To learn more, see www.primarywaterinstitute.org, www.SchoolofSelf-Reliance.com.

FOREWARD

New Water for a Thirsty World

by Aldous Huxley

As a child, born into a rainy country and brought up in the midst of what at that time was advanced modern plumbing, I took water for granted. One turned a tap and water appeared. That was all there was to it. With foreign travel came the discovery that things weren't as simple as all that. I rented a delightful villa in the hills above Florence. What a paradise! But the pump that should have raised the bath water from a well in the courtyard stopped working and a little later, when the pump had been repaired, there was no water in the well. From one dry hole I moved on to a succession of vast dry regions. I crossed the deserts of Rajputana and what is now Pakistan. I visited the city of Bikaner, where the water supply is hoisted from deep wells by oxen harnessed to a rope at the other end of which is a leather bucket. Then came the deserts of the American Southwest, seen first at the end of a wet cycle, and later lived in during a prolonged drought which finally dried my well and the wells of most of my neighbors. No rain, no water in the wells. It stands to reason, doesn't it? But in some places there is no rain, and yet an unfailing abundance of water in the wells. At Nefta in the Sahara, at Jericho in the Jordan Valley, I saw things which, by all the rules of common sense, I had no right to be seeing. Nefta lies in a part of the desert where it rains on the average once every three or four years; for the rest of the time there is only wind and sunshine. But though no water falls from the sky, water comes pouring out of the ground—enough water to support a forest of date palms and a population, in that incredibly fertile oasis, of several thousands. And after Nefta, there was Jericho. Jericho is the site of the first walled city, built by a neolithic people thousands of years ago. And for thousands of years before that city was built, men had lived on what was to become its site. Jericho is and has always been, an island of greenery in the barren land. In a place where, by all the rules, there should be no water, a spring gushes out of the rock and has been gushing from time immemorial. From these two sets of object lessons I learned two significant facts about water; first and most obviously, that over vast expanses of the earth's surface, water is scarce or non-existent; and second (to my extreme puzzlement), that here and there water makes its appearance in places where it seemingly has no right to be present.



FREE PDF: http://primarywaterinstitute.org/images/pdfs/Salzman_book.pdf

Such was the extent of my knowledge when, some few years since, I first met Stephan Riess. After seeing a few of his wells spouting water from the solid granite at the rate of two or three thousand gallons a minute, and after listening to what he had to say about faults and fissures, about juvenile water and primary water, about hydrogen and oxygen coming together at high temperatures and under vast pressures in the bowels of the earth and rising, as H_2O towards the surface, wherever the crust was weak, I began to understand the mystery of Nefta and Jericho. And, I began at the same time to feel a little more hopeful about humanity's prospects for survival and a good life on this underwatered and soon to be overpopulated planet.

And now comes Michael Salzman's book. Jack of all trades and master of four or five, Salzman is one of those rare, indispensable men who refuse to confine themselves to a single academic pigeon-hole, but with systematic restlessness and a boundless curiosity, climb about on the woodwork between the specialists' insulated boxes, peering in now here, now there, and correlating the knowledge they extract

from each compartment into a comprehensive pattern that permits a better understanding of the artificially isolated facts and, along with a better understanding, the possibility of new and more fruitful kinds of action.

If Riess is right (and the proof of the pudding is in the eating—or rather, since we are dealing with water, in the drinking), and if Salzman has correctly stated the chemical and geological reasons why Riess finds water in places where orthodox hydrologists affirm that it cannot possibly exist, then clearly we must be prepared to make a number of revolutionary changes in our ideas and our policies. If brand new, primary water can be found near the place where it is to be used, then the building of huge dams to impound old waters, and the digging of long canals to lead the water to its place of use, will become completely unnecessary. Every reservoir behind a dam is bound, sooner or later, to silt up. By the time California has fifty million inhabitants and five or six times its present water needs, Lake Mead will be well on its way to becoming the world's largest beaver meadow, and the Feather River Project, after bankrupting the state, will be hard at work depositing mud.

If Riess and Salzman are right, the needs of California's future millions can best be supplied, not by inordinately expensive dams and aqueducts, but by drilling into faults and fractures for local sources of new primary water.

Again, if Riess and Salzman are right, it will be possible to use the applied science of tapping primary water in order to ease the political tensions and alleviate the chronic miseries of the Middle East and Africa. The high dam at Aswan will reach completion at a date when Egypt's population will have already outstripped the yield of the new lands which that future beaver meadow will have made fertile. How much quicker, cheaper and more efficient to start drilling for primary water in the rocks that shut in the Nile Valley! Time is everywhere against us and unless we can provide enough extra food in the desperate interim between present population explosion and future population stabilization, the social, economic and political consequences of death-control without birth-control are bound to be disastrous. The extra food can be produced most rapidly by supplying the vast dry areas of the earth with water; and this in turn can be done most rapidly by locating and exploiting those deep telluric sources which (if Riess and Salzman are right) are nearly ubiquitous and for all practical purposes inexhaustible.

And even in those regions where rain falls and rivers run, primary water may turn out to be useful and even indispensable. As population grows and technology advances, more and more water is consumed. And not only is more and more water consumed, more and more sources of water are polluted. To the chemical and excrementitious pollution with which we defile our rivers, lakes and beaches, there is now added regularly radio-active pollution. Dangerous even in peace time, such radioactive contamination might have the most appalling consequences during and after a war. In the years ahead, and for the inhabitants of densely populated and highly industrialized countries, sources of uncontaminated and uncontaminable water will become increasingly valuable.

For everybody's sake, let us hope that Riess and Salzman are right. Having seen some of Riess's wells and having now read the proofs of Salzman's book, I myself not merely hopeful, but feel pretty sure that they are right. It remains to be seen whether those who are now regarded as experts in the field of hydrology and the politicians whom they advise will also agree that a good case has been made and that large-scale experimentation is in order. Vested interests are of many kinds. There is the intellectual vested interest of those who have taken their doctorates in a science at a certain stage of its development, who have taught and applied that science at that particular stage, and who regard any questioning of the postulates underlying that science at that stage as a personal affront and a menace to their position in the Establishment. And then, of course, there are the more substantial vested interests of contractors who make money by selling concrete for dams and irrigation works, of bankers who make money by handling state and municipal bonds, of bureaucrats who, obeying Parkinson's Law, feel an urge to expand their departments and extend their authority, of politicians who find it prudent to say yes to powerful pressure groups. But even against vested interest truth (particularly if it be a useful truth) will ultimately prevail. How long is 'ultimately'? That is the question.

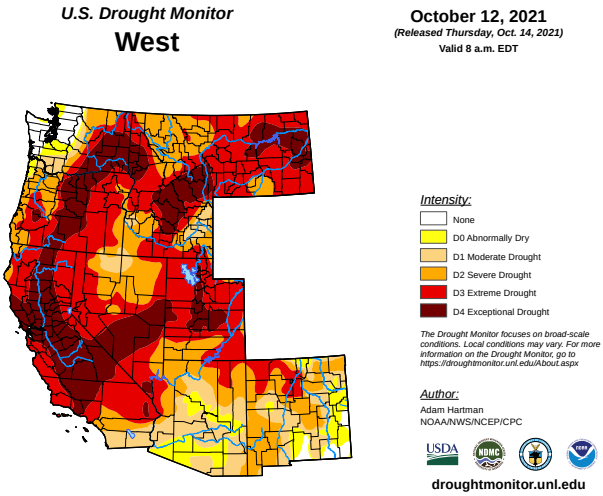
—Aldous Huxley

March 21,1960
Topeka, Kansas

While we've been distracted by Covid, lockdowns and vaccine mandates, farmers, ranchers and other Californians have been trying to sound the alarm re: how state officials have been draining our reservoirs, allowing much of the water to be drained out to sea. Remember that Oroville, Shasta and many of our state dams were full to capacity in 2019 (up to 5-year water reserves according to the state water experts) but much of that water has been denied to CA farmers and ranchers. We are considered the breadbasket of our country. Our food supplies are at critically low levels and farms are being paid not to grow.
Rose Taylor

A Sinister Agenda Behind California Water Crisis? Looming Food Supply Catastrophe

By F. William Engdahl
Global Research, June 12, 2021



In recent months a crisis situation in the USA food supply has been growing and is about to assume alarming dimensions that could become catastrophic. Atop the existing corona pandemic lockdowns and unemployment, a looming agriculture crisis as well ***could tip inflation measures to cause a financial crisis as interest rates rise.***

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The ingredients are many, but central is a severe drought in key growing states of the Dakotas and Southwest, including agriculture-intensive California. So far Washington has done disturbingly little to address the crisis and ***California Water Board officials have been making the crisis far worse by draining the state water reservoirs…into the ocean****.*

So far, the worst hit farm state is North Dakota which grows most of the nation's Red Spring Wheat. In the Upper Midwest, the Northern Plains states and the Prairie provinces of Canada winter brought far too little snow following a 2020 exceedingly dry summer. The result is drought from Manitoba Canada to the Northern USA Plains States. This hits farmers in the region just four years after a flash drought in 2017 arrived without early warning and devastated the US Northern Great Plains region comprising Montana, North Dakota, South Dakota, and the adjacent Canadian Prairies.

As of May 27, according to Adnan Akyuz, State Climatologist, ninety-three percent of the North Dakota state is in at least a Severe Drought category, and 77% of the state is in an Extreme Drought category. Farm organizations predict unless the rainfall changes dramatically in the coming weeks, the harvest of wheat widely used for pasta and flour will be a disaster. The extreme dry conditions extend north of the Dakota border into Manitoba, Canada, another major grain and farming region, especially for wheat and corn. There, the lack of rainfall and warmer-than-normal temperatures threaten harvests, though it is still early for those crops. North Dakota and the plains region depend on snow and rainfall for its agriculture water.

Southwest States in Severe Drought

While not as severe, farm states Iowa and Illinois are suffering "abnormally dry" conditions in 64% for Iowa and 27% for Illinois. About 55% of Minnesota is abnormally dry as of end May. Drought is measured in a scale from D1 "abnormally dry," D3 "severe drought" to D4, "exceptional drought."

The severe dry conditions are not limited, unfortunately, to North Dakota or other Midwest farm states. A second region of very severe drought extends from western Texas across New Mexico, Colorado, Arizona, Nevada and deep into California. In Texas 20% of the state is in "severe drought," and 12% "extreme drought." Nearly 6% of the state is experiencing "exceptional drought," the worst. New Mexico is undergoing 96% "severe drought," and of that, 47% "exceptional drought."

California Agriculture is Vital

The situation in California is by far the most serious in its potential impact on the supply of agriculture products to the nation. There, irrigation and a sophisticated water storage system provide water for irrigation and urban use to the state for their periodic dry seasons. Here a far larger catastrophe is in the making. A cyclical drought season is combining with literally criminal state environmental politics, to devastate agriculture in the nation's most important farm producing state. It is part of a radical Green Agenda being advocated by Gov. Gavin Newsom and fellow Democrats to dismantle traditional agriculture, as insane as it may sound.

Few outside California realize that the state most known for Silicon Valley and beautiful beaches is such a vital source of agriculture production. California's agricultural sector is the most important in the United States, leading the nation's production in over 77 different products including dairy and a number of fruit and vegetable "specialty" crops. The state is the only producer of crops such as almonds, artichokes, persimmons, raisins, and walnuts. California grows a third of the country's vegetables and two thirds of the country's fruits and nuts. It leads all other states in farm income with77,500 farms and ranches. It also is second in production of livestock behind Texas, and its dairy industry is California's leading commodity in cash receipts. In total, 43 million acres of the state's 100 million acres are devoted to agriculture. In short what happens here is vital to the nation's food supply.

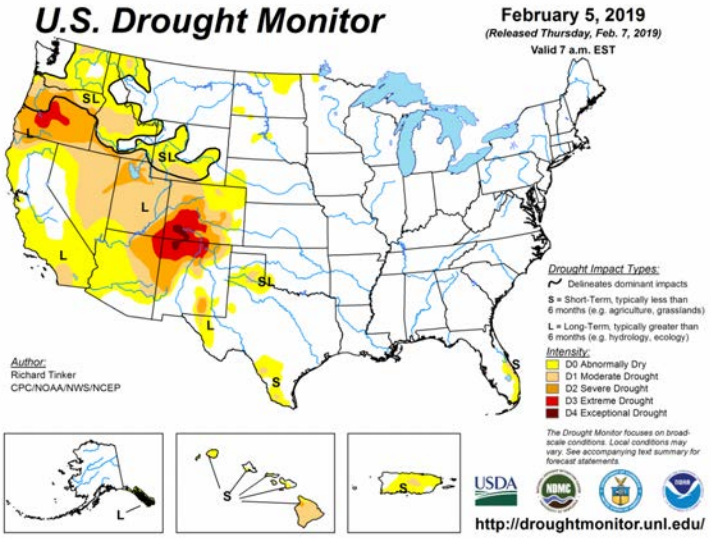
California Crisis Manmade: Where has the water gone?

The water crisis in California is far the most serious in terms of consequences for the food supply, in a period when the US faces major supply chain disruptions owing to absurd corona lockdowns combined with highly suspicious hacks of key infrastructure. On May 31, the infrastructure of the world's largest meat processor, JBS SA, was hacked, forcing the shutdown of all its US beef plants that supply almost a quarter of American beef.

The Green lobby is asserting, while presenting no factual evidence, that Global Warming, i.e. increased CO2 manmade emission, is causing the drought. The NOAA examined the case and found no evidence. But the media repeats the narrative to advance the Green New Deal agenda with frightening statements such as claiming the drought is, "comparable to the worst mega-droughts since 800 CE."

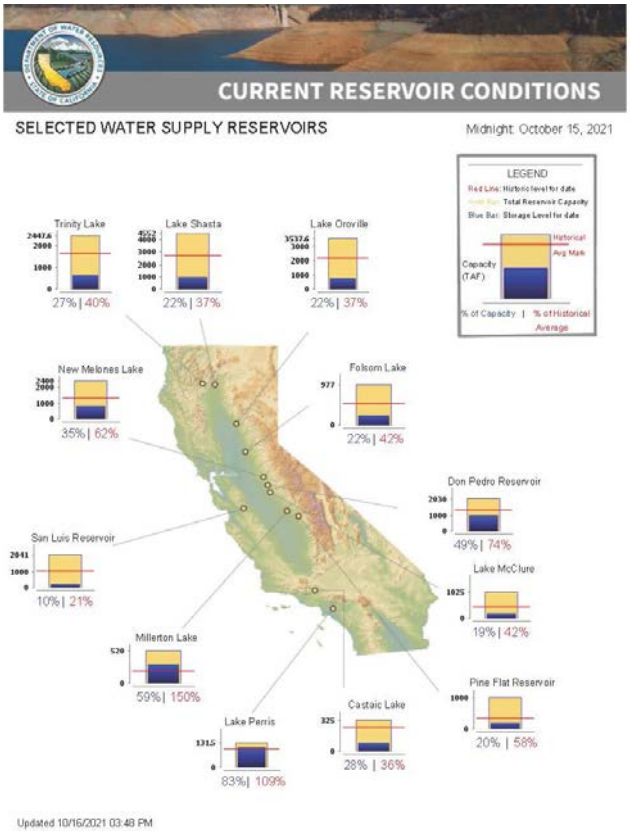
After 2011, California underwent a severe seven-year drought. **The drought ended in 2019 as major rains filled the California reservoir system to capacity. According to state water experts the reservoirs held enough water to easily endure at least a five-year drought.** Yet two years later, the administration of Governor Newsom is declaring a new drought and threatening emergency measures. What his Administration is not saying is that the **State Water Board and relevant state water authorities have been deliberately letting water flow into the Pacific Ocean**. Why? They say to save two endangered fish species that are all but extinct—one, a rare type of Salmon, the second a Delta Smelt, a tiny minnow-size fish of some 2" size which has all but disappeared.

In June 2019 Shasta Dam, holding the state's largest reservoir as a keystone of the huge Central Valley Project, was full to 98% of capacity. Just two years later in May 2021 Shasta Lake reservoir held a mere 42% of capacity, almost 60% down. Similarly, in June 2019 Oroville Dam reservoir, the second largest, held water at 98% of capacity and by May 2021 was down to just 37%. Other smaller reservoirs saw similar drops. Where has all the water gone?



Allegedly to "save" these fish varieties, during just 14 days in May, according to Kristi Diener, a California water expert and farmer, "90% of (Bay Area) Delta inflow went to sea. It's equal to a year's supply of water for 1 million people." Diener has been warning repeatedly in recent years that water is unnecessarily being let out to sea as the state faces a normal dry year. She asks, "Should we be having water shortages in the start of our second dry year? No. Our reservoirs were designed to provide a steady five year supply for all users, and were filled to the top in June 2019."

In 2008, at the demand of environmental groups such as the NRDC, a California judge ordered that the Central Valley Water project send 50% of water reservoirs to the Pacific Ocean to "save" an endangered salmon variety, even though the NGO admitted that no more than 1,000 salmon would likely be saved by the extreme measure. In the years 1998-2005 an estimated average of 49% of California managed water supply went to what is termed the "environment," including feeding into streams and rivers, to feed estuaries and the Bay Area Delta. Only 28% went directly to maintain agriculture water supplies.



This past January Felicia Marcus, the chair of the California State Water Resources Control Board, who oversaw the controversial water policies since 2018, left at the end of her term to become an attorney for the Natural Resources Defense Council (NRDC) one of the most powerful green NGO's, with a reported $400 million in resources to wage legal battles to defend "endangered species" such as the California salmon and the Delta Smelt.

Appointed by green Gov. Jerry Brown as chair of the State Water Board in 2018, Marcus is directly responsible for the draining of the reservoirs into the ocean after they filled in 2019, using the claim of protecting endangered species. In March 2021 with Marcus as attorney, the NRDC requested that the State Water Resources Control Board Marcus headed until recently, take "immediate action" to address perceived threats to listed salmon in the Sacramento River watershed from Central Valley Project ("CVP") operations. This as the state is facing a new drought emergency?

In 2020 Gov. Gavin Newsom, a protégé of Jerry Brown, signed Senate Bill 1, the California Environmental, Public Health and Workers Defense Act, which would send billions of gallons of water out to the Pacific Ocean, ostensibly to save more fish. It was a cover for manufacturing the present water crisis and specifically attacking farming, as incredible as it may seem.

Target Agriculture

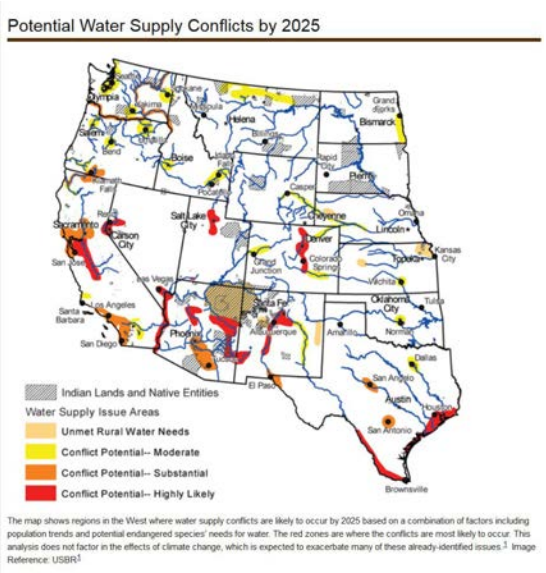
The true agenda of the Newsom and previous Brown administrations is to radically undermine the highly productive California agriculture sector. Gov. Newsom has now introduced an impressive-sounding $5.1 billion Drought Relief bill. Despite its title, nothing will go to improve the state reservoir water availability for cities and farms. Of the total, $500 million will be spent on incentives for farmers to "re-purpose" their land, that is to stop farming. Suggestions include wildlife habitat, recreation, or solar panels! Another $230 million will be used for "wildlife corridors and fish passage projects to improve the ability of wildlife to migrate safely." "Fish passage projects" is a clever phrase for dam removal, destroying the nation's most effective network of reservoirs.

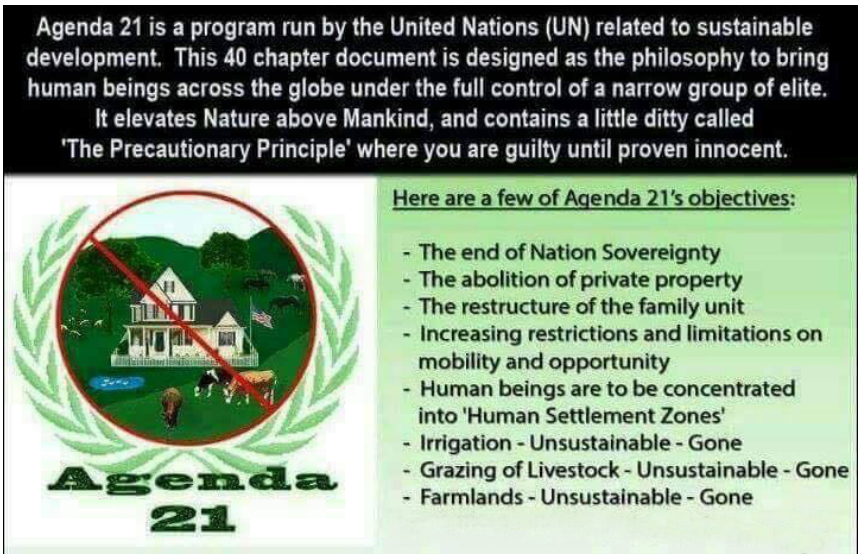
Then the Newson bill allocates $300 million for the Sustainable Groundwater Management Act implementation, a 2014 law from Jerry Brown amid the previous severe drought to prevent farmers in effect from securing water from drilling wells. The effect will be to drive more farmers off the land. And another $200 million will go to "habitat restoration," supporting tidal wetland, floodplains, and multi-benefit flood-risk reduction projects—a drought package with funding for floods? This is about recreating flood plains so when they demolish the dams, the water has someplace to go. The vast bulk of the $500 billion is slated to reimburse water customers from the previous 2011-2019 drought from higher water bills, a move no doubt in hopes voters will look positively on Newsom as he faces likely voter recall in November.

The systematic dismantling of one of the world's most productive agriculture regions, using the seductive mantra of "environmental protection," fits into the larger agenda of the Davos Great Reset and its plans to radically transform world agriculture into what the UN Agenda 2030 calls "sustainable" agriculture—no more meat protein. The green argument is that cows are a major source of methane gas emissions via burps. How that affects global climate no one has seriously proven. Instead we should eat laboratory-made fake meat like the genetically-manipulated Impossible Burger of Bill Gates and Google, or even worms. Yes. In January the EU European Food Safety Agency (EFSA), approved mealworms , or larvae of the darkling beetle, as the first "novel food" cleared for sale across the EU.

***F. William Engdahl** is strategic risk consultant and lecturer, he holds a degree in politics from Princeton University and is a best-selling author on oil and geopolitics, exclusively for the online magazine "New Eastern Outlook". F. William Engdahl is a Research Associate of the Centre for Research on Globalization (CRG)*

www.globalresearch.ca/a-sinister-agenda-behind-california-water-crisis-looming-food-supply-catastrophe/5747504





To: Stephan Riess

For demonstrating his firm belief in democracy, individual initiative, free enterprise, and the need for open minds to the end that all men may be truly free to think and solve the great problems of their times.

Michael Salzman,
New Water for a Thirsty World.

Photo of pump testing at the Yucaipa well site, January 23, 1960.

Left to right, Michael H. Salzman, Stephan Riess and James G. Scott

Download a free digital PDF copy of *New Water for a Thirsty World*
www.primarywaterinstitute.org/images/pdfs/Salzman_book.pdf

Lawrence Anthony
EARTH ORGANIZATION
BECAUSE NONE SURVIVE ALONE

THE EARTH ORGANIZATION AND AQUATERREX
ADVANCING THE SCIENCE OF ALTERNATIVE WATER LOCATION

The Problem

Our planetary ecosystems are under constant disruption and stress through the broad-scale, unsustainable management and rechanneling of the natural courses of surface water.

We are polluting and depleting the world's limited supply of fresh water in surface and shallow aquifers through mismanagement and over-extraction. The all-too-often excessive and poorly planned withdrawal of relatively shallow groundwater is resulting in the imbalance of planetary life support systems.

And a common story all over the world is that ineffective techniques for siting where to drill are costing companies and communities dearly. In South Africa, for instance, a large city government, desperate to provide water to its residents with only one month's supply left in local reservoirs, invested millions of dollars to expand their water resources. With only a 30% location success rate, they drilled hundreds of expensive and bone-dry bores.

The Earth Organization – (www.TheEarthOrganization.org)

The Earth Organization (also known as the Lawrence Anthony Earth Organization (or LAEO)) is an international non-profit whose purpose is to identify and implement rational, science-based solutions to large-scale environmental challenges. One of its most vital missions is to bring about more constructive decision making related to humankind's interaction with the natural world. In 2014, the theory of Primary Water came to the notice of LAEO staff. If it proved to be true, the revolutionary concept that most of the world's water is made by the Earth at the magma level, held enormous promise for supplementing the world's water supplies. LAEO quickly established a water science research team to aggregate and evaluate all that could be found of existing know-how on Primary Water exploration and related subjects.

Australian DSW Drilling Project for farmer

Recognizing the urgent need to address desertification through better water and soil management practices, LAEO has been working since 2013 **to expand alternative water supplies to take stress off overdrawn rivers and shallow ground water resources through accessing alternative, deep-seated water.** They have tackled the problem of how to gain access to pollution-free water supplies for agricultural communities to help boost food production and help to bring about a healthier water ecosystem.

The Earth Organization's History with Primary Water

While in modern times, tremendous amounts of money, time, and effort have been dedicated to the control and management of surface water, in addition to drilling the majority of wells into shallow aquifers[1], many water-management practices have now proven unsustainable.

However, a few independent thinking water explorers have proven that vast groundwater resources exist that were either previously undetected or thought to be fossil[2], nonrenewable, and/or inaccessible. Whether these resources are coming up from the magma layer of the planet, or are ancient reservoirs covered up by time, or traveling through deep, geologic pathways from some great distance, LAEO adopted a name for these alternative water resources (waters that are outside the hydrologic cycle[3]) – "Deep Seated Water".

Having the original intent to help Pal Pauer's Primary Water Institute with its educational purposes, LAEO staff observed the need to collect and formalize as much water wisdom as possible to ensure the existing know-how would not become a lost technology. They searched historical libraries in both California and Europe, sent scientists to study Primary Water wells drilled by Reiss and his proteges, and two of LAEO's staff spent a month in Tanzania to observe Global Resource Alliance's Primary Water well drilling operations that, at the time, were being overseen by Pauer's apprentices, all in an effort to help document and codify the early work done by these courageous water pioneers.

LAEO's Bill Roncali and Brent Wolfson in Tanzania

After spending four years digging deep for complete documentation and case history records to support the Primary Water hypothesis, they reached several dead ends in trying to find complete records, and so, LAEO changed course.

Australian-born research scientist Robert Gourlay came to their notice in 2016 as the first still-living individual they had located who was not only well versed in ancient lifeways knowledge as well as the modern-day Earth sciences, but who was also familiar with the Primary Water theory. In support of LAEO's purpose to preserve and advance cutting-edge water locating methods, and to see them successfully implemented around the world, Gourlay offered to transfer his knowledge to the non-profit. LAEO subsequently set up a base in Australia to conduct an R&D and water exploration technology acquisition project.

As Director of the Environmental Research & Information Consortium (ERIC, Pty Ltd.) in Australia, Gourlay is known for having spearheaded major advancements in geospatial[4,5] analysis methods and ground-truthing[6] techniques in the 1990s. LAEO's team worked at Gourlay's remote research facility in the Mongarlowe River region of New South Wales for over six months to make complete records of the unique systems he developed, and subsequently worked side-by-side with him in several water exploration projects. LAEO wanted to ensure that Gourlay's decades of experience at locating water for drought-stressed farmers and his critical water location advancements were never lost.

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1. **aquifer**: an underground body of permeable rock, sediment, or soil, which can contain or transmit groundwater.
2. **Fossil water** is an ancient body of water that has been contained in some undisturbed space, typically deep and confined groundwater, for millennia.
3. **hydrologic cycle**: the natural sequence of water passing into the atmosphere as water vapor, then precipitating to earth in liquid or solid form (rain, snow, ice), and ultimately returning to the atmosphere again through evaporation.
4. **Geospatial**: defined here to mean a broad spectrum of data and information associated with and about a particular location on Earth.
5. **Spatial**: having to do with a space or area.
6. **Ground truthing**: a term used in cartography, meteorology, analysis of aerial photographs, satellite imagery and a range of other remote analysis techniques in which data are gathered at a distance. Ground truthing refers to information that is collected "on location." In remote sensing, this is especially important in order to relate image data to real features and materials on the actual site.

The LAEO team recorded and documented this invaluable know-how, employing the latest high-tech GIS[7] tools and studying ERIC's early GIS algorithm developments.

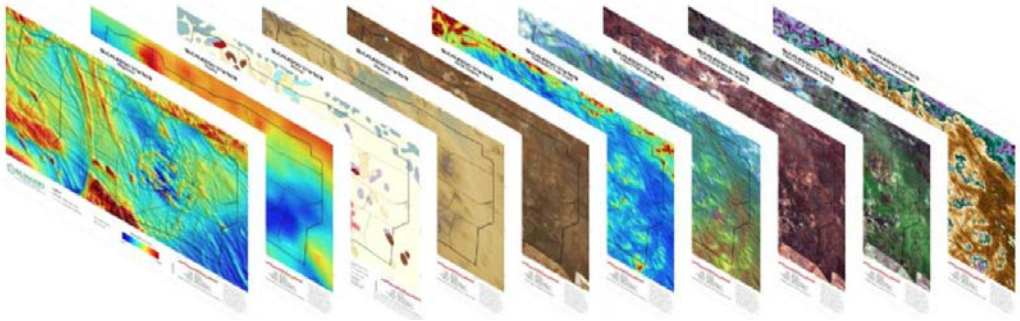
LAEO has been proud to serve with and recognize the many pioneers and innovators in water exploration who deserve the world's gratitude for their determination and hard work.

ADVANCING THE DEEP SEATED WATER TECHNOLOGY

After completing the tech acquisition project in Australia, the LAEO research group[8] have further advanced the work into a unique, multicomponent system that spans several different fields of science and engineering technology. Their developments effectively reduce the risk involved in locating alternative sources of water to a near 100% success rate.

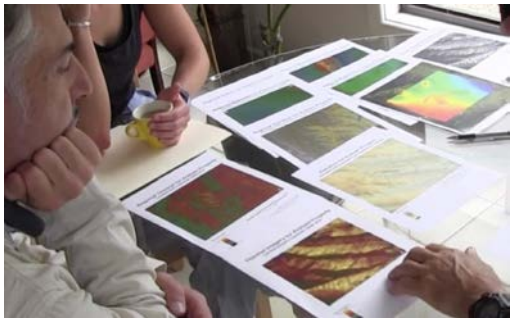
The basic steps are:

1. The acquisition of remotely-sensed, geospatial data acquired via satellites and airborne geophysical surveys. This includes satellite imagery, magnetic, gravity, gamma-ray (radiometric), and digital elevation datasets. Available data varies by region, but higher resolution data results in significantly better target detection.



Remotely sensed, geospatial data maps of a rancher's land

2. The processing, integration, and analysis of these data sets in geographic information software (GIS) systems with proprietary techniques. These unique methodologies allow for the detection of shallow and deep groundwater systems and result in identified areas of interest for field surveys.



A step in the analysis process using proprietary techniques

3. **On-site observation** – A field survey is conducted to verify and validate the findings of the remote analysis, allowing for the accurate identification of exact locations for bore sites (within 1 meter). The combination of remote analysis and on-ground survey information greatly improves the chances of obtaining water and significantly lowers the risk of drilling dry boreholes.

Clark Carr, Dr. Tigran Sadoyan, and Arlin Howles

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[7] **GIS**: Geographic Information System - a computer-based system to analyze and present spatial data.

[8] LAEO's Senior Managing Director of Operations Diane Wagenbrenner-Stivey, LAEO's Deputy Managing Director of Field Operations Clark Carr, LAEO's Senior Geohydrologist Dr. Tigran Sadoyan, and LAEO's Chief Geohydrologist Arlin Howles

4. Drilling the well. In many cases, this requires drilling rigs with a capacity to drill through hard rock. Although many bore holes may be shallower, the drill rig should have a capacity to at least 400 meters.

Diane Wagenbrenner-Stivey observing drilling operations

LAEO's R&D objective is to produce codified materials to form and legitimize this still-new genre of geohydrology science and to train DSW Tech specialist teams to provide the most efficient methods for finding these alternative sources of water.

While formalizing compilations of their advancements, LAEO partners with for-profit enterprises to export water solutions globally. AquaterreX, LLC (www.AquaterreX.com) is LAEO's principal partner. While LAEO continues to conduct both R&D water location projects to advance the science, as well as philanthropic water location projects, LAEO works very closely with AquaterreX to utilize Deep Seated Water Tech™ on projects mainly focusing on the U.S., South Africa, the Middle East and Australia.

The Lawrence Anthony Earth Organization (LAEO) is an international non-profit co-founded in 2003 by world renowned conservationist Dr. Lawrence Anthony and international humanitarian Barbara Wiseman. Dedicated to bringing about more constructive and rational decision making in humanity's relationship to the natural world, their many chapters have taken on a wide variety of issues such as wildlife rescue and protection, removal of chemical pollutants in our waters, and habitat restoration.

Dr. Lawrence Anthony

Barbara Wiseman

One principle that sets LAEO apart is the understanding that, for a solution to truly be a workable, long-term answer, it must take into consideration and benefit all the stakeholders involved in any situation, including people, commerce, industry, jobs, plants and animals, etc; not just a single aspect of the problem or a particular species. To accomplish this, issues are thoroughly investigated to identify their factual source, and then solutions are carefully found and implemented that won't end up being the next problem to be solved. The end results are much improved conditions through a method of approach they call "Cooperative Ecology™."

CoEco™
Cooperative Ecology

For more information, contact:
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"Hidden" Source of Supplemental Groundwater Revealed at AGWT Conference

As Drought Continues to Ravage the West US, AquaterreX CEO Discusses It Is Time to Tap the "Hidden" Source of Water

AquaterreX, LLC (www.aquaterrex.com) is a global environmental services organization with a mission to broadly implement effective water and food security solutions. Recently, AquaterreX CEO James D'Arezzo and Senior Hydrogeologist Arlin Howles spoke at the non-profit American Ground Water Trust's (AGWT) New Mexico Groundwater Conference and introduced technology to locate alternative sources of groundwater in even the most arid and unlikely regions. As exceptional drought continues to plague the western United States, there is a growing demand for a solution.

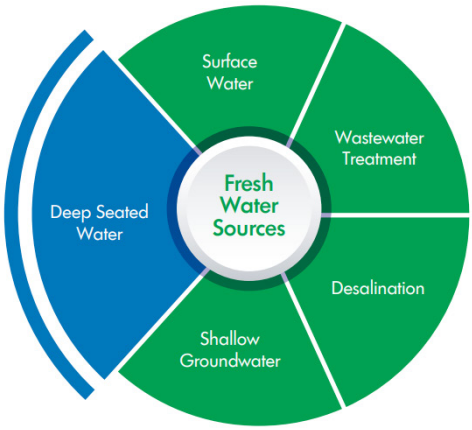
"The fact is, there is no shortage of water," said D'Arezzo. "The US National Groundwater Association estimates that there are 22.6 million cubic kilometers of groundwater in the upper two kilometers of the earth's crust (a cubic kilometer of water is about 264 billion gallons). Global water usage is just 3,717 cubic kilometers per year. That means there is enough water to supply Earth for over 6,000 years at today's global consumption rates. Tapping just 10% would supply the planet for 600 years."

"Vast amounts of fresh water are available in deeper aquifers located below the shallow aquifers that supply nearly all of the world's groundwater," said hydrogeologist Arlin Howles. "The trick is how to locate this "Deep Seated Water" that has been hidden from view."

At the American Ground Water Trust's New Mexico Groundwater Conference, D'Arezzo said that with the extraordinary drought that is threatening the health and livelihood of tens of millions of people in the Southwest, and indeed billions of people around the world, "It is time to utilize this abundant, supplemental source of fresh water. It is the Missing Piece in any water strategy."

To combat this extreme drought, AquaterreX, LLC has introduced technology that includes satellite imagery, advanced Multicomponent Spatial Analysis, and proprietary algorithms that enable the company to locate Deep Seated Water with near 100% accuracy. "There are sustainable sources of water that collect and recharge in the deeper aquifers from vast drainage basins through subsurface inflows and outflows," said Howles. "With this technology, we are able to locate the near-surface underground channels and pathways to deeper aquifers so that we can reach this water economically without drilling wells many thousands of feet deep," said D'Arezzo.

- Supplemental Freshwater Source
- Not subject to Pollution
- Allows Shallow Aquifers to Recharge
- Allows Surface Water to Recharge
- Delivers Water Security
- Economical, Scalable
- Fast and Easy to Implement



Deep Seated Water is the Missing Piece for any water strategy

At the conference, it was discussed how contamination-free water supply and management have become a major challenge for nations, communities, and enterprises. Many water strategies focus on conservation, rather than additional supply. Other solutions such as desalination and wastewater treatment are potential answers for some, but they also come with trade-offs such as high cost, high energy usage, long planning periods, and toxic waste. Deep Seated Water is located almost everywhere on the planet, and it can be added to the mix of solutions as a supplemental freshwater source that is not subject to pollution, is fast and easy to implement, and is economical and scalable. In addition, tapping Deep Seated Water allows both surface water and shallow aquifer sources to recharge, making the total system more environmentally sustainable.

About American Ground Water Trust

The Mission of the American Ground Water Trust is to: Communicate the environmental and economic value of groundwater, promote efficient and effective groundwater management, showcase groundwater science and technology solutions, increase citizen, community and decision-maker awareness, and facilitate stakeholder participation in water resource decisions.

About AquaterreX

The name AquaterreX comes from the Latin, aqua (water) and French, terre (earth, land) which is a derivative of the Latin, terra, and "X" for exploration. Thus, AquaterreX encompasses water and land solutions for the planet.

The company possesses proprietary technology to locate Deep Seated Water, which is fresh water situated below the shallow groundwater that supplies the majority of fresh water on the planet. This vast new source of water can help solve the water crisis facing billions of people.

In 2018, AquaterreX partnered with the science-based, non-profit The Earth Organization (also known as Lawrence Anthony Earth Organization) in support of its humanitarian efforts to bring effective resolution to environmental issues. Since then, a series of enhancements have been made to further improve the accuracy and capability of the Deep Seated Water Technology.

www.TheEarthOrganization.org, www.aquaterrex.com/deep-seated-water

California Water Wars: Another Form of Asset Stripping?

By Ellen Brown
Global Research, March 26, 2015

In California's epic drought, wars over water rights continue, while innovative alternatives for increasing the available water supply go untapped.

Wars over California's limited water supply have been going on for at least a century. Water wars have been the subject of some vintage movies, including the 1958 hit The Big Country starring Gregory Peck, Clint Eastwood's 1985 Pale Rider, 1995's Waterworld with Kevin Costner, and the 2005 film Batman Begins. Most acclaimed was the 1975 Academy Award winner Chinatown with Jack Nicholson and Faye Dunaway, involving a plot between a corrupt Los Angeles politician and land speculators to fabricate the 1937 drought in order to force farmers to sell their land at low prices. The plot was rooted in historical fact, reflecting battles between Owens Valley farmers and Los Angeles urbanites over water rights.

Today the water wars continue on a larger scale with new players. It's no longer just the farmers against the ranchers or the urbanites. It's the people against the new "water barons" – Goldman Sachs, JPMorgan Chase, Monsanto, the Bush family, and their ilk – who are buying up water all over the world at an unprecedented pace.

A Drought of Epic Proportions

At a news conference on March 19, 2015, California Senate President Pro Tem Kevin de Leon warned, "There is no greater crisis facing our state today than our lack of water."

Jay Famiglietti, a scientist with NASA's Jet Propulsion Laboratory in La Cañada Flintridge, California, wrote in the Los Angeles Times on March 12th:
Right now the state has only about one year of water supply left in its reservoirs, and our strategic backup supply, groundwater, is rapidly disappearing. California has no contingency plan for a persistent drought like this one (let alone a 20-plus-year mega-drought), except, apparently, staying in emergency mode and praying for rain.

Maps indicate that the areas of California hardest hit by the mega-drought are those that grow a large percentage of America's food. California supplies 50% of the nation's food and more organic food than any other state. Western Growers estimates that last year 500,000 acres of farmland were left unplanted, an amount that could increase by 40% this year. The trade group pegs farm job losses at 17,000 last year and more in 2015.

Farmers with contracts from the Central Valley Project, a large federal irrigation system, will receive no water for the second consecutive year, according to preliminary forecasts. Cities and industries will get 25 percent of their full contract allocation, to ensure sufficient water for human health and safety. Besides shortages, there is the problem of toxic waste dumped into water supplies by oil company fracking. Economists estimate the cost of the drought in 2014 at $2.2 billion.

No Contingency Plan

The massive Delta water tunnel project, designed to fix Southern California's water supply problems by siphoning water from the north, was delayed last August due to complaints from Delta residents and landowners. The project remains stalled, as the California Department of Water Resources reviews some 30,000 comments. When or if the project is finally implemented, it will take years to complete, at an estimated cost of about $60 billion including financing costs.

Meanwhile, alternatives for increasing the water supply rather than fighting over limited groundwater resources are not being pursued. Why not? Skeptical observers note that water is being called the next commodity boom. Christina Sarich, writing on NationOfChange.org, asserts:
Numerous companies are poised to take advantage of the water crisis. Instead of protecting existing water supplies, implementing stricter regulations, and coming up with novel ways to capture rainwater, or desalinizing seawater, the corporate agenda is ready, like a snake coiled, to make trillions off your thirst.

These coiled snakes include Monsanto and other biotech companies, which are developing drought-resistant and aluminum-resistant seeds set to take over when the organic farmers throw in the towel. Organic dairy farmers and ranchers have been the hardest hit by the drought, since the certified organic pasture on which their cows must be fed is dwindling fast.

Some critics suggest that, as in Chinatown, the drought itself is man-made, triggered not only by unprecedented carbon emissions but by "geo-engineering" – spraying the skies with aluminum and other particulates, ostensibly to shield the earth from global warming (though there may be other motives). On February 15, 2015, noted climate scientist Ken Caldeira of the Carnegie Institute for Science at Stanford asserted that geo-engineering was the only way to rapidly cool the earth. He said:

A small fleet of airplanes could do what large volcanos do — create a layer of small particles high in the atmosphere that scatters incoming sunlight back to space. Cooling the Earth this way, could be fast, cheap and easy.

That technique also suppresses rainfall. According to U.S. patent #6315213, filed by the US military on November 13, 2002:

The polymer is dispersed into the cloud and the wind of the storm agitates the mixture causing the polymer to absorb the rain. This reaction forms a gelatinous substance which precipitate to the surface below. Thus, diminishing the cloud's ability to rain.

Suspicious observers ask whether this is all part of a larger plan. Christina Sarich notes that while the state thirsts for water, alternatives for increasing the water supply go untapped: Chemical Engineers at MIT have indeed figured out how to desalinate water – electrodialysis having the potential to make seawater potable quickly and cheaply, but without removing other contaminants such as dirt and bacteria. There are inexpensive nanotech filters that can clean hazardous microbes and chemicals from drinking water. Designer Arturo Vittori believes the solution to the water catastrophe lies not in high technology but in a giant basket that collects clean drinking water from condensation in the air.

Tapping Underground Seas

Another untapped resource is California's own "primary" water — water newly produced by chemical processes within the earth that has never been part of the surface hydrological cycle. Created when conditions are right to allow oxygen to combine with hydrogen, this water is continually being pushed up under great pressure from deep within the earth and finds its way toward the surface where there are fissures or faults. This water can be located everywhere on the planet. It is the water flowing in wells in oases in the desert, where there is neither rainfall nor mountain run-off to feed them.

A study reported in Scientific American in March 2014 documented the presence of vast quantities of water locked far beneath the earth's surface, generated not by surface rainfall but from pressures deep within. The study confirmed "that there is a very, very large amount of water that's trapped in a really distinct layer in the deep Earth… approaching the sort of mass of water that's present in all the world's oceans."

In December 2014, BBC News reported the results of a study presented at the fall meeting of the American Geophysical Union, in which researchers estimate there is more water locked deep in the earth's crust than in all its rivers, swamps and lakes together. Japanese researchers reported in Science in March 2002 that the earth's lower mantle may store about five times more water than its surface oceans.

Dramatic evidence that earthquakes can release water from deep within the earth was demonstrated last August, when Napa was hit with a 6.0 quake. Solano County suddenly enjoyed a massive new flow of water in local creeks, including a reported 200,000 gallons per day just from Wild Horse Creek. These increased flows are still ongoing, puzzling researchers who have visited the area.

Where did this enormous waterflow come from? If it were being released from a shallow aquifer, something would have to replace that volume of withdrawal, which was occurring at the

rate of over 1,000 gallons per minute – over 10 times the pre-quake flow. Massive sinkholes or subsidence would be expected, but there were no such reports. Evidently these new waters were coming from much deeper sources, released through crevices created by the quake.

So states Pal Pauer of the Primary Water Institute, one of the world's leading experts in tapping primary water. After decades of primary water studies and successful drilling projects, Pauer has demonstrated that this abundant water source can be accessed to supplement our current water supply. *Primary water may be tapped directly, or it may be found commingled with secondary water (e.g. aquifers) fed from atmospheric sources. New sophisticated techniques using airborne geophysical and satellite data allow groundwater and primary water to be located in rock through a process called "fracture trace mapping," in which large fractures are identified by thorough analysis of the airborne and satellite data for exploratory drilling.*

Pauer maintains that *a well sufficient to service an entire community could be dug and generating great volumes of water in a mere two or three days, at a cost of about $100,000. The entire state of California could be serviced for about $800 million – less than 2% of the cost of the very controversial Delta water tunnels – and this feat could be accomplished without robbing the North to feed the South.*

The Water Wars Continue

California officials have been unresponsive to such proposals. Instead, the state has undertaken to regulate underground water. In September, a trio of bills were signed establishing a framework for statewide regulation of California's underground water sources, marking the first time in the state's history that groundwater will be managed on a large scale. Water has until now been considered a property right. The Los Angeles Times reported:
Many agriculture interests remain staunchly opposed to the bill. Paul Wenger, president of the California Farm Bureau Federation, said the bills "may come to be seen as 'historic' for all the wrong reasons" by drastically harming food production.

. . . "There's really going to be a wrestling match over who's going to get the water," [Fresno Assemblyman] Patterson said, predicting the regulation plans will bring a rash of lawsuits.
And so the saga of the water wars continues. The World Bank recently adopted a policy of water privatization and full-cost water pricing. One of its former directors, Ismail Serageldin, stated, *"The wars of the 21st century will be fought over water."*
In the movie Chinatown, the corrupt oligarchs won. The message seemed to be that right is no match against might. But armed with that powerful 21st century tool the Internet, which can generate mass awareness and coordinated action, right may yet prevail.

Ellen Brown is an attorney, founder of the Public Banking Institute, and author of twelve books including the best-selling Web of Debt. Her latest book, The Public Bank Solution, explores successful public banking models historically and globally. Her 300+ blog articles are at Ellen-Brown.com. *http://www.globalresearch.ca/california-water-wars-another-form-of-asset-stripping/5438835*

Well worth it: Local residents raise funds for clean water, education projects in Kenya

Lisa André Landre, Santa Ynez Valley News
Jul 19, 2019 Updated May 18, 2021, Updated November 5, 2021

Chief Joseph of Inchurra Maasai village poses for a photo with Evie Treen in Kenya

Jackie Abudd and Evie Treen.

For the past 30 years Goleta resident Evie Treen, a retired — but still volunteering — Santa Barbara County Sheriff's Office employee, has made it her life's mission to bring fresh water, education and better sanitation to rural villages in Kenya, and with the help of community members like Santa Ynez Valley resident Jackie Abudd, that vision is quickly being realized.

On Saturday, July 27, from 1 to 8 p.m., Abudd hosted "Fandango at the Ranch," a fundraising event for Friends of Woni International, a nonprofit organization founded by Treen that supports small villages in Africa without water and other basic necessities.

The event aimed to raise $56,000 in order to begin forward progress on two important projects: building a fourth water well in Salama, Kenya, and beginning construction on a state-of-the-art girls and boys dormitory bathroom, which will replace the outhouses they currently use.

Abudd, also a foundation board member, will host the fundraiser at her family's 5-acre ranch, Hacienda Amador, in Santa Ynez. And she planed to pull out all the stops.

"I recently went to one of Evie's fundraising events and really understood what the need was," she said. "I dreamt it up and decided we're going to do 'Fandango at the Ranch.'"

The girls dormitory under construction.

How a well is built

Building a water well requires excavation or a structure to be created in the ground by digging, driving, or drilling to access groundwater in underground aquifers, or drilling through rock to assess primary water.

The well water is drawn up by a pump, or using containers, such as buckets, that are raised mechanically or by hand.

Upon meeting the passionate founder, according to the hostess, both Treen's commitment and the mission of Friends of Woni International spoke to her.

"When you meet her, she's a tiny little thing. I'm 5-foot-2 and I tower over her," Abudd said. "She's full of energy and is really passionate — it's contagious. She's a firecracker!"

After giving a sizable donation, Abudd said, the foundation was able to finish the girls' high school dormitory this past February.

"The more you know, the more you want to help out," she said.

Building for Kenya

The girls' dormitory — costing $120,000 to build — at Kyaani High School broke ground in February 2017, according to Treen, and due to inclement weather took two years to build.

The dormitory, which Treen confessed would have taken years to fundraise for had it not been for the generous donation of Abudd and others, now houses 85 high school girls, who would have otherwise had to walk miles in the dark, risking their lives, to get an education.

"The girls don't have to walk to school anymore — in the heat or in harm's way," Treen explained. "Most of them had to walk miles in order to get to school.

And of course, keeping girls in high school — and even boys for that matter — is a chore, because their normal high school was over 10 miles away. And they don't own cars or bicycles."

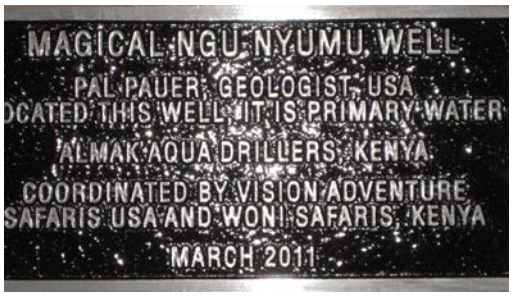
Not only does Kyaani High School, located in rural Ngunyuna, Kenya, now have a dorm but also a water well, as of 2016, powered by solar pumps funded by the Rotary Club of Santa Barbara North.

At the same time the Santa Barbara Wine Country Half Marathon was taking place Saturday morning, a half marathon of another kind was in motion…

"All I try to do is put the word out and beg," Treen said wistfully of her never-ending fundraising efforts.

To build a 400- to 600-foot-deep water well, Treen explained, costs on average $60,000 to $70,000, which includes a professional geologist, soil analysis, drilling equipment and solar technology to drive the water pump — and that's if all goes as planned.

"The government over there doesn't do a whole lot for the local people unless you live in town; then you have running water and electricity," she said.



Since 2009, with much determination and dozens of airplane rides to Africa, Friends of Woni International has built three wells, one of which is coined "the magic well" built in 2011 for a small farming community of 2,000 to 3,000 in Ngunyumu, Kenya; a high school dormitory; and soon-to-be-built sanitation infrastructure.

The first well built was in a Maasai town located in the Amboseli National Park at the foot of Mt. Kilimanjaro and now serves 600 to 1,000 residents with fresh water.

Evie Treen, Contributor

The water well in Kyaani being drilled.

Treen recalled that particular experience being an emotional one.

"When the water started coming out of the drill hole, and as they were still drilling, all of the Maasai people came and stood in the water," Treen recalled with emotion. "They first said a prayer and started singing. I couldn't talk."

She said the locals kids looked down at the water with curiosity. When she told them to touch the water, they began playing in it like typical kids.

"I do this because I want to, and because I love the people over there. I want to do more," Treen said, admitting that sometimes she feels like her wheels are spinning because she would like to do more, but given the cost, she can't.

"Just getting water to people that didn't have water, is a lot," she said.

The day after the well was drilled at Kyaani, students brought trees to plant on the school grounds.

Evie Treen, Contributor

Treen said the catalyst responsible for her first visit to Kenya — which had been a longtime dream of hers — came after the loss of her late husband.

When she arrived, something unexpected occurred. What began as a desire to heal from her loss and experience the people, animals and land, transformed into something bigger: a legacy of giving.

"We all forget how lucky we are to have a faucet to turn on and get water," Treen said.

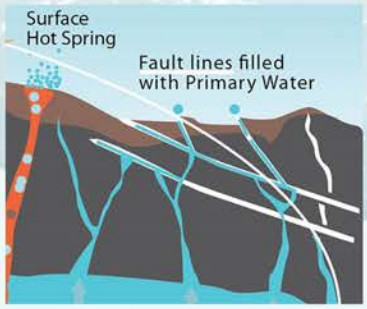
For more information and to support Evie, write to: E**vie@FriendsofWoniKenya.org**, and visit **Friends of Woni Kenya** on Facebook.

https://lompocrecord.com/lifestyles/faith-and-values/well-worth-it-local-residents-raise-funds-for-clean-water-education-projects-in-kenya/article_59c4d16a-8fe8-5e8c-945c-f7ba3ea651f8.html

Water Dowser TAMARA MITCHEL

Tamara calls the ***streams of Primary Water flowing through countless faults and fractures beneath us Underground Rivers*** and she's been tuning into them for years...

When Tamara was 12 years old, she watched her father's cousin use a forked willow branch to find water and thought he'd "flipped his lid!". But when he handed her the branch and she began walking along, it was pointing down so hard that the bark was squeaking.



From that point on, she's been hooked and this has proved to be quite a blessing for the many people she has helped. Tamara is also genuinely compassionate and kind - an indicator of positive brain and heart coherence. This coherence, as many studies are now finding, allows one to access information beyond the realm of the 5 senses.


TAMARA MITCHEL

For the last 44 years, Tamara has been using her incredible dowsing skills to help to locate water for a wide range of people; some of whom are very well known.

When she passes over flowing underground water, her dowsing rods swing back and forth and she is able to determine the flow rates through the intensity of their pull. Using spiral-tipped brazing rods, she counts the water depth according to how many time they bob down.

And on her very first dowsing session, she advised the driller to go down an additional 10 feet and while drilling through course granite, artesian water began gushing forth; in other words, she found Primary Water on her first try!

"We have these abilities that get shamed out of us. I think if they are cultivated when you're a young child you don't lose them. I've had people say, 'That's the work of the devil. You're into satanism.' Basically, I say it's a God-given talent. I'm certainly am not into black arts. There's things we can't explain." Tamara shares.

The Gamma Brain State

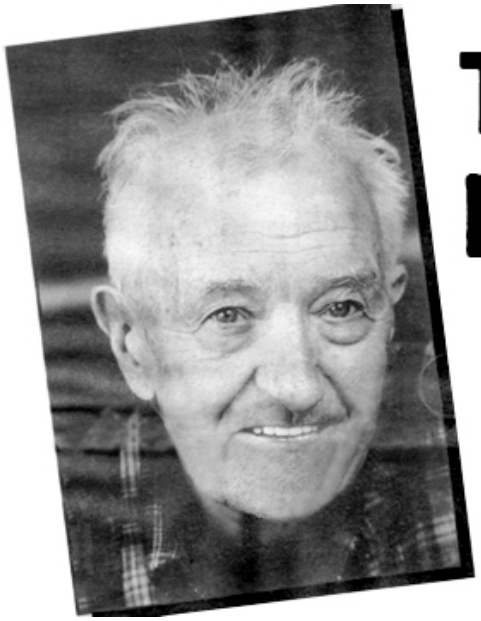
Dealing with skeptics and unbelievers is something she's become accustomed to due to the fact that a majority of people are not aware of the real science behind dowsing. It's not about how the rods move out of balance from equilibrium or anyone could do it and that's clearly not the case. It's more about the state of consciousness of the individual and how this state impacts their energy fields and interacts with whatever tools are being used. These higher states of consciousness can now be scientifically measured and a new term called "soft-tech" is being applied to the organic structures within us that are connected to these newly discovered abilities. We are far more powerful than we have been led to believe!

Thankfully, there are forerunners to help show us the way and Tamara is one of them. She naturally goes into the ***gamma brain state*** while dowsing; resulting in what many have referred to as "miracles".

"The gamma brain wave originates from this tiny organ in the center of our brain called the thalamus and sweeps through all the lobes of the brain from the front to the back and that is why it is also called a uniyfing brain wave. It offers the experience of a number of potentials and one of them is this unifying experience. When people are in gamma, they seem to feel less seperate from the world. If you are able to see the brain scans, there is part of our brain that lights up when we sense that we are somehwere in place & time. It is our awareness of space and when we are anchored in this space and time, that part of the brain is very active but in the ***gamma brain state***, part of the brain becomes less active because we're not so attached to the space and the place. We become more the essence of our consciousness."

~ Gregg Braden, New York Times Best-Selling Author, Scientist, and International Educator

*Tamara can be contacted at 530-397-3622



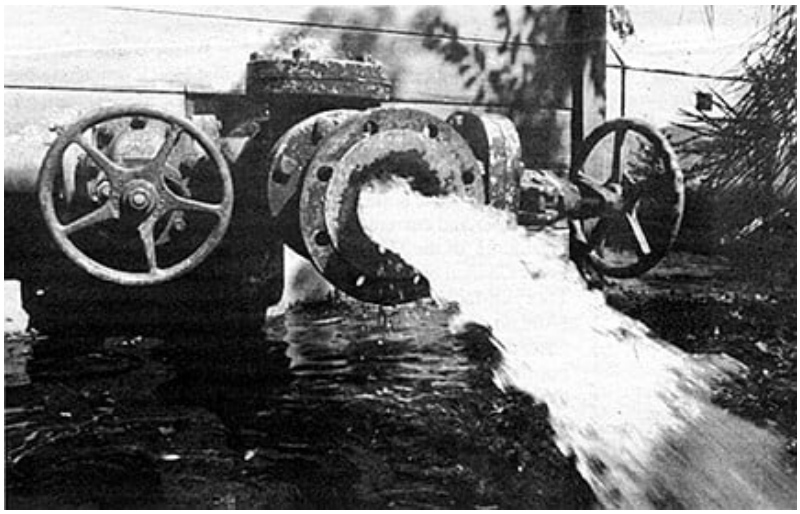
There's Water Down Below

Escondido's Stephan Riess finds primary water – where no one else can!

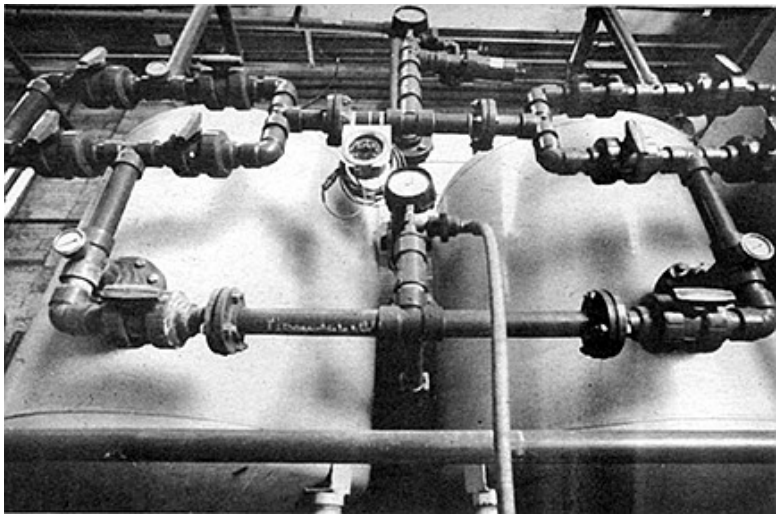
Fracture zones below the bedrock

Author: Neal Matthews
Publish Date: June 6, 1985

Just three weeks ago an octogenarian, who is either truly brilliant or merely skillful, moved down from Ojai, southeast of Santa Barbara, to rural Escondido. His name is Stephan Riess. He's eighty-seven, and for fifty years he's claimed the ability to tap unlimited supplies of water from deep inside the earth. He moved to the arid San Diego area, which imports the majority of its drinking and irrigation water from hundreds of miles away, because, he says, "Most of my water interests now are here, in the tail end of the system."

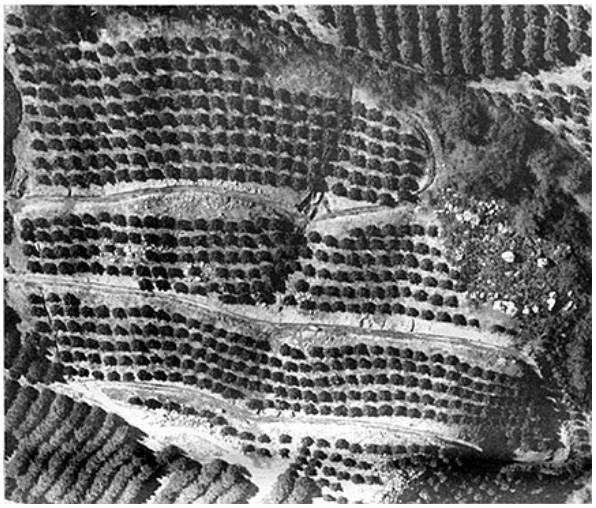


"The system" is the state water project, which Riess ridicules as a multi-billion dollar hornswoggle. "Water is the biggest political corruption in the world," Riess thunders, his basso voice clipped around the edges by a time-worn German accent. "Politics and water are a racket; every home, every household is controlled by politicians through everyone's complete dependence on water." Riess is an angry old man, given to outbursts in which he labels politician "idiots" and worse, and university scientists as "the stupidest bunch of sons of bitches there are" He would be easy to dismiss as a petulant crank except for one thing: he has an uncanny ability to find water where the experts say there is none. He claims the water he finds is "primary water," water created below the earth's crust by the cooling of magmatic rock, such as granite and basalt. Riess is one of a very short line of geologists and earth scientists who believe such water, which they allege exists in vast quantities, is independent of the hydrologic cycle of precipitation and evaporation, the natural mechanism almost universally accepted as the source of all water on the planet. Riess says that there's no need to move water to San Diego through the state's astronomically expensive system of canals and pump stations; all the water we need, he insists, is right under our feet.



This theory is so contrary to accepted tenets that it is utterly preposterous to most scientists, engineers, and water district administrators. It bucks the standard doctrine that all waters now on the earth were originally part of the primordial material that covered the newly formed planet five billion years ago. Riess's ideas also contradict the basic assumption of laws governing the distribution of water — namely, that all groundwater is derivative of precipitation. As a result, public policy in California has entailed moving colossal amounts of water from wet areas to dry areas; deep drilling has never been considered an alternative.

In 1982 Riess and a young associate named Morad Eghbal approached the San Diego County Water Authority and suggested that it allocate funds for some deep-well drilling. Riess argued that all the water San Diego needs can be tapped in fracture zones beneath the bedrock, and that this water constitutes a pollution-proof, drought-proof, never-ending supply. The Water Authority spends more than $60 million per year (supplied by taxpayers) on imported water, and it has long-term commitments to continue such purchases and to help pay off the 1961 bonds that financed the state water project. Directors of the Water Authority rejected Riess's idea as unproven, but told him that if he wanted to pay for the drilling himself, they might buy any water he found. Riess left empty-handed. Now, however, he has returned to San Diego County and, with a local entrepreneur, is doing his own drilling. He is just beginning to supply water from deep wells to the Valley Center Water District. This is the only project wherein a private individual is selling water to the public agency throughout the Water Authority's 1400-square-mile jurisdiction. Riess sees the tide turning his way now.

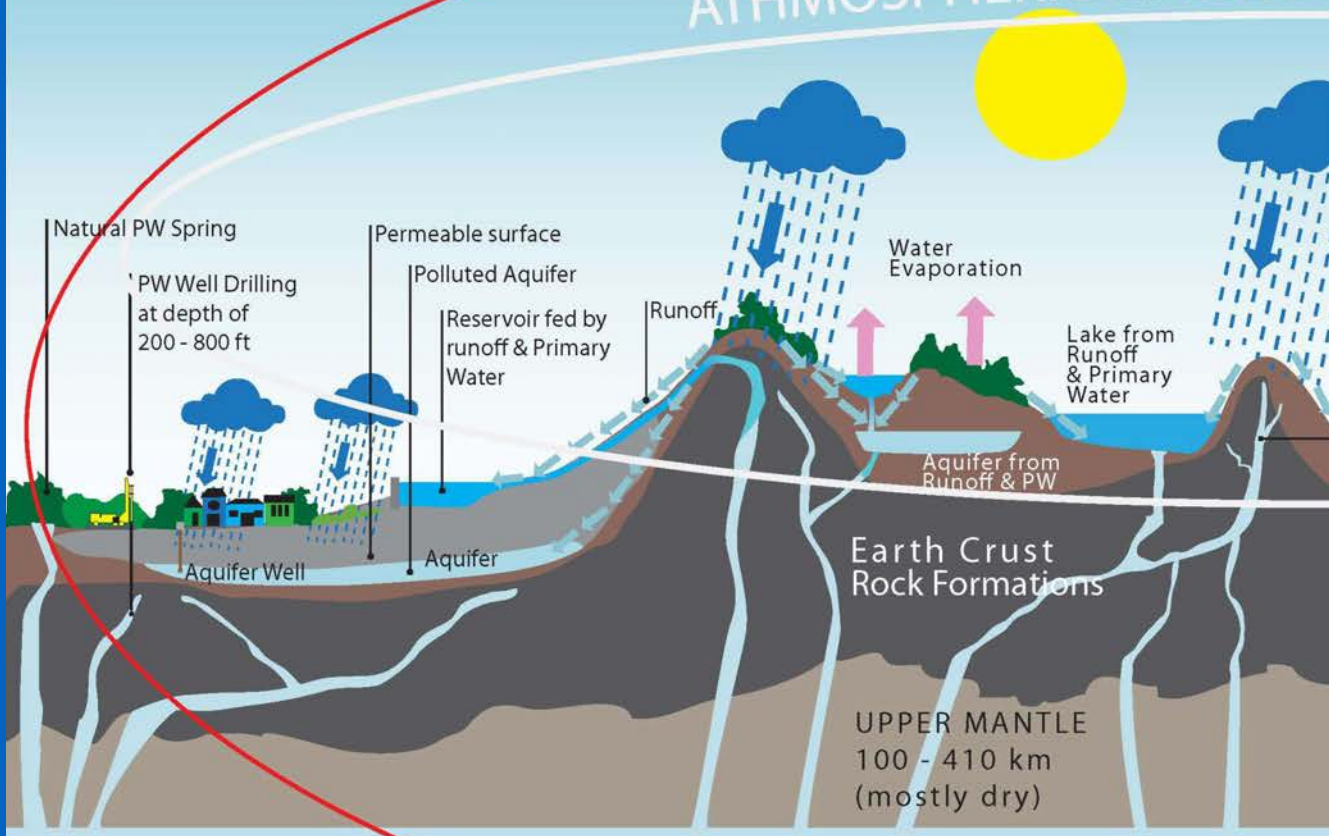


Stephan Riess is a Bavarian-born mining engineer and geologist who was educated at the pre-World War I German Naval Academy and at the University of Tuttlingen, just north of the Swiss border. He says he has drilled more than 800 wells around the world, most of them tapping "rock fissure aquifers" where primary water purportedly flows on its course to the sea. Two local examples of his work are the wells at the Sparkletts water bottling plant near Lakeside, and those at supermarket magnate John Mabee's Golden Eagle thoroughbred horse ranch on Highway 78, east of Ramona.

PRIMARY & ATMOSPH

PRIMARY WATER CYCLE D

ATHMOSPHERIC CYCLE D



TRANSITION ZONE
410 - 660 km
(hydrous)

LOWER MANTLE
660 - 2,900 km
(dry)

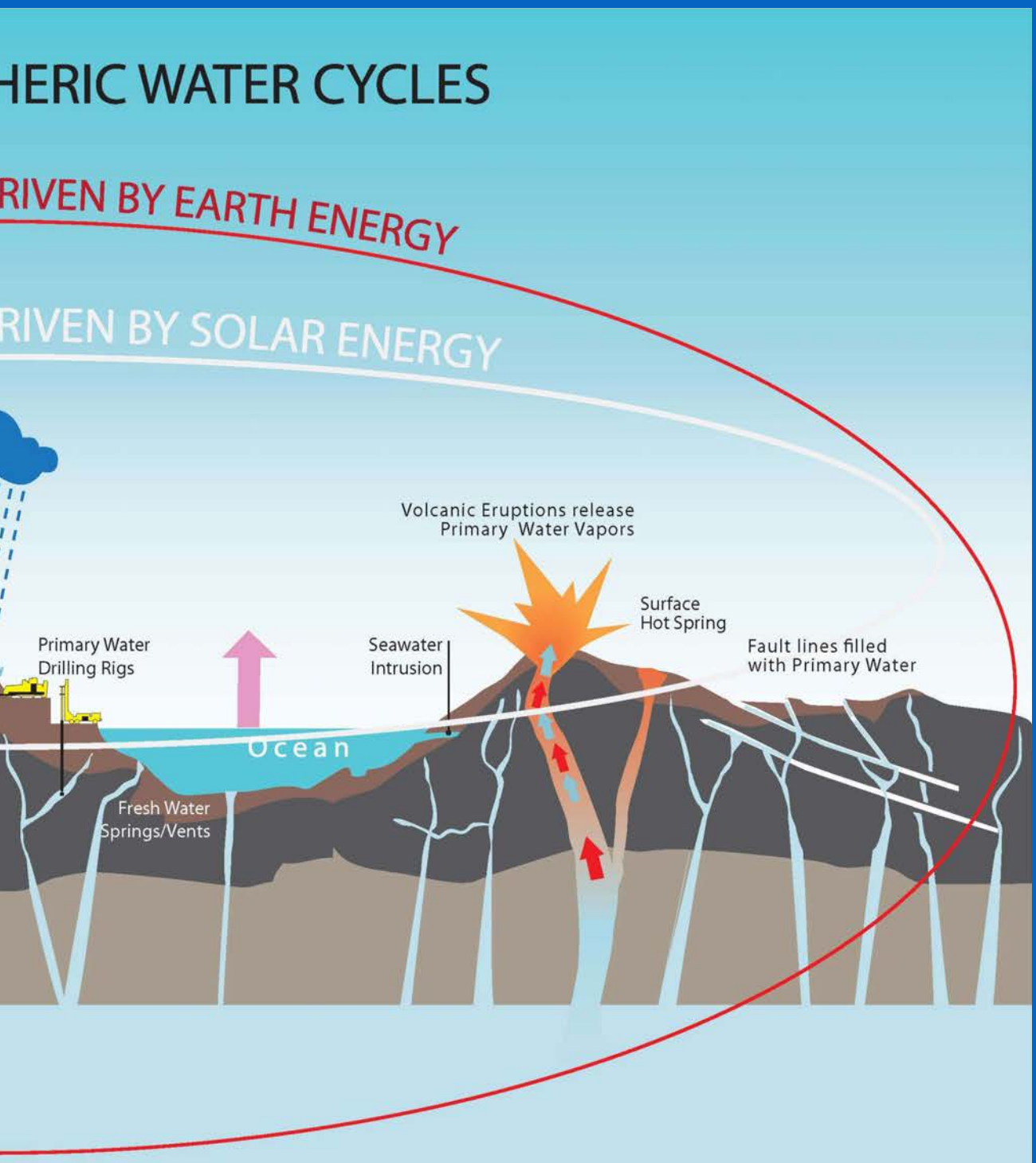
Pri

The Primary Water Institute

www.primarywaterinstitute.org

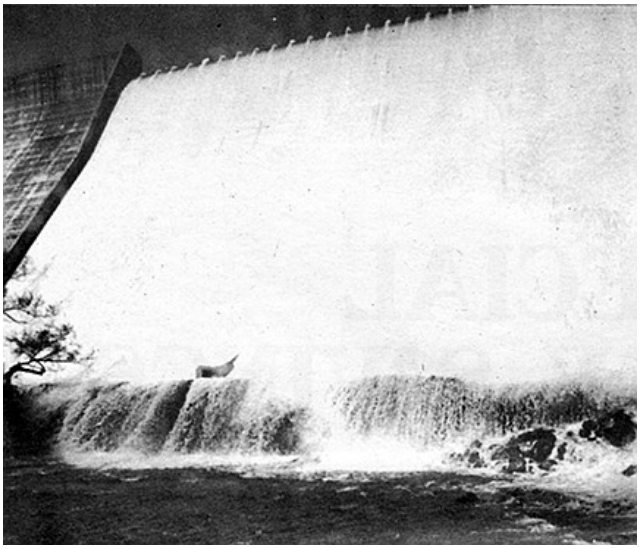
Image not to scale

HERIC WATER CYCLES

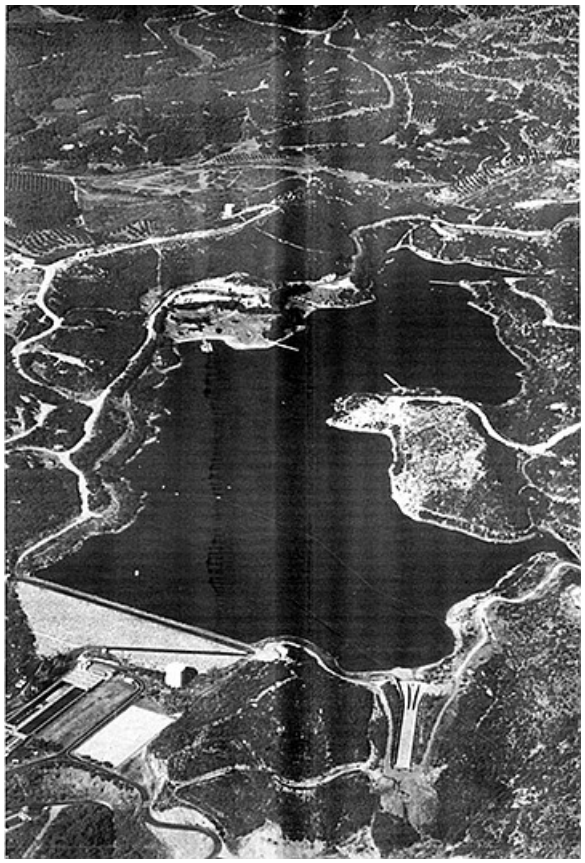


mary Hydrologic Cycle
driven by Earth Energy

Primary Water is created deep within the Earth from the synthesis of hydrogen and oxygen. Under tremendous pressure from Earth's internal heat, H_2O, in the form of vapor, is forced upward through rock fissures (weakest areas of Earth's crust) becoming liquid as it cools. Primary Water is forced upward, while atmospheric water is subject to the effects of gravity and flows downward.



In 1955 Burton Arnds, president of Sparkletts, read press accounts of Riess's success in finding water in the previously dry Simi Valley, northwest of Los Angeles. One article in particular, appearing in *Collier's* magazine, inspired Arnds to contact Riess and ask the water developer if he could help locate water at the struggling Lakeside plant. Arnds already had eight shallow wells there, each between thirty and sixty feet deep, but their water levels were declining and the water itself was of increasingly questionable quality. Riess conducted extensive geological analyses on the site, surveys which determined exactly where the different types of rock formations intersected underground. Riess, who doesn't charge his clients if he doesn't find water, explains that he looks for "restricted faults," which don't reach the surface. Yet he almost never digs below the surface during his analyses. "Whatever I can't excavate with a pick, I'm not interested in," he explains. He eschews the highly detailed geologic cross-section charts painstakingly drawn up by geologists, preferring to determine for himself the specific local geology.



After his ground studies at the Sparkletts plant, Riess told Arnds exactly where to drill. A diamond-core drill rig dug through the soft earth and hit solid granite at 400 feet. For almost 500 more feet the drill descended, and then it struck water where Riess had predicted it would. Wells in the Lakeside area are generally between fifty and 150 feet deep, and although wells of 600 or 700 feet, such as Riess located for Sparkletts, are not unheard of in the county, almost all of them are drilled in porous sedimentary formations, not solid granite. "In the name of accepted geology, it was ridiculous to drill there," Riess says. "But I knew I was right."

That first well continues to produce about eighty gallons of water per minute, water with a fairly high mineral content, but extremely low in tritium, a hydrogen isotope produced naturally by radioactive bombardment of the earth from deep space. The tritium content of the Sparkletts water is so low, in fact, that it is used by UCSD geochemists in their lab experiments, according to Hans Suess, a geochemistry professor there. In the years since the development of the hydrogen bomb, worldwide tritium levels have increased dramatically, making it difficult to find water with sufficiently low levels of the isotope for scientific research. Tritium has a half-life of approximately twelve years. The low tritium count in Sparkletts water means it hasn't been on the earth's surface for at least one hundred years. Riess contends that the low tritium content is one indication that the water has *never* seen daylight. But geochemists say the tritium count only means the water is old; it would take analysis of other elements in the water to date its origin.

In 1962 Riess located a second well at a depth of 960 feet for Sparkletts, which produces about 200 gallons per minute. (The company needed a well with more flow, and when the second one was completed, the first was put on standby as a backup well.) Bob Jurgensmeier, the water processing technician at the plant, says the company has been pumping out 30,000 gallons of water per day from that second well since 1962, "and the water level always stays the same. I don't think it's groundwater that's seeped down through the rocks," Jurgensmeier maintains. "The water table never varies, even during droughts, and the [chemical] analysis sheet never changes. A lot of people have tried to say it's water from the [nearby] San Vicente Reservoir, but the analysis is really different."

John Mabee, founder of Big Bear supermarkets and owner of the 400-acre Golden Eagle horse ranch, also believes the water Riess located for him is of curious origin. "It's not surface water," Mabee contends. "I believe Riess is correct. It's primary water." In 1972 Mabee read an article about Riess in *West* magazine, a *Los Angeles Times* supplement. He asked

Riess to try to find water on his ranch. “Others had said forget it, there’s no water there,” Mabee recalls. “I’d sent my engineer out with experts, and they all said the land was dry. I heard about Riess and asked my engineer to check him out. Riess had drilled for Sparkletts, and they pump millions of dollars’ worth of water each year out of that well. They bow down to the East to that guy. When he spotted a place for us, we drilled it. Right through blue granite. He said that at 525 feet we’d hit water, and we did! And it’s real good water, low in solids. We could bottle it. He made the farm, no doubt about that.”

Mabee says that three of the wells Riess located (out of five) are now pumping about 1500 gallons per minute. One need only drive past the ranch, whose pastoral greenery stretches off toward the San Ysidro Mountains, to see why Mabee venerates Riess.

Many respectable people, however, ridicule the man’s ideas. Orthodox geologists and hydrologists say they have demonstrated that all but an infinitesimal amount of the earth’s water is locked up in the hydrologic cycle, and is “meteoric” (related to the atmosphere) in nature. As almost everyone learns in school, this entails the evaporation of water from oceans, lakes, and rivers, the movement of clouds over land, the dropping of the water in the form of rain or snow, and the return of most of the water to lakes, rivers, and, finally, the oceans, through runoff. Much of the water that doesn’t return percolates down to underground aquifers, which can contain immense amounts of water and are usually underlaid by hard, impermeable rock, such as granite. This is exactly the kind of rock *beneath* which Riess’s wells are commonly drilled, into the deeper zones where hydrologists believe little water exists.

The hydrologic cycle also involves meteoric water that is absorbed into the roots of plants and trees, which either re-enters the atmosphere through “evapotranspiration” from the leaves, or is broken down in the photosynthetic process into organic plant matter. Riess says that on a global scale 600 billion gallons of water a day are actually lost in photosynthesis. (Hydrology texts measure this water in tons, generally accepting an annual figure of 180 million tons per day.) “In two and a half million years, if the water consumed by plants weren’t replaced, all the earth’s water would be used in photosynthesis,” Riess argues. “Where does the replacement water come from? It doesn’t come from outer space.” Hydrology authorities confirm the time figure of two and a half million years, but they say experiments have proven that all but a tiny fraction of the water consumed in photosynthesis is returned to the atmosphere by the animals and small organisms that eat the plant matter, and oxidize it back into carbon dioxide and water. In this way, say the scientists, global equilibrium in the water supply is maintained.

Scientists acknowledge that the earth does indeed create water, but only in minute quantities, as a by-product of the cooling of molten lava into rock. They say there simply isn’t enough oxygen bound up beneath the earth’s crust to create water in large quantities. “As far as we can tell, all waters are derivative of meteoric waters,” explains Robert Poreda, a geo0chemist at the Scripps Institution of Oceanography. “Even the origin of waters at, say, the geysers of Yellowstone, is still meteoric. The water originally seeped down from the surface. The only place we see juvenile water [what Riess calls primary] is in lava.”

When Riess contradicts this theory, scientists respond by asking him to publish his own, with suitable testing, in reputable journals. Riess refuses. “There’s no sense in publishing,” he grouses. “They immediately hit you back with ‘The book says this, the book says that.’ They can call me a phony, but I’m a phony with 800 producing wells.”

The disputed theory, which was first proffered centuries ago by a few maverick scientists, including Leonardo da Vinci, and was widely accepted until the Eighteenth Century, is this: at the lower edge of the earth’s crust, where magma is cooling to form hard rock, gases are continually rising through fissures along the lines of least resistance. Included in these gases are hydrogen and oxygen, which through heat, pressure, and chemical catalysts, combine to form massive amounts of water. Although the theory is archaic and was rejected by the first real earth scientists, large volumes of water are found all over the world in deep rock of igneous origin, such as granite, and Riess cannot bring himself to believe the scientific explanation that this water originated on the earth’s surface. “So he’s very New avocado groves, northern San Diego County Mature avocado groves, northern San Diego County good at finding fractures,” says an un-impressed Robert Poreda of Scripps. “We know that meteoric water percolates down several kilometers into the crust through faults and fractures. All he has to do is find the fractures.”

Riess planted himself firmly outside the realm of scientific dogma a long time ago. Born in 1898 and reared first in Germany, then in Switzerland when his father retired from the German military, Riess says he became interested in the sources and dynamics of water when he was fourteen. A university professor named Dr. Bergenbach lived down the

street from the Riess family in Schefhausen, Switzerland, and young Riess took numerous trips to the mountains with the professor and his two sons. They often visited castles on the Rhine and the Danube rivers, most of them built a thousand years before. Professor Bergenbach pointed out to the boys that the castles were always built above a good water supply, usually high atop a mountain, up to 3000 feet above the rivers. To the professor's mind, this was an odd place to find water. "These wells were dug by hand, some of them to 800 feet, in solid igneous-origin rock," Riess explains. "They were drilled with water and fire. Where the rock became unbreakable, they'd build hot fires and get the rock red-hot, then pour water on it to crack it. The castle at Ruedesheim on the Rhine had a well that took eighty years, three generations of well diggers, to drill between 640 and 700 feet." Riess drank the water of these wells and listened to the professor explaining his doubts that such water originated from rain and snow. "He woke me up. I became very, very interested in water."

Riess entered the German Naval Academy, where he spent most of World War I studying metallurgy, mineralogy, and chemistry. The academy's motto was, "Say not 'This is the truth,'but say 'This it seems to be to me as I sec the thing I think I see.' " He never studied hydrology and. in fact, has avoided formal study of the subject, the tenets of which he considers basically incorrect.

Riess came to the United States in 1923, bought a two-seat Buick in Florida, and drove across the country to Los Angeles. After almost a year of just enjoying himself with the $15,000 he'd brought over from Europe, Riess headed up to the California gold fields to look over the mining operations, in the hope of securing work as a mining consultant. He found that the dozens of small, family-run gold mines "were really behind the times," when it came to milling procedures and the chemical extraction of metals from ore, and he had no lack of employment.

In addition to his knowledge of mining engineering and milling procedures, Riess also developed the ability to locate the underground water necessary to operate mines of all types. In the late 1920s he traveled through South America as an independent mining consultant, and one of the first hard-rock wells he dug was for the *guano* (bird excrement) miners in the Tarapaca Desert region of Chile, one of the driest areas on earth. Eventually he went to work for the Selection Trust Mining Company, founded by Herbert Hoover, which was one of the biggest mining outfits in the world. He worked primarily as a metallurgist until World War II, when gold mining was halted by President Roosevelt, according to Riess, because it was irrelevant to the war effort.

Riess's mining knowledge won him an exemption from military service and he took a job with the Metals Reserve in the War Department. He traveled all over the West, advising where and how to mine lead, zinc, copper, and other war-related metals. He was provided with all the gas-rationing tickets he needed, was well paid, and was able to work at something he enjoyed. "It was a great job," he says, drawing deep on one of the cigarellos he chain smokes. His narrative is interrupted by a rumbling, gurgling cough.

During his travels, Riess was often either fighting water or searching for it. Deep in some of the mines, huge streams of water would commonly burst through a fresh blast hole 4000, 5000, 6000 feet down. Riess knew that such tremendous streams of water, usually associated with faults or fissures along two different intersecting rock formations, had confounded miners for centuries, and were explained away by scientists as merely surface water that had seeped down along cracks. Two of the biggest silver mines ever worked, the Comstock Lode in Virginia City, Nevada, and the Tombstone mine in southern Arizona, were lost to flooding before they could be mined completely. "Most mines are flooded out long before they're worked out," he explains. The quantities of water Riess encountered in the mines were so great, and the location of the mines was often so high in dry desert mountains, that it made no sense to Riess that such waters were originally produced by rain or snow. He became convinced that this water was being continually created *within* the earth, and could be tapped for public use.

After the war, Riess settled in the Simi Valley and became a professional water developer. His success at finding water in large quantities in that arid region, and his confrontational bluntness in the face of scientific and governmental critics, made Riess a natural subject for newspaper and magazine writers. His fame spread. Testimonials were widely circulated from ecstatic well owners who had contacted Riess as a last resort. "Anytime I hear of a place with fifteen dry holes, that's for me," Riess explained in one magazine story. "When little people have been beaten to death by the drillers and the experts, I work for nothing."

As detailed in the book by Christopher Bird, *The Divining Hand*, hydrogeologic experts from the California Department of Water Resources (DWR) were sent out in 1954 to investigate some of the wells reportedly located on Riess's own land in

Simi Valley, and other nearby wells. The resulting report dismissed the wells as tapping into nothing more than rain and runoff water, and concluded that they would eventually run dry. Owners of those wells that Riess had located in the Simi Valley area thirty years ago couldn't be contacted for this story, but other wells dug by Riess have reportedly dried up. For example, Riess is often credited in print with locating the wells for California City, a retirement community in the high desert just north of Edwards Air Force Base. But Dean Stewart, city engineer for California City, says that the two wells Riess located in hard rock have been abandoned. "The wells in that area just didn't pan out," Stewart says. "One of those wells was used for a number of years, but it went practically dry." Stewart adds that the five wells the city depends upon were located by other people in the early Fifties, and they tap "just another alluvial groundwater basin."

In 1957 the state Department of Water Resources issued its landmark California Water Plan, commonly described as the biggest water-moving project ever undertaken in the history of mankind. Riess became an immediate critic, and was a frequent guest speaker at rallies and meetings opposing the Feather River project. The cornerstone of the whole state water project, the proposal to dam the Feather River near Oroville and channel the water to Southern California, seemed to Riess to be utter folly. "I told Governor [Pat] Brown that he was the rottenest, crookedest crook there was," Riess recalls, still angry. "I said seventy-five percent of the legislature ought to be in jail for passing the Feather River project " Riess sees a conspiracy of politicians, scientists, and bankers, bent on furthering what he considers to be the false notion that water is in short supply in Southern California because it only comes from the sky. In October of 1959, Riess testified before the U.S. Senate Select Committee on National Water Resources, which had convened in Los Angeles, and explained what he thought was a simple and inexpensive way to supply Southern California's water needs.

According to a transcript of his testimony, Riess told the senators, "Here in our West, all of the water programs in the past have been temporary and short-lived. Dams silt up and large areas of land have been and are becoming denuded. Behind Hoover Dam, Lake Mead is filling with silt at the terrific rate of more than 137,000 acre feet annually. The dams associated with the proposed Feather River program will result in even faster silting-up. These problems do not seem to concern the proponents. The answer that I get nine times out of ten is: 'Well yes, but we won't be here.' This answer contains the same fatal error that resulted in the demise of so many ancient civilizations and may well spell out the doom of our own."

Riess went on to explain his success in drilling for hard rock aquifers all over the world, including the Hanegev Desert, near Elat in Israel, as well as the deserts of Mexico, Egypt, and the Sudan. When asked about the economic feasibility of producing such water, Riess said, "Although the hydrostatic pressure of the waters flowing through rock-fissure aquifers is not often sufficient to make the wells flow, it does in almost every instance force the water up to levels that makes pumping costs entirely economically feasible. Gentlemen, it is certainly far more economical to pump water vertically up 300 feet than to pump it and transport it laterally for 450 miles. ...In conclusion, gentlemen, I trust that you completely understand that the above presentation has been only a mere summary of the subject. I only request that you challenge me to further document this concept and all of the statements which I have made to you."

Rather than stimulate interest in a possible alternative to the $1.75 billion Feather River bond issue, Riess's testimony helped initiate a counterattack by the state Department of Water Resources. The director of the DWR sent out an official information bulletin to thirty-three state offices, as well as the state director of finance, the board of registration for civil and professional engineers, the state attorney general, and the assistant chief of the state bureau of criminal identification and investigation. As reported in Christopher Bird's book, the bulletin asserted that Riess's theories were based on "specious and utterly speculative" arguments, and referred to Riess as a "purported scientist, geologist, geochemist, and philosopher." The bulletin also pointedly stated that the concept of "primary water" wasn't included in "any standard glossary of geological or hydrological nomenclature." In response to that last statement, author Bird, an un-abashed believer in Riess, wrote, "The same could have been said for the word 'blitzkrieg,' which became acceptable to French generals, who could not find it in any of their standard military glossaries, only when they were overwhelmed by the reality the word represented."

Riess and his followers use battle metaphors frequently, and they foresee the day when the scientific world stops scoffing."It's going to be a war. Primary water is the future of water supply, if it can be managed properly," explains Peter Britton, chairman of the Riess Foundation, founded in 1984 and currently based in Washington, D.C. The nonprofit foundation was established for the purpose of providing the financial wherewithal to drill deep holes; it can cost as much as $250,000 to drill a well down to 2000 feet. "If you or I owned a hundred acres of oranges or avocados, that's too expensive to drill. We could never get our money back," Riess says. "So the foundation is going in and collecting money from

people I drilled big wells for. I have $14 million committed. First I prove that the water is there, then the local group of farmers get a four-and-a-half percent federal loan to finish drilling and install pumping equipment." So far the foundation has done no drilling in California, but Peter Britton says it has drilled three holes on the East Coast, one of them to 3000 feet. "We look at ourselves as a priesthood," Britton says. "We have to help people see the truth. There's plenty of water available in rock fissure systems in San Diego, but a lot of vested interests aren't necessarily friendly to having rock wells provide water to Southern California. Who can deliver water to the avocado and citrus growers of Southern California at a price they can afford? And will there be a political constituency that can force this water onto the market? It's going to be a fact of life. It's going to be a war."

The initial assault has already taken place in Valley Center, a few miles northeast of Escondido, but the Riess priesthood hasn't encountered any resistance. The Valley Center Water District, which is part of the twenty-four-member San Diego County Water Authority, has signed a contract to purchase water from deep wells dug by a North County flower grower and entrepreneur named Vern Meyer. Riess and Meyer have their own separate contract; Riess determines where to dig, and Meyer invests the money in doing the digging. His contract with Valley Center says that he'll sell them the water he finds (on water district property) at a cost that's twenty percent lower than the cost of water from the Water Authority. Right now the district is paying $207 an acre-foot for water that's brought down through the state water project and administered by the Water Authority; Meyer's selling price will be about $165 per acre-foot.

Vern Meyer doesn't want to encourage competition from other entrepreneurs who might try to jump into the North County water business, so he declined to discuss his drilling project. But Charles Dacus, director of the Valley Center Water District, says Meyer has drilled four wells near the district's Cool Valley Reservoir, and one well on Paradise Mountain to the east. All of the wells approach 2000 feet in depth. "We've taken samples from three wells, and it appears to be good water," says Dacus. The tritium level in the water is also quite low. Dacus says it tests at about 350 parts per million, while "normally up here well water contains about 500 per parts million of tritium." Meyer reportedly has about two million dollars invested in the drilling project.

District executives say Meyer told the district board he'd be tapping primary water, but the district isn't overly concerned with the water's origins. What's needed is a large volume of water at a good price. "The contract doesn't go into effect unless they can produce a thousand gallons a minute from each well," explains Jerry Gerald, the district's director of finance."We haven't reached that point yet. but we'd probably take whatever water they can pump."

Ninety percent of the district's water goes to agriculture, mostly avocados, and the cost of water is the single biggest expense for the avocado farmers, and the most critical. The farmers pay between $140 and $525 an acre-foot, depending upon what water district they buy from and the elevation of their land. Darwin East is in charge of a Disney Corporation subsidiary that has planted 850 acres of avocados in Valley Center, and water costs him about $475 an acre-foot. "We'd need it to be $260 an acre-foot to grow avocados profitably," says East. "If somebody doesn't come up with something, we'll drill our own wells." The problem is, it costs about thirty dollars per acre-foot for every hundred feet the water has to be raised from a well, according to the North County Avocado Growers Association. So if the hydrogeologist East has hired can't find water shallower than 900 feet. East's grove is in trouble.

This is where Riess and Meyer believe they come in. "I know where the water is down here," says Riess, getting up slowly out of the sun on his back porch overlooking the avocado country of Valley Center. "Four hundred farmers want that water, and we can supply it to them for half of what the state charges. That's why I moved down here." Riess says he and Meyer have permits to drill for water on federal land in the area, and they plan on selling this water directly to the farmers. If they succeed, it won't matter to the farmers if the water is primary or meteoric. But if it is someday proven to be water that's continually being manufactured inside the earth, San Diego will become known as the place where hell really did break loose.

https://www.sandiegoreader.com/news/1985/jun/06/cover-theres-water-down-below/

Stephan Riess in 1985.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CALIFORNIA DESTROYED BY MANMADE DROUGHT
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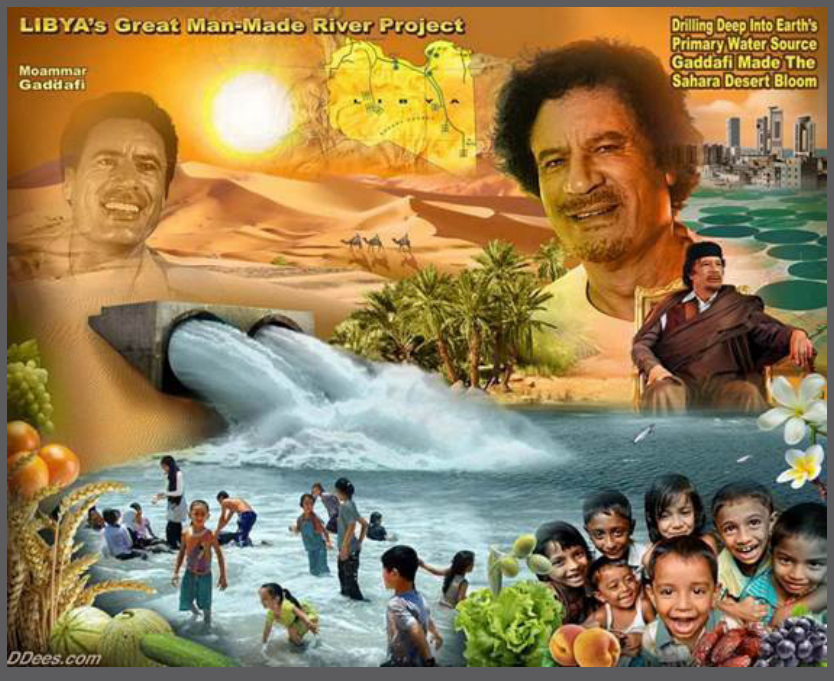
Muammar Gaddaffi had constructed the largest irrigation system in world history, tapping into the primary water cycle. This supplied 6.5 million cubic meters of fresh water per day to the various cities in Libya, enabling the country to grow fruits, vegetables and grains otherwise impossible to cultivate in the desert. The project had costed 25 billion USD and was completed without financial support from any major countries or loans from IMF banks. In 2011, the incredible achievement was destroyed by NATO with depleted uranium nuclear bombs, cutting off the water supply to 6,000,000+ people.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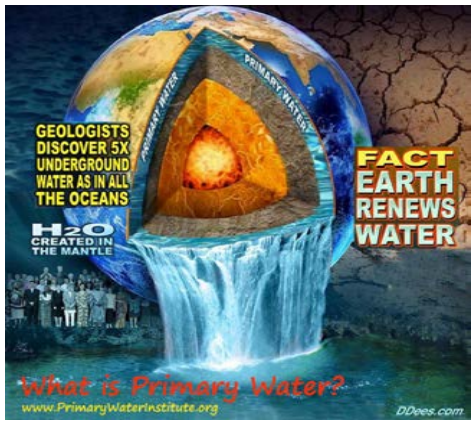
5 Sources of Water on Earth

Primary Water

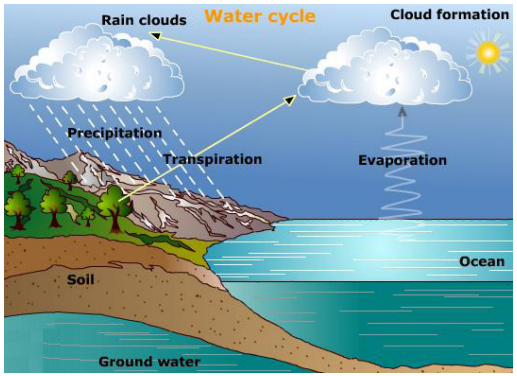


There is a source of fresh water that is never mentioned in the mainstream media, or widely understood by geologists. Pressuring up from deep within the earth, ***primary water*** can be accessed near the surface by drilling. When accessing primary water, it requires drilling into a geologic fissure or fault to release the primary water that has risen near the surface. Primary water is the only unlimited renewable source of water on earth and is available even in the desert or areas of little rainfall.

Primary water advantages:

- Provides excellent quality, clean, unspoiled water.
- Is fresh and not subject to pollution or surface radiation.
- Is plentiful and replenishable.
- Is created under pressure, so that it comes near the surface by itself, incurring less pumping costs.
- It never dries up.
- Unlike groundwater, it is not subject to the effects of drought or pollution.
- Does not cause subsidence like some groundwater wells.
- Refills depleted groundwater supplies from below in some instances.
- Can create a localized water supply that is available where it is needed, when it is needed.
- Inexpensive horizontal drilling rigs can be used to benefit fish and wildlife by refilling dried up streams and lakes.
- Primary water wells can be used to supplement existing water transport systems like the California aqueduct.

Atmospheric Water

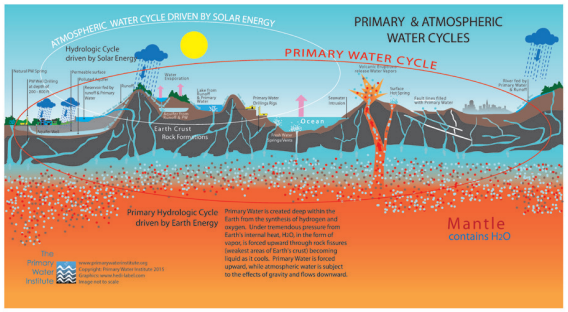


Most water conservation agencies today focus on managing ***atmospheric water*** in the form of surface runoff and groundwater. Water agencies store water in lakes and reserviors until needed then transport it over long distances using rivers and aqueducts.

Frequently conflicts arise when water is taken from one region and given to another. And the needs of farmers and ranchers, and fish and wildlife are seldom equitable.

About 90 percent of water in the atmosphere is produced by evaporation from water bodies, while the other 10 percent comes from transpiration from plants.

There is always water in the atmosphere. Clouds are, of course, the most visible manifestation of atmospheric water, but even clear air contains water—water in particles that are too small to be seen.



Toilet to tap recycled water

In drought areas, treated wastewater is added back to the potable water stream. Recycled wastewater is supposedly safe to drink, but the thought of drinking water that once ran through the kitchen sink or the toilet isn't very appealing.

Wastewater is water that comes from residences and non-residences that goes into the septic or sewer system. In your home, it includes household water from the kitchen and bathroom, as well as water from washing machines and rain runoff.

When wastewater goes into a septic system, it's eventually absorbed back into the ground. When it goes into a sewer system, it goes through a treatment process that removes contaminants before being released back to the public.

Water Desalination & Generation

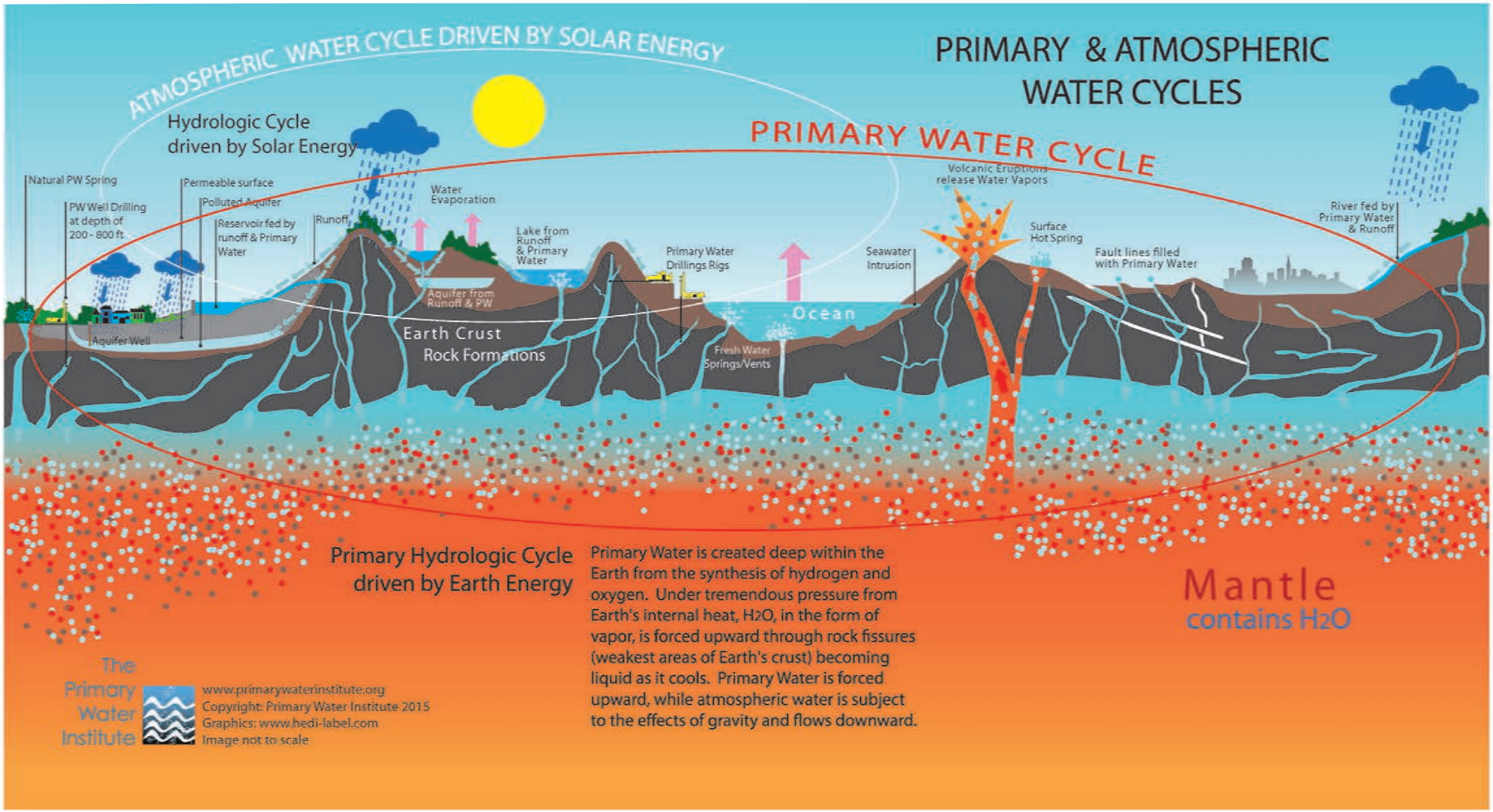
Despite widespread water pollution and shortages of drinking water, there is an abundance of water around us – from the **air that we breathe** to the **water in the sea**. Several water treatment methods exist to tap these sources, from artisanal, traditional methods of atmospheric water generation to unconventional, modern techniques of desalination.

Water harvesting and treatment technologies that are solar or wind powered is one environmentally friendly way to extract pure quality water from the air or sea. The good news is that these technologies are now commercially available and mostly scaleable depending on need and location.

Large Scale Water Generators

Requiring no infrastructure what so ever but electricity, it is literally a plug and drink solution, aimed for schools, hospitals, commercial/residential buildings, whole villages, factories and off-grid settlements, providing robust and renewable source for fresh, clean drinking water.

Print as a two sided flyer.



The earth has two major water cycles as shown above - the primary water cycle and the atmospheric water cycle. All of earth's water originates in magma in the earth's mantle and is transported in the form of super-heated, high pressure steam or vapor through geologic cracks and fissures to or near the surface of the earth. This is the primary water cycle as depicted above as the blue above the orange mantle and below the earth's crust. As this vapor reaches the earth's surface it is either released through volcanic steam and fumaroles, or has cooled enough to liquefy into water and forms artesian and other springs and lakes – even in the mountains. This is pure water that has never before been in contact with the atmosphere.

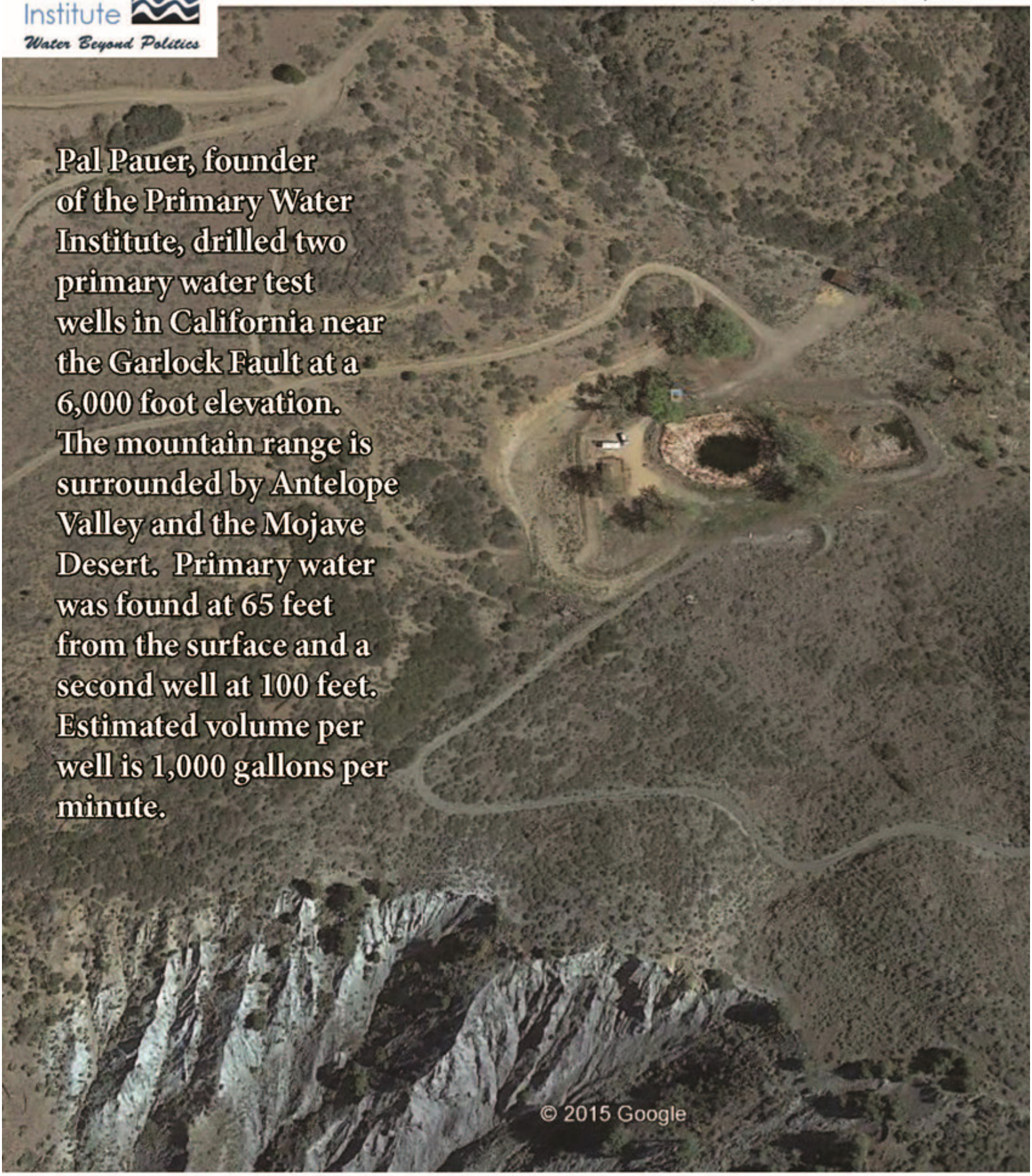
The secondary water cycle is the most familiar hydrologic cycle and moves what is also known as atmospheric water. The secondary water cycle takes the primary water which has reached the earth's surface and, with the sun's heat, utilizes the processes of evaporation, transpiration, and heating and cooling of the atmosphere, to create precipitation which is transported to re-supply the earth with cleansed water or snow - replenishing lakes, streams, rivers, and the ocean.

The Primary Water Institute

Water Beyond Politics

Primary Water Institute News

Issue 1, No. 1 – December 17, 2015



Pal Pauer, founder of the Primary Water Institute, drilled two primary water test wells in California near the Garlock Fault at a 6,000 foot elevation. The mountain range is surrounded by Antelope Valley and the Mojave Desert. Primary water was found at 65 feet from the surface and a second well at 100 feet. Estimated volume per well is 1,000 gallons per minute.

The Primary Water Institute
Water Beyond Politics

December 17, 2015

As many of you know, Pal returned last week from a trip to the Tehachapi's to drill two primary water test wells. This has been a long road to this project. Pal's mentor Stephan Riess' dream was to drill a well adjacent to the Garlock Fault and unfortunately, the opportunity never happened in his lifetime.

But, we at the Primary Water Institute got an early Christmas gift. The Garlock Project proves the theory of Primary Water is true beyond a shadow of a doubt. Stephan Riess's vision has now been realized.

We drilled for water at a 6,000-foot elevation with two 1,000 gallons a minute test wells; water was encountered at 65 feet and another at a 100-foot depth.

I am attaching a short report on the Garlock Project with some photos.

I also want to thank everyone who is associated with the Primary Water Institute who volunteers their time and money who have made this project possible. Without your help and support this important project would never have taken place. Special thanks to Dr. Wayne Weber, Lyn Hebenstreit and Evie Treen.

We are also working on creating a crowdfunding site so that donors who want to support the mission of the Primary Water Institute can easily donate. But, for the time being, here is link to Pay Pal for donations if you know anyone who feels passionate about supporting our mission to provide plentiful, clean water for the world.

Pal Pauer, Founder
Primary Water Institute
www.PrimaryWaterInstitute.org

The Primary Water Institute Inc. is a non-profit 501 (c)(3) tax-exempt organization.
Tax ID 46-4915886. Donations are tax-deductible to the full extent of the law.

"It's hard to get the point across to many people in the U.S. that the Earth makes water. We can access it and solve our problems. Clean, virtually infinite sources of water are right under our feet." --- Pal Pauer

The Garlock Project -- Drilling for Primary Water in the Tehachapi's

History

Pal Pauer's mentor Hydrologist and Mining Engineer Dr. Stephen Riess was convinced that the primary water source for California City (California) originated from the Garlock Fault. His dream for testing his hypothesis materialized when Pal Pauer drilled two test boreholes adjacent to the Garlock Fault in the Tehachapi Mountains at a 6,000-foot elevation. The outcome is remarkable!

Timeline

April 15, 2015, Primary Water Institute (PWI) founder Pal Pauer (Pal) was approached by clients for a feasibility study for locating several primary water wells on their property. They provided topographic maps and approximate desired well locations. Pal determined the project was feasible.

July 4, 2015, Pal made a site visit to the Tehachapi Mountains to verify the information provided on the maps. Pal spent one week on site investigating viability and likelihood of primary water at this elevation (6,000 feet). He found a vent or fumarole which was adjacent to the fault and represented a site favored by the property owners. Consequently, the owners and Pal determined and marked locations for 2 wells on the property. Further investigation and drilling test boreholes was the next step.

A search ensued for a suitable drilling rig to make the project possible. Several drilling firms were considered and it was decided by the property owners and Pal that Paul Hern Drilling Inc. had the knowledge and equipment that could drill the wells. Note the state of the drilling rig.

Dec 6, 2015, a trip was made by Pal from his home in Oregon to the Tehachapi's to oversee the project.

Dec 8, 2015, Arrived on client's property to start drilling

Dec 9, 2015, 8:30 am, drilling begin on site. The first test well was named Maryanne 1. A highly fractured meta-volcanics was encountered at 20 feet which led to the probability of water. Further drilling into the structure where large fractured material was ejected under air pressure along with an ever increasing quantity of water. Work had to be stopped about 100 feet in depth due to the lack of availability of air volume and pressure to remove debris and water. It is estimated that the water that was ejected from a 7-inch diameter borehole was at the rate of 800 plus gallons per minute. Further progress could not be made with available volume of air and pressure. It was determined that water was very good quality between 150 to 250 PPM/L – total dissolved solids (TDS).

The drilling rig was moved to the second well site named Heather 1. This location is part of the same rim of the vent/fumarole that is estimated to be between 2-5 feet in width. Dec 10, approximately 100 yards across from first site, the same procedures were followed and water was encountered in larger quantity at a 60-foot depth and drilling could not proceed any further due to inability to remove water/cuttings and debris.

Establishing the exact site to be drilled. Pictured from left to right, Pal with Abigale the mascot, the driller marking the exact site and Lyn.

Note: the presence of two ancient large oaks at location. The trees were an indicator of the presence of water.

Pal and Ben with the drillers. Water and debris encountered at 50 feet at final phases of drilling.

Pal points to artesian water which surfaced from the borehole.

7-inch drill bit was used to drill borehole in project.

Water flow discharged in trench. Estimated output of water is 800 gallons plus per minute. Unable to drill borehole beyond 65 feet due to large volume of discharged water and debris/cuttings.

Primary Water Essentials

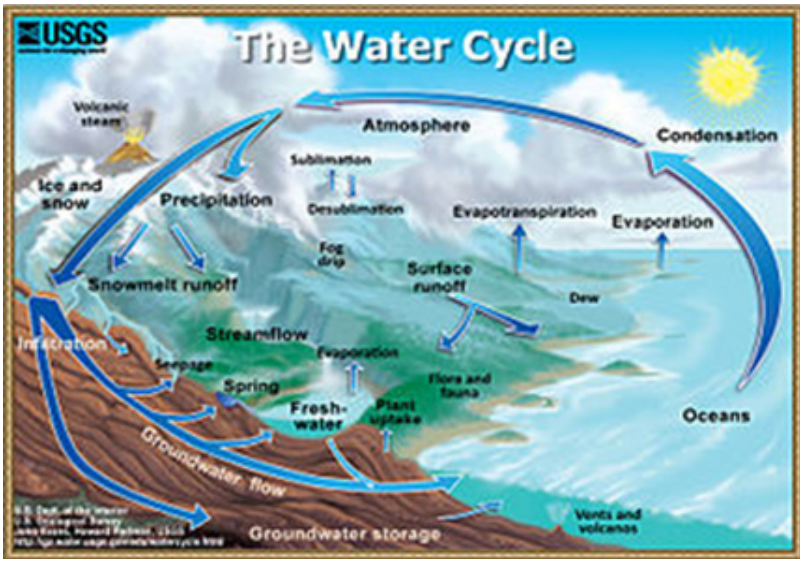
Deep Hydrology: The Promise of Primary Water

By Lyn Hebenstreit: 08.21.13

Contrary to popular belief, clean, safe, fresh water on our planet is not scarce, but abundant. That's how I began a presentation at a conference earlier this year on "New Generation Watershed Management in Africa" co-sponsored by the United Nations Food and Agriculture Organization (FAO) and the Freedom from Hunger Council of Ireland (Gorta).

You can imagine the incredulous looks I received! After all, water is the "new oil", "blue gold", the ultimate prize of this century's resource wars. Water is life, and the lack of it the greatest threat to the survival of mankind at this time in human history – and so on. How could I make such a ludicrous assertion? Well, I can't expect to convince you in so short an article, but I do hope to offer a few insights that may inspire hope, and prompt you to deeper consideration.

First of all, let me clarify what I mean by abundant. Abundance is not unlimited supply or vast surpluses, but simply, always enough – when used consciously, responsibly and conservatively. Do we really need more than that?



Now, let's explore some of water's lesser known past on this planet for clues about its future. Most of us are familiar with the hydrological cycle – water evaporates from the ocean's surface, condenses into clouds and is blown overland where it precipitates as rain and snow and eventually finds its way back to the ocean via lakes, rivers and subterranean flow.

That's great as far as it goes, but 4.5 billion years ago, the earth was a smoldering cinder. Where were the oceans then – and more importantly, how did they come to dominate over 70% of the planet's surface?

Until recently, comets were considered the most likely source of Earth's water, but new data from the mass spectrometry of the Hale-Bopp comet reveals a concentration of "heavy water" (deuterium) far higher than that found in the world's oceans, leading researchers to conclude that only a small portion, perhaps 10%, of Earth's water derives from comets.

Of course, many people conclude the obvious – that the oceans came from rain. Well, there's certainly some truth in that, but according to the best estimates, if every molecule of water was squeezed from the atmosphere, it would cover the Earth with only about one inch of water. If rain filled the oceans, where did the rain come from?

Over 50 years ago, UCLA geology professor and former president of the American Geological Society, William Rubey, was awarded the National Medal of Science by President Lyndon Johnson for his theory that both the oceans and the earth's atmosphere come from the interior of the earth. According to his calculations, based on extensive data from the Geophysical Laboratory of the Carnegie Institution in Washington, DC, the uplift of an igneous crust 40 km thick will release enough water to fill the present oceans.

Today, this water is known as primary, juvenile, magmatic or earth-generated water, but knowledge of it goes back thousands of years. In Genesis II, 5-6, for example, we read the following:

When the LORD God made the earth and the heavens, neither wild plants nor grains were growing on the earth. For the LORD God had not yet sent rain to water the earth, and there were no people to cultivate the soil. Instead, springs came up from the ground and watered all the land.

Moses was perhaps the first primary water hydrologist. After wandering for 40 years in the wilderness, the Israelites were getting thirsty.

So: "Moses lifted up his hand, and with his rod he smote the rock twice: and the water came out abundantly, and the congregation drank, and their beasts also." (Numbers 20:11)

In 2011, I was in Jordan to do a primary water presentation at the International Permaculture Convergence and afterwards visited the desert site near the crest of a desolate limestone ridge where Moses allegedly struck that rock. After 6,000 years, water was still coming out in abundance!

Primary water was well known to the ancient Greeks. Aristotle, in Meterologicia notes:

"The water coming from the earth unites with rain water to produce rivers. The rainfall alone is quite insufficient to supply the rivers of the world with water."

In the Koran we read:

"For among rocks there are some from which rivers gush forth; others there are which when split asunder send forth water." (2, Verse 74)

Leonardo da Vinci, Johannes Kepler and Rene Descartes each considered the vast network of subterranean water as the blood of our planetary organism. In one of the clearest expressions of the modern notion of primary water, 16th century scientist Georgius Agricola, considered the "Father of Mineralogy", observed that:

"Besides rain, there is another kind of water by which the interior of the earth is soaked, so that being heated it can continually give off halitus (water vapor), from which arises a great and abundant force of waters."

More recent primary water pioneers include the great early 20th century Austrian geologist, Eduard Suess, who coined the term "juvenile water", and his student, Stephan Reiss, a mining engineer who located prolific wells throughout the world at the request of heads of state who learned of his unconventional, but highly successful techniques for locating water in arid, drought stricken regions.

Master dowsers Vern Cameron and Bill Cox were also successful in siting highly productive wells with their understanding of primary water. In the 1950s they were able to restore California's dried out Lake Elsinore to its original glory with three primary water wells producing over 9,500 gallons of water per minute in total.

Despite the scant attention paid to primary water by conventional hydrologists, my own research has produced a wealth of evidence highlighting its fundamental importance to our planetary life, its widespread appearance and the promise it holds for humanity.

Africa's Great Rift Valley, whose deep lakes are home to over 25% of the world's fresh water. Hydrothermal vents discovered in the last 20 years at the bottom of these lakes testify to the primary origin of these waters.

For example, all of the world's largest lakes are found in rift zones, geologic discontinuities or volcanically active regions where deep waters of magmatic origin make their way to the surface.

All of the world's major rivers are fed by primary sources. Countless springs all over the world, both hot and cold, have flowed abundantly for thousands of years without interruption – even in some of the world's most arid regions.

Volcanic lakes, hydrothermal vents, desert oases, deep boreholes and the abundance of water throughout our solar system and in deep space all point to the magnitude of this phenomenon.

Teaming up with Stephan Reiss protégé, Pal Pauer, the US non-profit, Global Resource Alliance, launched a project in 2007 called Maji Mengi (Abundant Water) to bring clean, safe water to villages in East Africa suffering extreme water scarcity.

Borehole at a Masai village in Amboseli National Park, Kenya located by Pal Pauer and funded by Global Water of Oxnard, CA.

In the early days, drilling locations were located by dowsing and observation of visible geological and biological indicators associated with primary water sources. More recently, electrical resistivity methods have been added to help pinpoint narrow, conductive fractures in the underlying bedrock which serve as conduits for water generated at depth.

So far, over 75 successful boreholes serving thousands of families have been completed. The cost per person is less than $30. The deep seated water is bacteria free and continues to flow throughout the year – even in times of drought.

This project demonstrates, on a small scale, the potential of primary water to help meet the need of hundreds of millions on the planet today still suffering from the lack of clean, safe water.

In the foreword to a book about the work of Stephan Reiss published in 1960 called New Water for a Thirsty World, philosopher Aldous Huxley remarks:

"After seeing a few of his wells spouting water from the solid granite at the rate of two or three thousand gallons a minute, and after listening to what he had to say about faults and fissures, about juvenile water and primary water, about hydrogen and oxygen coming together at high temperatures and under vast pressures in the bowels of the earth and rising, as H2O towards the surface, wherever the crust was weak, I began to understand the mystery of Nefta and Jericho; and I began at the same time to feel a little more hopeful about humanity's prospects for survival and a good life on this under-watered and soon to be overpopulated planet."

Like many springs around the world, this one in the middle of the Gobi Desert called Crescent Lake has not run dry for thousands of years. Where do its perpetual waters originate?

Primary, juvenile or earth-generated water is yet another of Gaia's many blessings. Abundant life is the heritage of humanity, if only we can learn to live in harmony with one another and with nature, and to use wisely and reverently that which our planet so generously supplies.

Lyn Hebenstreit is President of Global Resource Alliance, Inc., a tax-exempt US non-profit organization founded in 2001 to promote simple, natural and sustainable solutions to the challenges of hunger, poverty and disease in developing regions of the world. http://the-door.net/the-colorado-center/primary-water-essentials

Links:
www.GlobalResourceAlliance.org
www.gra-usa.org/programs#Primary-Water

Rural Water Supply

Water is essential to overcoming hunger, poverty and disease, yet worldwide, more than one billion people still lack access to clean, safe drinking water. Five million people, mostly children, die each year from water-borne diseases - double the number of deaths caused by AIDS. Some 60% of all infant mortality is linked to infectious and parasitic diseases, most of them water-related.

One of GRA's most ambitious Programs

In December 2003, the UN General Assembly proclaimed the years 2005 - 2015 to be the International Decade for Action, "Water for Life" - an international drive to bring safe water and basic sanitation to communities around the world. The goal set by the UN Millennium Project is to halve, by 2015, the proportion of people without sustainable access to safe drinking water and basic sanitation.

105 Water Wells in Operation!

. ..and they said it couldn't be done!

Employing remarkable perseverance, GRA has successfully located and drilled 105 (AND COUNTING) ABUNDANTLY-FLOWING, WELL WATER BORE HOLES, servicing Africa's Tanzanian villagers, schools, public and private organizations, and various government institutions.

A Deep Investment

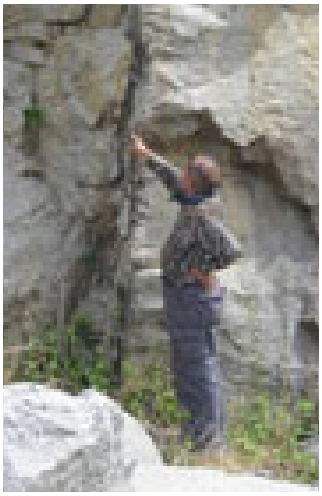
GRA has responded to the call by initiating a bold and unconventional water resource development project called "Maji Mengi" (Abundant Water). In 2008, we imported a new DeepRock drilling rig, Atlas Copco air compressor and used vehicles from the UK to drill boreholes for rural communities, schools, health centers and churches utilizing theories developed by the late Stephan Riess, of Ojai, CA. Our volunteer project consultant, Pal Pauer, is a protégée of Riess with over thirty years experience locating and tapping the abundant, clean water found in fractured primary rock.

$30 per person - For a Lifetime of Clean Water

A single borehole typically serves about 300 people and costs under $9,000, including a top quality, Dutch-made hand pump. At $30 per person for a lifetime of clean, safe water, the cost is significantly less than what villagers pay for the wood or charcoal needed to boil contaminated water formerly collected from up to 5 miles away. To take the risk out this sizable investment, GRA guarantees that the boreholes we drill yield enough high quality water to justify the installation of a hand pump - or the village pays nothing.

Completing a borehole is only the start of the process. No matter how good, or how abundant the water is at any particular borehole, if the pump is broken, it's of no use at all. Africa is awash with broken pumps – rendering nearly 60,000 boreholes useless. GRA works closely with communities to help organize water user committees to establish policies related to governance, distribution and pump maintenance and then follow up every six months – or thereabouts – to ascertain the status of each borehole. If needed, our crew is available to fix broken pumps – free for the first year - and for a reasonable fee after that.

About Primary Water



Primary water expert, Pal Pauer, pointing out rock fissure that transports primary water.

Primary water theory states that water is created within the Earth's interior and travels toward the surface via fissures and fractures in primary rock. This water represents new additions to the standard hydrological cycle. It can be accessed by drilling into bedrock, often at depths of just 100 to 300 feet. Also referred to as new, juvenile, magmatic or earth-generated water, mention of primary water can be found in modern literature, although it is not generally recognized as significant by the hydrological community. Accordingly, it's potential to ameliorate the world's growing water crisis remains largely unrealized.

Evidence of primary water comes from a variety of sources. Natural springs, for instance, can be found throughout the world that have been producing thousands of gallons of pure, fresh water per minute continuously since biblical times. Many of these, like the Fountain of Apollo in Libya and the Ain Feigh in Syria, have seeded civilizations. Others, like giant springs of Florida, are merely wonders of nature.

In addition to these naturally occurring springs, primary water is often encountered accidentally when tunneling through rock for mines, roadways or waterways - even at high elevations, far above any drainage basin. The famous Comstock silver mine on the Eastern slope of Mt. Davidson near Nevada City, for example, pumped over 5 million gallons a day out of flooded mineshafts until the pumps failed and the mine was closed in 1886. In the 1950's water was struck tunneling through the Santa Ynez Mountains in Santa Barbara that flowed at over 13 million gallons a day. Construction was halted until the gushing fissure could be sealed.

Many castles in Europe, built hundreds of years ago on high rocky promontories, have wells hand hewn in solid rock that have been producing fresh, pure water for centuries. More recently, in the past ten years, exploration projects in Sudan, Somalia and the West Indies islands of Trinidad and Tobago have successfully tapped the abundant water locked in fractured bedrock. By defying conventional hydrological wisdom, an innovative engineering company was able to obtain yields of up to 50 times that estimated by the "experts", at a fraction of the cost of other alternatives.

http://gra-usa.org/contact-us

If you have questions regarding Global Resource Alliance, you can contact us by phone, post or e-mail and we'll get back to you as soon as possible. Thanks!

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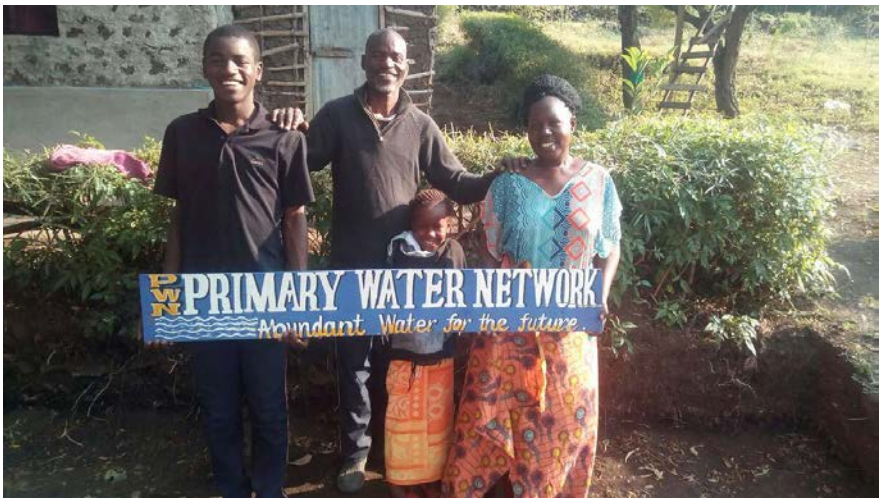
Thoughts About Drilling a Borehole, and Advancing the Use and Understanding of Primary Water

By Debra Hamilton and Paschal Oloo Odienge (Near Homa Bay, Kenya)

It is hard for us to imagine, here in America, the struggle for water that faces people in other countries like Kenya. The dangerous daily trips by women and children to carry water from the water hole is a daily ordeal and is a life or death journey. Often, the water is 4 or 5 miles away and instead of being in school, these young people have committed their lives to scooping out scarce water from mudholes and dirty ponds and then carrying the heavy containers home. Some spend hours in line at community ground-water wells only to have the water run out and go home empty handed. In Kenya each year, well over two million people, including over 10,000 children, die each year from water, sanitation, and hygiene-related causes.



Paschal with his wife Syprose, and children John and Maria.

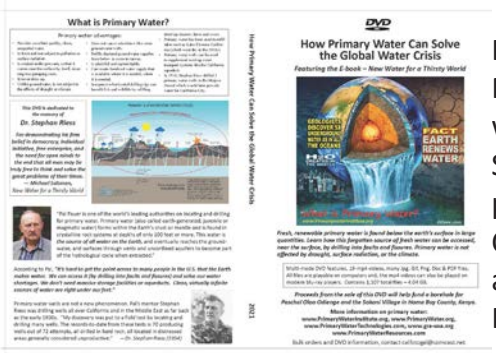
I have to wonder how we could do something to improve the lives of these people who are barely able to exist. Why isn't humankind more focused at solving these problems of water scarcity and hunger? Why do we get distracted by meaningless issues that don't matter?

But I found there is a solution to the global water crisis, and today, you can help us provide unlimited clean water for several thousand thirsty people in Kenya by drilling a borehole, and also help us promote the use of Primary Water.

Debra's Introduction to Primary Water

Several years ago, here in California, I met a remarkable man named Pal Pauer (Paul). He is known as the Hungarian Water Wizard and has spent a lifetime drilling water wells all over the world. He informed me there is a source of fresh water that is never mentioned in the mainstream media, or widely understood by geologists. This forgotten resource is called Primary Water.

Of course, I was surprised and thrilled that a source of water I never heard of existed to address the horrible water shortages we were experiencing in California and elsewhere. I enthusiastically volunteered my time to work with Pal to try and move the unknown Primary Water Cycle into the mainstream.



I began to study and collect everything I could find about Primary Water. Pal gave me videos of many successful drilling projects he worked on, and we compiled numerous scientific papers and news articles. I learned about Stephan Riess and his pioneering spirit who discovered the existence of primary water in the 1950's and drilled hundreds of primary water wells in California and around the globe. Stephan eventually shared his experience and training with Pal. A compilation of information forms a new DVD I call How Primary Water Can Solve the Global Water Crisis.

Since I had a long-time government job, I felt like I was in a position to make a difference and reach out to other government employees and decision makers and let them know about primary water. California was suffering from a severe multi-year drought and some communities had even run out. Water had to be hauled in by truck for thousands of people in the Central Valley.

So, we e-mailed every legislator here in California to inform them of the possibilities of Primary Water. I'm not a public speaker, but I was invited to speak at a hearing of the State Water Resources Control Board (SWRCB) in Sacramento about the potential of using primary water instead of diverting water through the Delta twin tunnel proposal.

I passed out the Primary Water DVD's to all the board members who seemed interested at the time. We also gave a DVD to every Director of every California state agency that had anything to do with managing water. But to my surprise, I got no-response, even from my own department. I was forced to come to the conclusion that even though the need for fresh water was great, the technology of accessing Primary Water was being repressed by our own government.

Debra Hamilton testifies about Primary Water at the California State Water Resources Control Board meeting on July 27, 2016.

Paschal with Pal Pauer.

Paschal's Introduction to Primary Water

The year was 2009 when quite by chance, Kenyan Paschal Oloo Odienge met Pal Pauer while he was consulting on numerous water-well drilling projects for the Global Resource Alliance in Tanzania (GRA-TZ). The men became friends and eventually Pal would teach Paschal the art and science of finding and drilling for primary water. Paschal would use what he learned from Pal and spend more than 5 years working for the GRA-TZ drilling primary water boreholes all over Tanzania.

For the Global Resource Alliance-Tanzania, my main job was locating Primary Water borehole sites. Later-on, as I gathered more knowledge and experience, I coordinated the whole water drilling program before becoming the Executive Director and CEO.

We were doing a great job and at the time of my departure in April 2016, our boreholes numbered more than one hundred. All these boreholes yielded very good quality water. It was a most valuable legacy for the thirsty Tanzanian people who benefitted from the noble work that Global Resource Alliance-Tanzania accomplished

GRA drilling a successful primary water borehole located by Paschal in Tanzania.

Back in Kenya, after being away for more than 15 years, except for the brief and sporadic visits people make to their villages on weekends and holidays, I was a complete stranger to the new life I was to begin in the village.

Paschal with Jeremy Christian from New Zealand in Machakos Kenya, October 2017. Jeremy is Primary Water supporter and a new trainee in Primary Water exploration.

All my life I have had a great desire to be a farmer; I love growing things! Getting my hands dirty in the soil as I plant, nurse and grow things is a wonderful source of joy for me. I missed my garden in Tanzania where I lived and grew paw paws, tomatoes, passion fruits and other vegetables.

My crops germinated well and I began giving them the special treatment they require. After two months and only a few weeks away from harvest, the rain stopped abruptly, the melons failed to make it to the market. Think of the labor and the cost of keeping them healthy. This same thing happened to me for three successive years thereby bringing me back to my senses! I need a well!!

To see this drought, to watch and live through it each day is not an easy task, because of the knowledge of primary water that I have. The losses to farmers and the countless lives needlessly lost due to using contaminated and very dirty water for cooking and drinking.

Lifting my eyes and looking around I can instantly see hundreds of potential drilling sites with the possibility of producing primary water. This is what has given me the impetus to walk this path to help solve this great problem. I appeal to all of you who are reading this to understand this difficult challenge, to be our springboard, to help change the world by exploring more ways of bringing more primary water to our thirsty planet. This is just the beginning, people are thirsty everywhere, thirst is more urgent than food. Let us address this solution together!

Paschal growing corn in 2021. Luck brought rain at just the right time and 3 acres produced a wonderful harvest.

Paschal's Goals

I would like to drill a primary water borehole on my property to address the water needs of more than three thousand people living in my village, and the surrounding villages, their livestock and wildlife. I would also like to set up a non-profit organization to help educate people about primary water and in the future, when we have the resources, open an academy where people from all over the world can come and learn the techniques of finding and drilling for primary water.

Syprose and Maria.

This primary water technology would help quench the thirst of very helpless and discouraged members of my community. You may also be creating the beginning of a new thirst free world. Please, help me use my valuable knowledge to find and drill for primary water and help my people here in Kenya and eventually, the rest of the world! **Write to Paschal: PaschalOdienge@gmail.com.**

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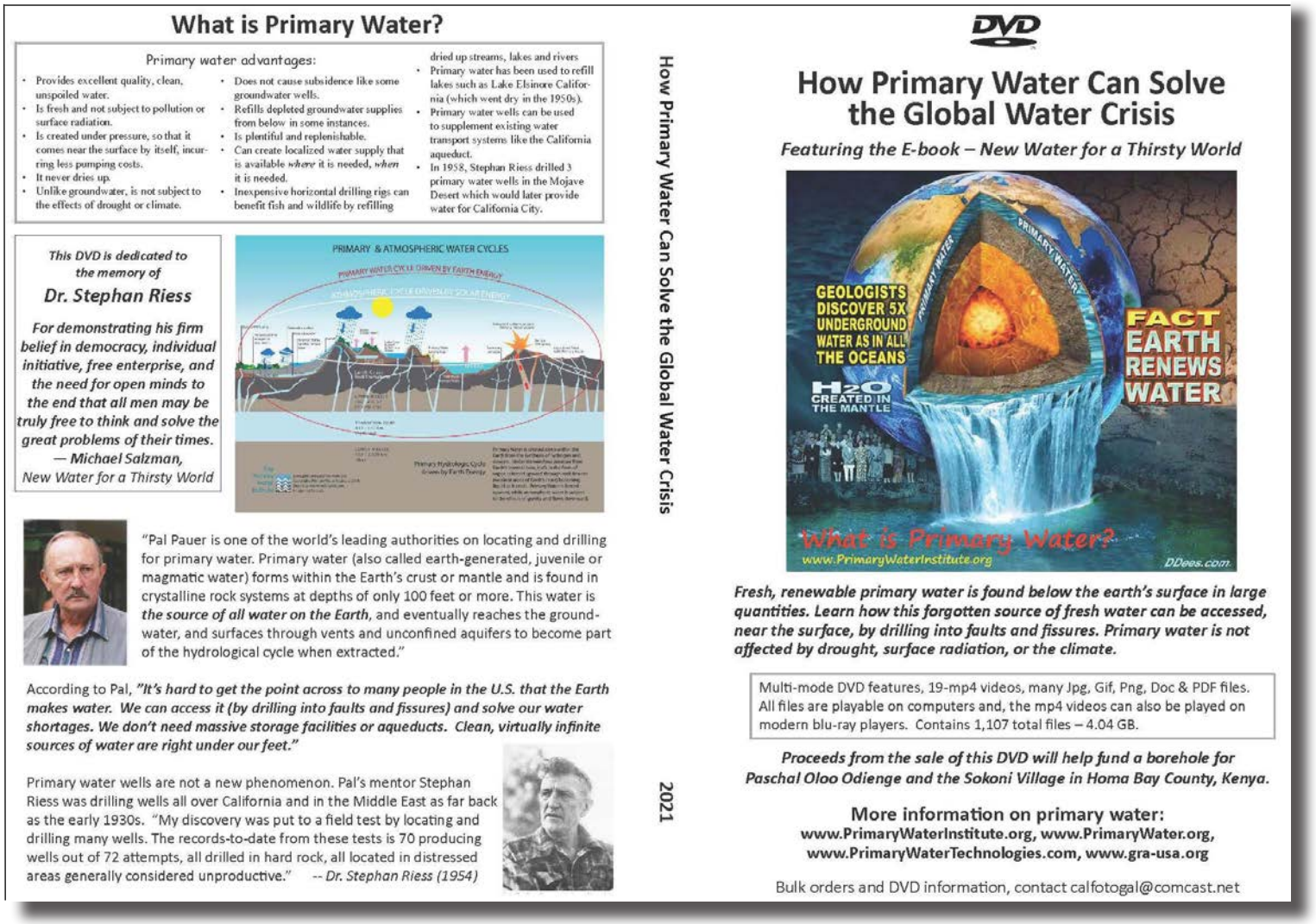

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An Ancient Primary Water Source That Could Make Drought a Thing of the Past

Posted on October 1, 2021 *by Ellen Brown*

Oceans of water are beneath our feet, and new technologies are extracting it economically without ecological damage.

Lack of fresh water is now a global crisis. Water shortages mean food shortages, with hunger creating death tolls substantially exceeding those of the current Covid-19 crisis. According to the United Nations, some 800 million people are without clean water, and 40% of the world's population is impacted by drought. By one measure, almost 100 percent of the Western United States is currently in drought, setting an all-time 122-year record. Meanwhile, local "water wars" rage, with states, cities and whole countries battling each other for scarce water resources.

The ideal solution would be new water flows to add to the hydrologic cycle, and promising new scientific discoveries and technologies are holding out that possibility.

But mainstream geologists have long contended that water is a fixed, non-renewable resource; and vested interests are happy to profit from that limiting proposition. Declaring water "the new oil," an investor class of "Water Barons" —including wealthy billionaire tycoons, megabanks, mega-funds and investment powerhouses — has cornered the market by buying up water rights and water infrastructure everywhere. As Jo-Shing Yang, author of "Solving Global Water Crises," wrote in a 2012 article titled "The New 'Water Barons': Wall Street Mega-Banks are Buying up the World's Water":

Facing offers of millions of dollars in cash from Goldman Sachs, JPMorgan Chase, Citigroup, UBS, and other elite banks for their utilities and other infrastructure and municipal services, cities and states will find it extremely difficult to refuse these privatization offers.

For developing countries, the World Bank has in some cases made water privatization a condition of getting a loan.

Competing Theories

Geologists say that all of the water on Earth, including the atmosphere, oceans, surface water and groundwater, participates in the natural system called the "hydrologic cycle," a closed circuit in which water moves from the surface to the atmosphere and back again. Rainwater falls, becoming groundwater which collects in aquifers (underground layers of porous rock or sand), emerging as rivers and lakes, and evaporating into clouds to again become rain. New water called "juvenile, virgin, primary or deep earth water" may be added through active volcanos.

The most widely held theory is that water arrived on the planet from comets or asteroids, since any water on Earth when it was first formed would have evaporated in the intense heat of its early atmosphere. One problem with that theory is that comet water is different from Earth water. It has a higher ratio of deuterium ("heavy water" with an extra neutron in it). Asteroids, too, are not a good fit for Earth's water. A study reported in January 2017 based on isotopes from meteorites and the mantle found that water is unlikely to have arrived on icy comets after Earth formed.

A more likely theory gaining new attention is that Earth's water comes largely from within. Minerals containing hydrogen and oxygen outgas water vapor (H_2O) under intense pressure and heat from the lower mantle (the layer between Earth's thin crust and its hot core). Water emerges as steam and seeps outward under the centrifugal force of the spinning earth toward the crust, where it cools and seeps up through the fractured rock formations of the crust and the upper mantle.

Studies over the past two decades have found evidence of several oceans' worth of water locked up in rock as far down as 1,000 kilometers, challenging the assumption that water arrived from space after Earth's formation.

Another study, reported in New Scientist the same month, showed that Earth's huge store of water may have originated via chemical reactions in the mantle rather than coming from space. The researchers ran a computer simulation of reactions between liquid hydrogen and quartz in Earth's upper mantle. The simulation showed that water forms within quartz but then cannot escape, so the pressure builds up – to such high levels that it could induce deep earthquakes. Rather than hydrogen bonding into the quartz crystal structure, as the researchers expected, it was found to disrupt the structure by bonding with oxygen. When the rock melts under intense heat, the water is released, forming water-rich regions below Earth's surface. The researchers said that water formed in the mantle could reach the surface in various ways — for example via magma in the form of volcanic activity — and that water could still be being created deep inside the Earth today. If so, that means water is a renewable resource.

New Technological Solutions

The challenge is drawing this deep water to the surface, but there are many verified cases of mountaintop wells that have gushed water for decades in arid lands. This water, which could not have come from the rainwater of the conventional hydrologic cycle, is variously called "deep-seated," "juvenile" or "primary" water. It is now being located and tapped by enterprising hydrogeologists using technological innovations like those used in other extractive industries – but without their destructive impact on the environment.

According to Mark Burr, CEO of Primary Water Technologies, these innovations include mapping techniques using GIS layering and 3-D modeling, satellite imagery and other sophisticated geophysical data collection; radiometrics, passive seismics, advanced resistivity and even quantum physics. A video capturing one of his successful drills at Chekshani Cliffs, Utah, and the innovative techniques used to pinpoint where to drill, can be seen here. (www.vimeo.com/470010968)

Burr comments that locating "primary water" does not require drilling down thousands of feet. He says that globally, thousands of primary water wells have been successfully drilled; and for most of them, flowing water was tapped at less than 400 feet. It is forced up from below through fissures in the Earth. What is new are the innovative technologies now being used to pinpoint where those fissures are.

The developments, he says, mirror those in the U.S. oil and gas industry, which went from cries of "Peak Oil" deficiency to an oil and gas glut in less than a decade. Dominated for 40 years by a foreign OPEC cartel, the oil industry was disrupted through a combination of scientific advancements (including recognition of abiotic oil and gas formations), technological innovation, and regulatory modernization. The same transformation is under way in water exploration and production.

Water Pioneers

These developments were pioneered in the U.S. by Burr's mentors, led by Bavarian-born mining engineer and geologist Stephen Riess of San Diego. Riess drilled over 800 wells around the world before his death in 1985 and was featured in several books, including "New Water for a Thirsty World" (1960) by Dr. Michael Salzman, professor of economics at the University of Southern California.

Partnering with Riess until his death was Hungarian-born hydrogeologist Pal Pauer, founder of the Primary Water Institute based in Ojai, California. Pauer has also successfully located and drilled over 1,000 primary water wells worldwide, including over 500 in East Africa. One noteworthy well was drilled high on the top of a mountain in Kenya at Ngu-Nyumu, captured in a short video here. The workers drilled through rock and hit water at 300 feet, pumping at 15-30 gallons per minute. The flow, which is now being captured in a water tank, is still serving hundreds of villagers who were previously hauling water from heavily infested streams in jugs balanced on their heads.

Another remarkable mountaintop project overseen by Pauer involved two wells drilled at a 6,000 foot elevation in the Tehachapi Mountains in California. The drill first hit water at 35 feet. The 7-inch diameter borehole proceeded to eject water at a rate estimated to be over 1,000 gallons per minute. The event is captured on YouTube here. (www.youtu.be/4zzMfAw-hKo)

Fresh Water Is Ubiquitous and Renewable

What these researchers call "primary water" or "deep seated water" is classified by the National Ground Water Association (NGWA) simply as a form of "groundwater," since it is in the ground. But whatever it is called, these newly tapped flows have not been part of the hydrologic cycle for at least the last century. This is shown on testing by the lack of the environmental contaminants found in the hydrologic water cycle. From the time when atomic testing began in the Pacific, hydrologic water has contained traces of tritium, a radioactive isotope of hydrogen used as a fuel in thermonuclear bombs. Primary water shoots up tritium-free —clean, fresh and usually drinkable without filtration.

The latest NGWA fact sheet explicitly confirms that water is a renewable resource. It states:

- About 90 percent of our freshwater supplies lie underground, but less than 27 percent of the water Americans use comes from underground sources, which illustrates the under-utilization of groundwater.
- Groundwater is a significant water supply source — the amount of groundwater storage dwarfs our present surface water supply.
- Hydrologists estimate, according to the National Geographic Society, U.S. groundwater reserves to be at least 33,000 trillion gallons — equal to the amount discharged into the Gulf of Mexico by the Mississippi River in the past 200 years.
- At any given moment, groundwater is 20 to 30 times greater than the amount in all the lakes, streams, and rivers of the United States….
- Groundwater is a renewable resource.

In some states, such as Texas, property owners have the right to capture the water beneath their property (called the "Rule of Capture"), but this is not true in other states. California, for example, has a complicated system of regulation requiring costly and laborious permits. Granting property owners the right to drill wells on their own property, particularly where the water has been tested and shown to be "deep" or "primary water," could be a major step toward turning water scarcity into abundance.

According to the American Society of Civil Engineers, the U.S. needs over $500 billion in infrastructure investment just for drinking water, wastewater, stormwater and dams. But legislators at both federal and state levels have been slow to respond, chiefly due to budget constraints. One proposal is a National Infrastructure Bank (HR 3339) constructed on the model of Franklin Roosevelt's Reconstruction Finance Corporation (discussed in my earlier article here). When

allocating funds for water usage, however, policymakers would do well to consider investing in "primary water" wells.

Tapping into local deep water sources not only can help ease pressures on debt-strapped public treasuries but can bypass the Water Barons and relieve territorial tensions over water rights. Water sovereignty is a critical prerequisite to food sovereignty and to national and regional independence. As noted in a recent Water Today article, quoting James D'Arezzo:

"The fact is, we do not have to severely restrict water usage, if we leverage all the tools at our disposal. There is plenty of water available on the planet and we now know how to find it. We also have newer best practices that can make a dramatic difference in total usage…. If we start acting now, in a short time the headlines about 'water restrictions' and grotesque pictures of dead animals and starving children can be replaced with headlines about more food production, smarter use of water and less conflict."

Ellen Brown is an attorney, chair of the Public Banking Institute, and author of thirteen books including Web of Debt, The Public Bank Solution, and Banking on the People: Democratizing Money in the Digital Age. She also co-hosts a radio program on PRN.FM called "It's Our Money." Her 300+ blog articles are posted at EllenBrown.com. **Link for access to numerous references throughtout the article**: https://ellenbrown.com/2021/10/01/a-new-water-source-that-could-make-drought-a-thing-of-the-past/#more-15380

January 12, 2022 – Addendum -

Water Pioneers in Australia

by The Earth Organization (LAEO)

Like California, Australia is an arid land with chronic water problems–but, interestingly, it possesses ancient wisdom in water mapping and water locating based on indigenous traditional knowledge. While recognizing the aboriginal nomadic tribal techniques for mapping water, one notable New South Wales water wizard, Robert Gourlay, brought modern geology and biology science disciplines into alignment with nature's ingenious systems. Like many outside-the-box thinkers, Gourlay was earlier dismissed by academia for departing from conventional approaches in the water and Earth sciences.

Seeking to help advance and codify the early work done by water pioneers such as Riess and his protégés, an international non-profit, the Lawrence Anthony Earth Organization (LAEO), established a water science research group that eventually went to study with Gourlay.

Having the original intent to help Pal Pauer's Primary Water Institute with its educational purposes, LAEO was on a mission to aggregate and formalize all water wisdom to assure the know-how would never become a lost technology.

The group had already spent several years searching the globe to locate and codify all that could be found of existing know-how on Primary Water and related subjects. In 2016, after hitting dead ends on their path to find scientifically documented proof, LAEO ran across an article by Mr. Gourlay. In late 2017, they set up an R&D base in Australia, sending a team of three scientists to Gourlay's remote research facility in the Mongarlowe River Region of New South Wales. Their purpose? To preserve and make complete records of Gourlay's early breakthroughs as a part of LAEO's compilation of a complete body of water exploration knowhow so that none of the advancements in this field would be lost for future generations.

Known for spearheading major advancements in geo spatial data analysis systems and bore siting field techniques in the 1990s, Gourlay was happy to share his experience and help educate others. The LAEO team spent 18 months recording and advancing the know-how.

After formalizing the compilation of their water exploration science under the name Deep Seated Water Tech™ (DSW Tech), the non-profit helped set up several partner enterprises to export water solutions globally, including GIS Analytics Global LLC (GISA) and GIS Analytics Research Australia (GISARA), (later changed to AquaterreX and AquaterreX Australia respectively). (www.AquaterreX.com)

In late 2018, LAEO & GISA introduced DSW Tech to an Australian venture capital entrepreneur, Ross Martiensen. Hoping to gain support to help expand their public benefit goals, LAEO shared their advancements along with their research data, contacts and library of information on Primary Water with Martiensen. He formed his own company, Sustainable Water Solutions (SWS), which later became a partner of Burr's Primary Water Technologies.

LAEO teamed up with SWS and Martienson's non-profit Drought Fix on several projects to help drought stressed farmers in New South Wales and the Granite Belt in Queensland. They completed a case study project in Stanthorpe, Queensland, a town whose water resources had completely run dry and, as a result, their advanced techniques were featured on ABC's Landline in July 2020.

At present, AquaterreX LLC and its Australian subsidiary are utilizing Deep Seated Water Technology on projects in the U.S., particularly the highly arid Southwestern states, as well as South Africa, the Middle East and Australia. According to its website, AquaterreX is an international enterprise bringing together a variety of earth sciences and proprietary methodologies to locate reliable sources of Deep Seated Water with nearly 100% accuracy. It has illustrated and defined Deep Seated Water at: https://aquaterrex.com/deep-seated-water-illustration-explained.

The Truth is Being Revealed and We are Taking Back Our Power

In case you're been living under a primary water rock for a while and aren't aware of the changing social and political scenes, there is a great shift happening right before our eyes.

By Teri Lynn aka "Xena"

Unless you are extremely astute or have access to a higher understanding it would appear we are doomed to a system of control that is being presented as a positive and necessary trajectory while it slowly takes our inborn natural rights away, never to return. But the interesting thing about Inborn natural rights is, by their very nature they can't be taken, only given away by consent. And guess what? Silence, inaction and ignorance IS consent. If something is being taken from you and you do nothing or don't care to know you have, in effect, given consent. **This system of control that has slowly inched its way into our lives we will either continue to consent to or not, therefore controlling the trajectory.** We are at an important crossroads individually and the writing is clearly on the wall. Yet, the writing is going to be interpreted differently depending on the lens we use.

The Lens of Clarity

The lens we use will depend on where our heart, spirituality and awareness reside. Are we satisfied with the scratched blurry lens that does not honor our deep intuition and instead lulls us into inactivity resulting in stripping us of the gifts we own? Or do we reach for the perfectly clear lens within our reach and prepare to interpret what we see with trust in our innate ability to perceive truth?
The truth is we've been lied to. A lot. That's the first thing we need to come to grips with. Then if we don't consent to believing the lies we can keep the rights to our power. Namely, the power of truth. Our own truth, whatever that is but also a universal truth. A truth of "knowing". As a race we have largely lost that, yet it's right there for us to have. While belief is the enemy of knowing, truth is the best friend of it.

The Primary Truth

The primary truth is we have everything we need and more, without requiring permission for access. In some cases it's right beneath our feet! One of the most basic, abundant, life giving, valuable, magical, misunderstood, underestimated and under appreciated necessities on this planet just happens to be one of the most stolen, hidden and lied about commodities. Yet, now is the time for the truth to be revealed to the world. Why now? Because we are taking back our power.

Do you know the power of water? Few do. But we all know the strength of many drops coming together to form an ocean, a wave, or tsunami. What if we as a human race learn from this precious resource and form a cohesive bond resulting in the same force? Ah, then there's magic. **Now is the time to use the clear lens of truth to see all that is revealed and take action.**

Teri Lynn filling her jugs with Sedona Spring Water

Primary water is our RIGHT. It's been stolen from us in the form of forced ignorance. We don't know what we don't know. But now this truth among many are being revealed. We've been fed lackluster, second hand goods for way too long. **Primary water is a ticket to freedom, higher consciousness and joy.** Who knew the earth itself manufactured its own never-ending supply of this magic stuff? Who knew there was a substance available to all that is at present the only thing our bodies would come in contact with that has never experienced a pollutant. **Who knew you could source it right in the middle of the Arizona desert?**

The Solution

Tapping into this source of goodness that is mine to have has been a silent quest. Walking the virtually untouched 40 acres of arid, sandy property I call mine had me curious. As I pick up broken pottery left by native people who called it home before me I wonder if they sensed beneath them was a massive jewel? I wondered if I could actually be deemed worthy of unrestricted access?

My curiosity was finally satisfied by two men who trekked out to answer the question of "what if...?" Two men who understand. The results? Oh my! Jubilation! My love of a substance that trumps all in my mind is just waiting for my invitation to emerge. And an invitation I intend to send!

There are groups forming with the goal of claiming our inborn rights to primary water and so much more. Groups who believe **primary water should be free to every living thing on this planet as a birthright.** I am involved in such a group and we wish to connect with others to form a wave of change. We are the only ratified assembly of people in Arizona empowered to unite in taking back our power. As for the trajectory of the path that leads to giving up our inborn rights I do not consent. What about you?

PROPOSAL: Water Exploration and Production (Water E&P)

Primary Water: earth-generated water also referred to as juvenile, magmatic, plutonic, paleo, ancient, trapped, conic, mineral, thermal…in all cases it is *new water* added to the atmospheric cycle. It has now been proven using deep-earth seismics that hydrogen and oxygen combine in the transition zone of the mantle at a depth of c. 400 miles, where our silicate bedrock is formed, and makes its way to the surface via the centrifugal forces of our planet, emerging both at the bottom of our oceans in massive quantities and at the highest mountain elevations.

Water E&P: seeks to deploy the proven methodology of all other oil/gas and mineral extraction ventures in the area of pinpoint well location and precision borehole drilling to produce potable water at near surface depths in all formations regardless of climate or precipitation.

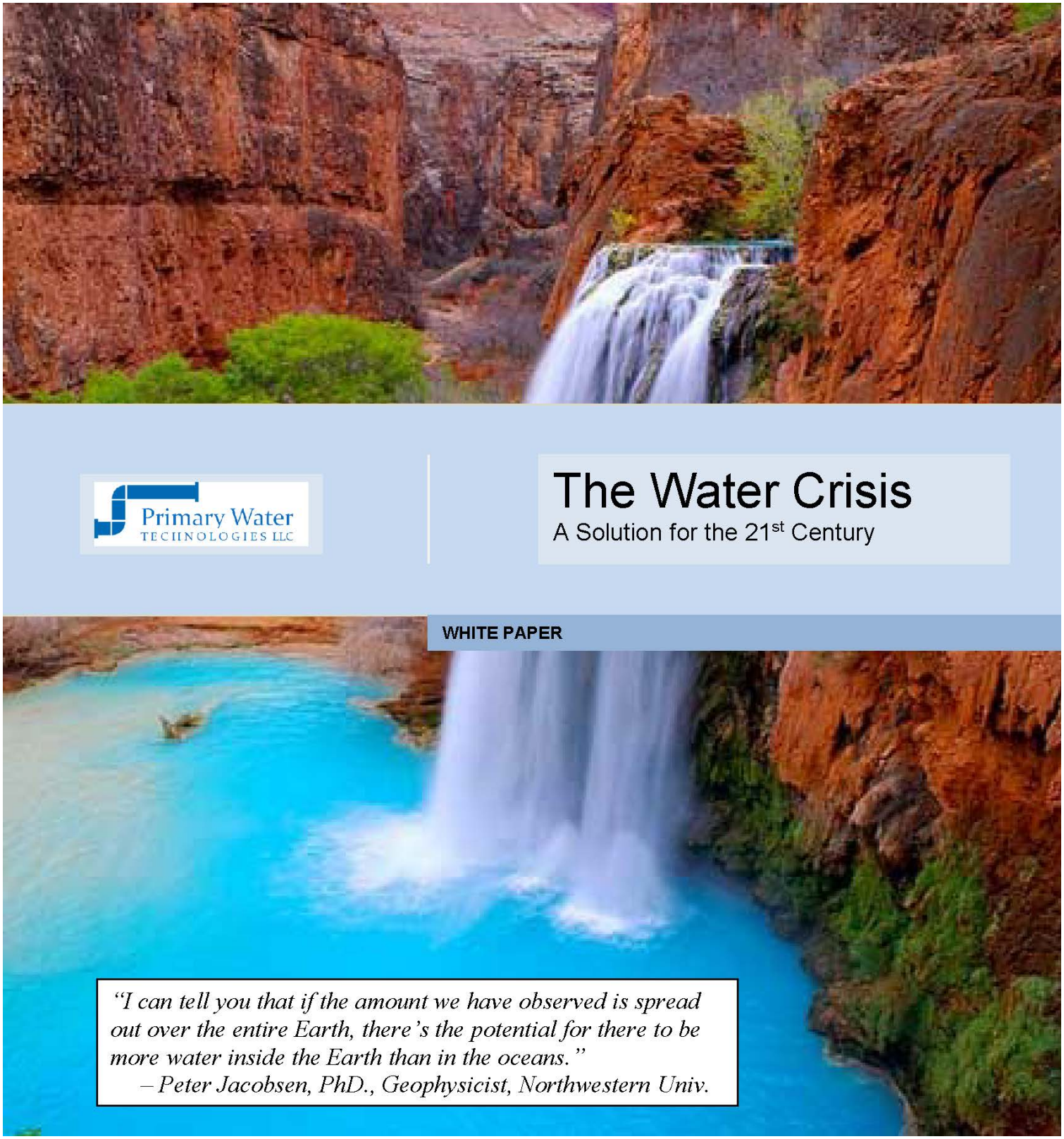
Exploration: involves a multi-disciplinary approach using aspects of geochemistry, petrology, mineralogy, crystallography, physical chemistry and structural geology. Advanced geophysical data collection and analytics can and should be utilized, focusing on the passive data collection of magnetics, radiometrics, gravity and advanced seismics, as well as satellite imagery and data such as DEM, SAR and the full range of Landsat capabilities.

Production: employs standard water well drilling rigs and equipment but in unique ways – in search not of aquifer basins but renewable non-aquifer sources. Like "mining for water" we drill small boreholes into primary water formations and contact points, almost always seeking primary bedrock (hence "rock drillers") while sealing off vadose and surficial contamination to produce primary water, almost always rising under pressure yielding shallow static levels and thus simple submersible (or even non-electrical mechanical) pumps, and without the need for filtration. Preference is to drill at higher elevations to allow for gravity flow to area of use.

Deployment: is rapid as a result of a short E&P cycle of pre-deployment mapping and data analysis of the designated project area (parcel, polygon, district, region), remote fracture trace mapping, and minimal personnel (usually two expats); drillers and rigs can be pre-qualified and thus contracted locally before decision is made to own rigs and crews; multiple sites can be located and drilling commenced during a 2-week engagement; PW project manager will stay on once project is launched and expectations are met to continue rollout and training.

Training: a formal program can be developed to create relatively self-sufficient teams in multiple geographies; involving a combination of alternating classroom and fieldwork. Primary Water E&P is an applied science and can only reach the 90/95% success rates experienced by the many practitioners through practical application and some trial and error.

Business Model: E&P costs can be minimized if principals partner in downstream revenue sharing, either from off-take sale and/or distribution and retail scenarios.



www.primarywatertechnologies.com/files/White%20Paper_PWT.pdf

Water Independence and Water Security...now!

Primary Water Technologies LLC (USA) is the first water exploration and production (Water E&P) venture established to locate, drill into and produce high quality earth-generated Primary Water worldwide. Primary Water refers to renewable unconventional groundwater resources available globally regardless of geology or climate. Primary Water E&P follows the proven methodology of the other extractive industries of the oil/gas and mining sectors. Advanced remote sensing and geophysical technologies assist in pinpoint locating these resources; precision drilling using standard DTH dual rotary air hammer drilling rigs into typically consolidated and hard rock formations ensures minimal contamination and maximum production. We drill where the water is!

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METAL WATER FINDER USA
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RS ENTERPRISES
www.rsenterprize.com/water-detectors.html

Historical Photos of Lake Elisinore & Tecolote Tunnel

An extended drought from 1947-1957 left a wind-blown, dusty, dry Lake Elsinore in California. Bill Cox, Mathew Yax & Verne L. Cameron make plans to use Primary water to refill the lake.

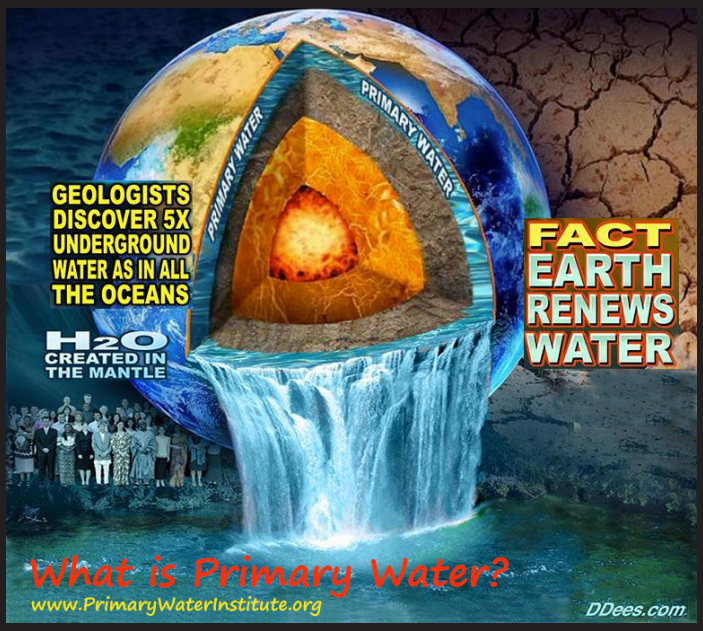
Lake Elisinore was fully restored by primary water due to the innovative work and skill of Verne L. Cameron and Bill Cox.

Bill Cox inspects the inflow into a clients reservoir from one of his primary water well sites in 1991.

The first Lake Elisinore well tested a consistent flow of 5,500 gallons per minute from a deep seated primary water source.

"In the 1950's, flooding impeded construction of the Tecolote Tunnel through the Santa Ynez Mountains in California. By its composition and the depth at which it was encountered, the thirteen million gallons a day it produced was not rainwater. Some of the water was hot, as much as 117 degrees Fahrenheit, and mineralized, some was cool and exceedingly pure. The flows were stopped so construction of the six-mile long tunnel to connect Santa Barbara to the Cachuma Reservoir could continue." The water remains sealed off from use to this day.

Joe Lanza, Director of International Service for the Rotary Club of Santa Barbara North (left), and John Ndundu Kaindi, village elder.



Pal Pauer with Masai Chief

"Inexhaustible supplies of this Primary or Virgin water, vaporized by earth's internal heat, squeezes up through rocky fissures under tremendous pressure, bringing it into high mountain elevations throughout the world. It is New water and may never be depleted. When large amounts of this Virgin or Primary water are pumped from wells, the internal steam pressure lowers slightly. This allows more water to leak in, thereby replenishing the original subterranean supply in an endless cycle." Verne Cameron (c. 1968)