

The Flow of Water – The First Necessity of Human Civilization

By Lance Winslow

The purpose of this essay is to assist you in understanding the importance of our fresh water supplies. *What does The Flow of Water have to do with the Human Society and Civilization?* Everything! Without fresh water supplies a community, town, city, region, state or nation is uninhabitable. Of the most important flows in human society *The Flow of Water* ranks near the top, because without water you have no civilization at all.

As we travel to every city in this nation we can tell when we are coming to where a city might be located simply by the way the terrain is formed and where water might flow. The towns are all built near water. These towns were connected by dirt roads, then the railroad connected the towns near water to fill up the steam engines, then they build the highways connecting the cities. But it all starts with a river, creek, lake or well. Water determines, where and how we live.



Why is the flow of water so important to our lives? Well, we are all familiar with the cycle of water. The evaporation, rain and then the long flow back to the ocean. There is not a shortage of water on this little planet from what we can see with 2/3 of the Earth's Surface covered with it. However 97.2% of the water is salt water in the oceans. Human's need fresh water to drink and sustain life. There are tremendous amounts of frozen fresh water in the polar ice caps. There is actually more water in the atmosphere than in all the rivers. About nine times as much fresh water in the lakes than atmosphere. There is lots of ground water at about 95% of the fresh water is in the ground. There is as much water between 1 half mile to 1 mile from the surface as there is deep lying ground water which is more than a mile underground. This table will help you understand the situation better.

<http://www.factmonster.com/ipka/A0004674.html>

There is not a shortage of water in the world. There is merely a problem with its salinity. The flow of water affects everything we do. Where we live and work. What we eat and how we play. The flow of water is one of the most important flows of life on the surface of the Planet and has more to do with the evolution of life on Earth than nearly every other factor. Life seems to have begun in the shallow water and expanded into all depths and areas of the oceans. Life on land grows best where water is plentiful. These basic facts should be taught to all children and teens in school. Here is a basic course outline:

<http://www.utm.edu/departments/ed/cece/seventh/7I3.shtml> .

This will teach kids to understand the issues and why the conservation of our fresh water supply is so important.

If we are to tackle the challenges of future populations on the planet, we will need to insure adequate water supply. Our US population is growing, by one person every nine seconds; <http://www.census.gov/cgi-bin/popclock> and with this growth the consumption of fresh water increases. The average person uses 80-100 gallons per day in the US. In many Third World countries about they use about 4-8 total. I have tested this myself and lived on very little water; http://www.carwashguys.com/082902_2.shtml and we have studied what has to be done to insure water supplies in the future; http://www.carwashguys.com/082602_1.shtml . During these studies it became obvious that we need to start by teaching kids the facts and making sure they understand the needs for our water infrastructures for the future. Populations are expanding rapidly in desert regions, without sustainable water resources, and a very alarming situation is taking place where population explosions move in and put in lawns. It is also known that 40% of the residential water use is expended outside the home.

The reason that I personally got involved in water conservation is that I have been in the car washing industry and we know we can clean cars using as little as 3-5 gallons whereas the home owner will use up to 100 gallons washing a single car. As areas get into level two droughts more often between cycles the water supplies become critically low, and water restrictions are put into action and enforced by usually municipalities "water police." These issues of drought years and populations and the balance have been occurring in the arid regions of the South West for as long as humans have been congregating in civilizations.



These same issues then that the ancient Indian cultures were challenged with is affecting us today. Just like other Indian Cultures in Central and South America, the indigenous people of Australian outback, as well as the water ways and canals built by the Greeks, Romans, Egyptians. In the South West; SRP has conquered the problem of bringing in the water to Arizona, which is really one big giant desert.

For any region, country, culture, civilization to succeed and grow and support substantial populations it must have a stable supply and flow of water. Weather and weather cycles play a huge issue with these needs and can create very difficult challenges to over come. EL Nino and La Nina are very well known in the United States. These factors of the Pacific Ocean cycles affect nearly two-thirds of the populations of the World and causes floods and droughts here in the US.



Large population bases have the need for storage and recharging aquifers during times of excess water. Once it flows to the ocean, it may not return for several years. As populations grow there are increasing frequency and severity of these droughts. Without adequate water supply, common decency goes out the window, with water rights fights leading to court battles in the US and actual wars where countries share a river's supply. In our country we have are fighting over the means, wasting time to build new infrastructure to lessen the burdens and possible disasters. These issues fill up our courts with bogus lawsuits based on junk science on behalf of non-indigenous and so-called endangered, yet conveniently transplanted species and academia papers to prove it. These issues are preventing us from fixing the flow so we can have the water we need to live comfortably. These issues of water supply have gone on in North America for a long time.

Even after the great Indian civilizations folded due to among other things lack of water, later when the Conquistadors explored what is now Central Valley CA some 236 years ago, they wrote about the desert landscape. When the Smith family brought water into the Central Valley CA for farming and the Chandler's brought water into the Los Angeles desert area they all profited immensely. Los Angeles had nothing more than sage brush with an onshore breeze at times. It looked very much like Bakersfield, CA only a few degrees cooler in the summer time and a little higher sagebrush due to El Nino cycle rains.



The LA River ran dry part of the year, like the old rivers through Pima County in Arizona, there were flood periods in both areas that were fairly severe and often. Today both areas for the most part are covered in concrete, LA is some 460 square miles of city, solid concrete, buildings, freeways, airports, Industry and housing. In Las Vegas area along with Phoenix and most of Southern California the growth has been huge. In Las Vegas even since the days of Bugsy, was a fast growth area, sharing the water from the Colorado River and drawing energy and water from Lake Meade and the Hoover Dam.

During this last drought cycle which was only three years long until an El Nino like season came along to fill the depleted reservoirs up to 60-88% things were pretty bad all over the country, not just the Mid West and South West. This time it affected New England down to Florida Everglades. As the populations expand in Colorado outside of Denver, Las Vegas, North County San Diego, Atlanta, Phoenix, Tucson, San Bernardino, Riverside, Albuquerque, etc. The West will need to look to transferring the load of cities like Los Angeles, Phoenix, San Diego, and San Bernardino to getting water from the ocean through Desalination Plants. At one point during the last drought states had to make a choice between fighting fires or saving the water for drinking. This could have been a serious issue in CO, MT, NM, NV and AZ.

In 2003 we have seen the Hurricane Season bring much rain fall to drought areas of Southern and South West TX, to the Carolinas, Alabama, Georgia. Along with the normal flow of storms has alleviated the drought stricken regions of the US. But realize that now the reservoirs are filled up it is business as usual and continued water wasting and lawsuits over the building of new reservoirs by the Sierra Club, reservoirs we desperately need if we are to continue to build our cities and suburbs larger. If we look at other nations, which do not have the area we do in terms of populi per acre, we can see that our incredible consumption must be mitigated with increased supply and also conservation.

If our populations in arid regions continue to expand and we continue to lose population from rural America due to economics, jobs and agriculture farming changes as well as allow immigrants legal or otherwise without proper control of the direction of the flow of water and the education of that population we are leading for a major calamity. We must protect our dams and rivers along the Colorado River from International Terrorists as well as control our thirsty appetite for this finite resource. There are issues and concerns with the flow of water in this modern era, we must not take it for granted, nor should we turn a blind eye to the serious nature of these issues. Water is life and we are not paying attention to the importance of it.

The purity of the water we drink is also at issue, but many municipal water resources are as clean or better than bottled water, as a matter fact the bottled water companies use municipal water many times and talk about a profit. We must continue to find easy, inexpensive and successful ways to keep the pollution out of our rivers and streams which are the drinking water for those downstream or might flow into underground areas where shallow wells feed fresh water to homes, schools, government offices and businesses. There are many things we can do as small business owners to mitigate such things.

- <http://www.carwashguys.com/stormdrainprot.shtml>
- http://www.carwashguys.com/081502_3.shtml
- <http://www.carwashguys.com/solution.pdf>
- http://www.carwashguys.com/081202_2.shtml
- http://www.carwashguys.com/082902_1.shtml

If industries will continue to look towards win-win situations and non-linear decision-making, we can find ways to serve our markets better, increase profits and efficiencies and do our part to help keep our water supply clean. http://www.carwashguys.com/073102_2.shtml . There are also things that our non-profits can do to conserve water when they do their activities; <http://www.carwashguys.com/fundraisers/ch2.html> . And the government agencies can find simple ways to assist businesses rather than making complicated and costly regulations and micro manage; http://www.carwashguys.com/073102_6.shtml . Complicated regulations hurt businesses and add to the bureaucracy that builds government agencies into huge inefficient Dinosaurs, which destroy the flow of everything we know. We should also be talking about the filtration systems that lead into the fresh water supply for cities. They are not generally quite substantial, but rather rely on the volume of water to help make things safe; this along with chemical treatments such as Chlorine and Fluoride; and aeration of water on its way in.

Unfortunately, some chemicals and bacteria which combines with the H₂O and/or is of a similar weight as water seems to get through in micro amounts. Generally, you have a safer chance with the water in large cities due to large budgets to filter the water. Cities like Philadelphia, Chicago, LA, Boston, Atlanta, Dallas, San Francisco and Seattle have some of the safest water to drink. As the water flows down rivers it is often used to generate our electricity and accounts for less than 20% of our electricity on the grid, in South America is over 80%. Washington State is also about 80% from hydro along the Columbian River with Bonneville Power.



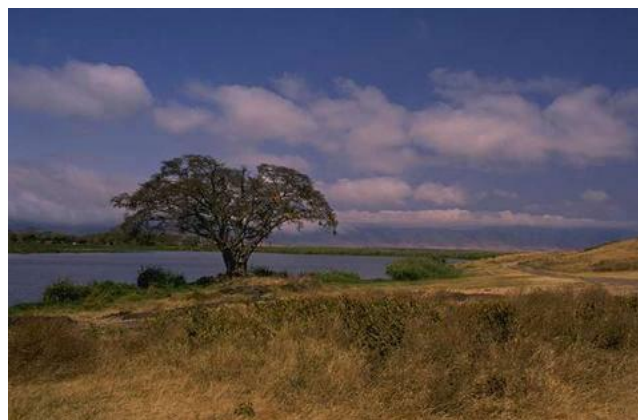
If we look at Niagara, Columbia River, Colorado River, Grand Coulee Dam, Tennessee river Valley Authority and Roosevelt Dam. Tesla would be proud of these accomplishments, but remember if we are not careful with supply then we cannot afford to allow the waters out of the dams and therefore the energy costs will increase. Water Flow and the flow of water therefore is crucial to not only the life on the surface of the planet but also to the energy flow that powers up all we know.

Twenty Percent is a lot, if we fail to use water efficiently or fail to conserve and build up stream reservoirs until needed, we will find ourselves in a bad position, trading life of species of fish and our power for water to live. As we increase our populations every new soul will require increased infrastructure efficiency or expanding of the systems. The flow of clean, fresh water has to do with which way the rivers flow and the weather that delivers the water to the land by way of rain. Some day we may be able to control the weather, not just seed clouds, but completely control the weather stopping deadly storms, preventing droughts and modifying the weather to correspond with human activity, farming and planning of civilizations. Some side thoughts along this theme;

This will truly be a major accomplishment of mankind in the next three decades in the meanwhile we must not underestimate the World's need for water flows. Within the same time period the population of the World will more than double meaning the already stressed third world nations will be beyond crisis. They will need to limit population growth now otherwise there will be continued malnutrition, civil wars, mortality rates, disease, unhealthy water from sewage and death. If you look at the African Continent there are areas that are not able to sustain the current level of population much less anymore people. Millions dies in the Ethiopia drought of 1984. The West African droughts of 1972, 1975, 1984 and 1985 were blamed on EU factories and sulfur dioxide.

"If the flow of water is not fixed there it will be replaced by the flow of blood as anarchy sets in due to the shortages of the most basic need to sustain life."

This has been debated but the region suffered 20-50% less rain fall during those years on an already stressed situation. <http://news.bbc.co.uk/1/hi/world/africa/2042856.stm> .



In North Korea the droughts of seven years leading up to 2001 nearly sank the country. Australia also had a huge drought, which was much more critical than anyone was willing to admit. Here are just a few of the industries and problems that the lack of water flow in this drought caused on their flow of products, agriculture, transportation and drinking water. <http://www.abc.net.au/rural/drought2002/> . China has been having some problems on their incredible project on the Yellow River Basin to bring flow to their largest coastal cities. Makes the San Francisco Bay area wonder if they should not try to attempt their own huge project as the Chinese immigrants come in on ships and planes to the region to stay, live and work?

San Francisco Reservoir; www.spn.vasace.army.mil/bmvc , but it is something they had to do to continue. The issues we deal with here are nothing compared to other countries with less land and more people per acre. They have already over stressed to the max. We have been watching the plight of the farmer in this country and fights over populated cities VS the farmer and Industry. These issues are huge and they affect our economy, industries, jobs, food supply and prosperity.

In cities across America water is an issue, the flow is sporadic, either too much or too little. We must stabilize the flow, so businesses can plan, people can feel secure and we will not be caught with our pants down during the next drought. As the droughts become more often, more severe and longer in length due to over use of supply, we must be ready.

Many cities understand the importance of water and the psyche involved in plentiful water and the innate happiness it brings to the human spirit and they have developed River Walks, boat rides, etc to encompass such water features. Cities like Oklahoma City, Tempe, AZ; San Antonio, Caldwell ID, Wichita KS, Reno, NV; etc. Many cities rely on tourism to their lakes some man-made and others natural; with these lakes down and the evaporation taking its toll, it is difficult to create a man-made lake and justify keeping it filled. Lakes like Lake Las Vegas a high-end million dollar plus home area has suffered as have areas were the lakes are down significantly making boat launching nearly Impossible and hurting tourism dollar.

Normally when air travel is down lakes do well since many people can drive to these lakes. But along with fuel prices being high and water levels being low due to the disruption of flow the problem is compounded. Companies, which work in Chemicals, refining, food processing, paper product manufacturing, growing agricultural products stand to be pitted against populations for the control of water. Depending on the voting block and the social contract of the populations to conserve in times of droughts will be in direct proportion to the survivability of those businesses and industries in those regions. This of course in terms of short term drought hysteria is a problem.

We have recently seen the possibilities of growth, building and new housing industries pitted against the thirsty populations for water in legislatures across the country, this last drought which has still not filled up the reservoirs to the appropriate levels was merely a trial run. The droughts also happened in 1985 and in 1977 and next time they could be even more severe due to the replenished water supplies are probably not going to be returned to normal levels while usage continues to climb. We must fix the infrastructure to handle to flow needed for the future. When we go through periods of droughts we also have other problems which are increased.



Things such as West Nile Virus, Bark Beetles, Disease Epidemics, Med Fly and Chronic Waste Disease and realize these diseases and problems which occur during certain weather periods are compounded when the cycles get out of control. For instance an El Nino heats up the Pacific Ocean and expands the atmosphere and the jet stream is within the temperature and range to carry insects all the way across the ocean. Birds modify their stopping points for water during migration, stay in areas longer during the year or leave earlier thus their chances of infecting more areas are greater. When Deer travel further to go to watering holes during migration the come in contact with different livestock and humans.

The Bark Beetle has a field day during droughts and the issues in Alaska, Prescott and Flagstaff, AZ are rather serious. Bark Beetle also reduces trees to fuel, which can start fire during lightening strikes. This makes diseases hard to control and viruses hard to contain. Like their feathered friends people also move and migrate, more and more each year and with them they tackle their problems to other parts of the country and like the migration of people to different regions the water also moves over man's line drawn in the sand and fought over or bought as official territory. Some of the water that we take for granted, just happens to belong to our neighbors to the North. In Northern Montana the river water flows into Manitoba, Canada; <http://www.3rivers.net/~dbaker/gndwater.htm> . This is tough because Helena, Billings, Bozeman need the water, but it flows the wrong way. <http://www.washguy.com/mt/index.shtml> . The same issues challenge us from the South, as along the Rio Grande River, the water does not reach the Gulf of Mexico in some years, this is water, which is shared by farmers on both sides; <http://www.twdb.state.tx.us/publications/reports/GroundWaterReports/GWReports/Brackish%20GW%20Manual/04-Ch03-HuecoMesillaBolsons.pdf> - in the Rio Grande situations and South West TX. The Colorado River flows into Mexico and is called the Colorado Mexican Delta and is under constant stress and complaints.



Water supply is essential to keep civilization going strong, keep countries at peace, provide for life, food, security, peace of mind, strong economy, healthy populations and just about everything you can think of. Now then, what happens once we are done with the water we use. Some returns to the ground water, but most goes down stream to a sewer treatment plant. The United States has some of the greatest sewer treatment facilities and technologies in the world.

We have some of the highest standards in the world once the water is treated and returned. We are doing an excellent job in that regard where as in third world countries people die of horrible diseases from untreated water entering the drinking water of those downstream. Water-borne diseases include cholera, typhoid, shigella, polio, meningitis, and hepatitis A and E. Human beings and animals, which drink or swim in these contaminated waters that will become hosts to the bacterial, viral, or organisms that cause these diseases.

Billions of people on the Planet have little access to sanitary waste disposal, sewer treatment plants or to clean water for personal hygiene. The average third world inhabitant in many parts of the World live on less than 4-8 gallons per day, about 3 billion people do not have a toilet and over 1.2 billion people are at risk because they lack access to safe fresh water. The problem is getting worse in many places not better as run-away population growth is not being figured into the solution. Water-borne diseases, which the WHO calls "dirty-water" diseases, that is they are caused by water that has been contaminated by human waste, animals, or chemical and industrial wastes.

The lack of sanitary sewer plants and waste disposal treatment centers and the lack of clean water for bathing, drinking, cooking, and washing costs the Planet no less than 12 million deaths annually. Diarrhea type diseases are a serious issue also, especially when, human waste is disposed of in open holes, ditches, canals, and water ways. This waste often flows directly into cropland. About 4 billion cases of diarrhea type diseases occur every year, which cause about 3.8 million deaths per year and most of those are children. We are very fortunate to live in a country, which has adequate and above average sewer treatment plants. The sewer treatment plants are not the end of the flow, much of this water is used to water golf courses, municipal parks and/or flows into rivers on its way to the ocean.



In countries where there are no sewer treatment plants the untreated water pollutes the fish which are caught and eaten and cause all kinds of bad diseases also. Some of the Rice fields of the Pacific Rim are said to be quite polluted and much of the fish are now dangerous to eat. As we rebuild Iraq and help the people of Africa and children of the world the very priority and first order of business must be to look closely at *The Flow of Water*. Then and only then can we move to the next item on the agenda. Without clean water and healthy bodies, there is no way to feed the brain so it can be used by the people to help themselves into a better place.

The people of these regions need the strength to work, become productive, become educated and work with us to help them help themselves. And as we look at these other countries, we need to remember that much of what we take for granted is at a stress point and simply going with the flow may lead us to a place where the flow no longer goes. We know where we have issues and challenges and we must continue to be proactive and fix them and be ready for the next drought. I hope you have enjoyed this topic on *The Flow of Water*. Without water there is no human life and we need to address first things first.

To my interested readers, my previous work in progress in preparation for this essay are linked below. If you are deeply interested in this subject or are doing research, shoot me an email and I will make sure the servers are on for you to do your reading:

1. <http://www.parthe.net/cwg0703/00000068.htm>
2. <http://www.parthe.net/cwg0703/00000069.htm>
3. <http://www.parthe.net/cwg0703/00000074.htm>
4. <http://www.parthe.net/cwg0503/00000039.htm>
5. <http://www.parthe.net/cwg1201/0000009b.htm>
6. <http://www.parthe.net/cwg0802/00000073.htm>
7. <http://www.parthe.net/cwg0802/0000004a.htm>
8. <http://www.parthe.net/cwg0802/00000060.htm>
9. <http://www.parthe.net/cwg0703/00000049.htm>
10. <http://www.parthe.net/cwg0802/00000044.htm>
11. <http://parthe.net/cwg1202/0000001e.htm>
12. <http://parthe.net/cwg0802/00000064.htm>
13. <http://www.parthe.net/cwg1202/00000033.htm>
14. <http://www.parthe.net/cwg1201/00000079.htm>
15. <http://www.parthe.net/cwg0503/0000001b.htm>
16. <http://www.parthe.net/cwg1202/0000007d.htm>
17. <http://parthe.net/cwg1201/0000009b.htm>
18. <http://www.parthe.net/cwg1201/0000009f.htm>
19. <http://www.parthe.net/cwg0602/00000008.htm>
20. <http://www.parthe.net/cwg0602/00000008.htm>
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35. <http://www.parthe.net/ cwg0503/00000013.htm>
36. <http://www.parthe.net/ cwg0503/00000031.htm>
37. <http://www.parthe.net/ cwg900/000002b4.htm>
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63. <http://www.parthe.net/ cwg0803/0000006a.htm>
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