

A-12 Water Issues in Homestead Living

Going Down the Drain

Fresh water—meaning anything other than salt water in oceans—is a finite resource. And, the world is beginning to run out. Since the beginning of the Industrial Revolution greedy people have been tapping into and wasting this ultimate resource. Factories took in water for production, spewed out pollution, and it has never stopped to this day. Then with the shift from agrarian living to urban living, family-grown food all but disappeared in favor of mass production with mass distribution—even more damage to water.

Recommended Reading

When the Rivers Run Dry / The Defining Crisis of the 21st Century – Fred Pierce

This Changes Everything / Capitalism vs The Climate – Naomi Klein

We Are the Weather / Saving the Planet Begins at Breakfast – Jonathan Safran Foer

Losing Earth / A Recent History – Nathaniel Rich

The Economics of Water / www.watercommission.org – Global Commission on the Economics of Water

An Inconvenient Truth – Al Gore (Time has run out—the inconvenient truth is now)

How This Happened

The greatest shortfall with availability of fresh water has been mismanagement coupled with ignorance by everyone from politicians, to oligarch businesses, to bureaucrats, to well-intentioned benefactors, to just about every consumer of fresh water worldwide. With the simple activity of letting water run in a sink or shower, everyone becomes at fault for the mismanagement and ignorance about fresh water availability.

No matter how fresh water is evaluated and measured, there is only so much of it: in the atmosphere, in glaciers, in polar ice, in snow, in containment, in soil, lakes, rivers, and aquifers. As you are probably aware, climate change has been affecting most of this and human waste has been taking care of the rest.

Fresh Water in the Atmosphere

With global climate change, this is now a ubiquitous problem in every region of the world. With less water on land surfaces, including urban areas with little to no exposed land, it has now been determined that there is less evaporation into the atmosphere for precipitation on a global scale. But climate change has caused significant problems with regard to where and when it drops out of the sky.

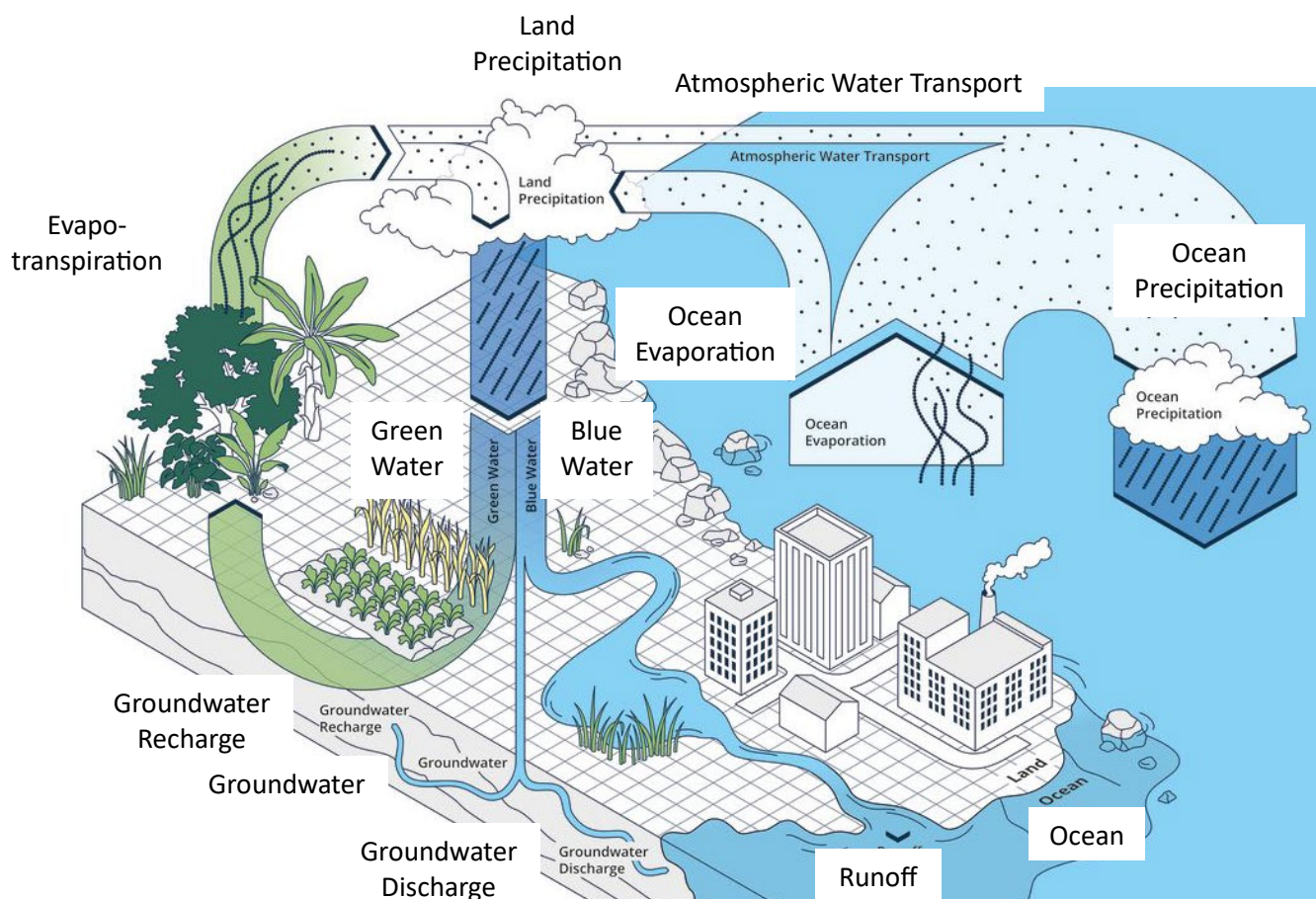
Atmospheric Rivers – Anyone living on the west coast of North America knows this term. This is when the combination of ocean currents meeting land masses results in catastrophic dumps of water. This is also occurring globally with unprecedented floods. Through ignorance this might seem like a good thing but too much at one time results in loss of availability and retention for urban and agricultural uses with massive runoff. When atmospheric rivers dump, rivers and aqueducts become nonstop conduits back to the source with reservoirs and aquifers bypassed enroute to oceans. This has become a worldwide issue in less publicized regions where there have never before been such floods.

Inevitable Future Without Water

There is no question that many regions in North America are running out of water. What had once been the bounty of water for agriculture and subsequently urban living has been used up. This was the aquifers that had been stocked with fresh water for many thousands of years. No matter the volume of atmospheric river water, the eons required to replenish these aquifers simply does not exist. In other words, the wells are running dry and there is simply no more to extract. The same issue is occurring with the once huge Ogallala Aquifer across the growing and cattle-raising regions of the central plains.

Replenishing Aquifers – Simply put, this takes thousands of years. It’s not going to happen in current and upcoming generations. Subsequently, when water drops from the atmosphere it follows gravity—downhill to oceans or slowly percolating through rock into underground storage. Runoff is fast while storage is slow. This means that to replenish aquifers they need to be left alone—for thousands of years.

Fresh Water as a Finite Resource – Given the comparatively short life cycle of humans as related to water cycles on a global scale, the need for fresh water is quickly outstripping replenishment. This means that there is only so much to go around and that’s all there is in global carrying capacity for to sustain life.



Source: Global Commission on the Economics of Water (Date Unpublished / Appears to be 2024)
Larger wording provided for readability. Each of the following diagrams are from this source.

Human Interaction with Fresh Water

As determined by evolution, humans live on land but we emerged through natural processes to be entirely dependent on fresh water. Indeed, the human body, as well as all terrestrial creatures, is about 90% water. This is not an accident of nature—it's required for life.

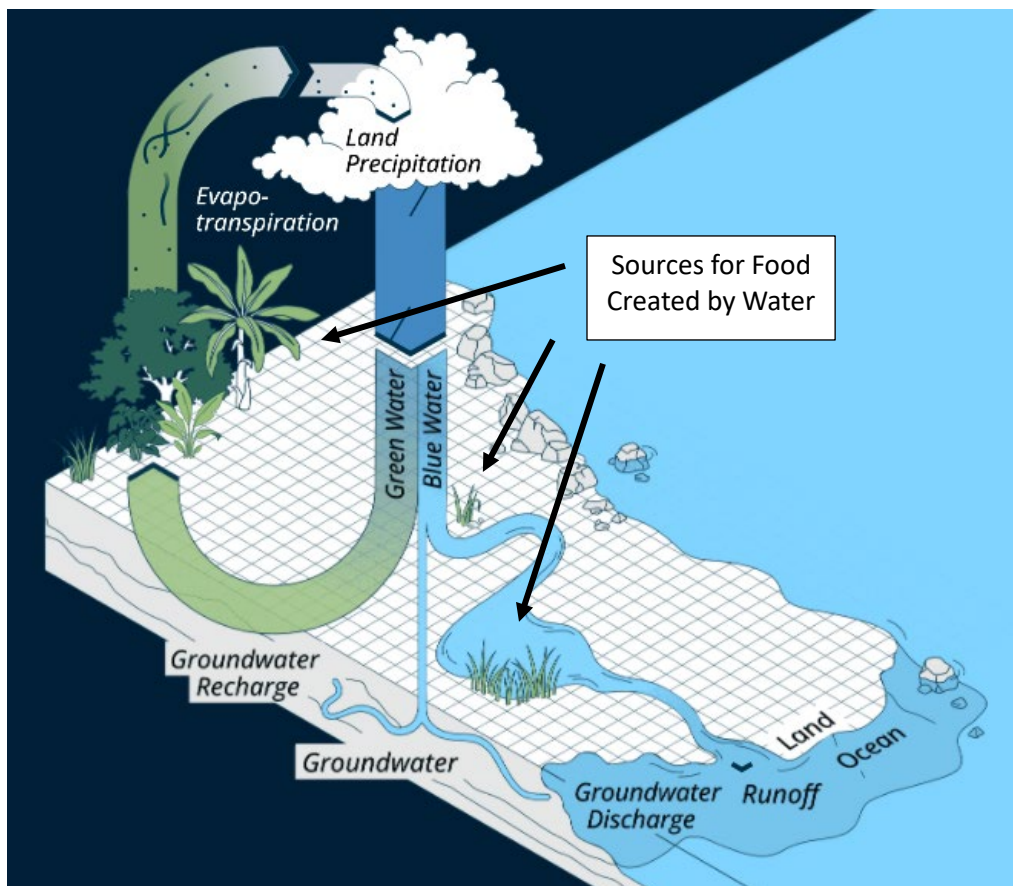
No Fresh Water = No Life

Terrestrial creatures, including humans, tend to die within three to seven days without adequate hydration from water. Where this water comes from, however, may not be entirely obvious. As shown in the below diagram, perhaps the most important aspect of available water is through the foods terrestrial animals eat and all plants require water to be available as this food and these plants largely consist of water.

Water = Food

When there is no or extremely limited precipitation, there is no plant life—this is when life for terrestrial creatures ends in any given region and is why all terrestrial creatures migrate toward water which equals food. This is natural survival with humans only now catching up to what animals have done for millennia.

When food can't be grown, every living thing that can will be on the hoof for survival. This happens every year in the Serengeti where animals follow the water. Humans are now doing the same and it's going to get even more urgent as fresh water declines and food sources dwindle.

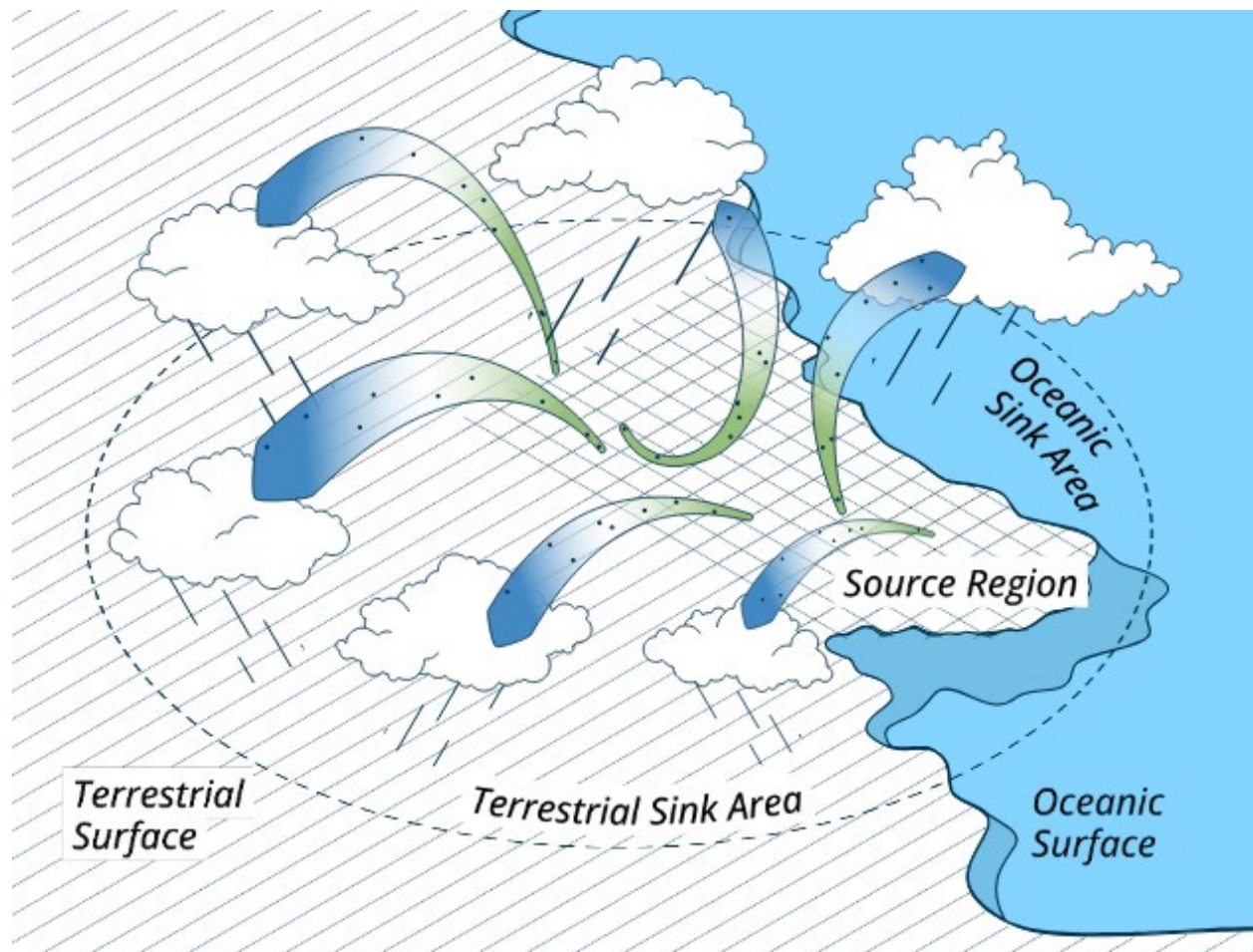


Global Ecosystem Water

Oceans drive the atmosphere and this drives precipitation—or the lack thereof. With precipitation comes vegetative growth which then continues the cycle resulting in available water for terrestrial creatures. All of this, however, is determined by maintaining the global water cycle. Although this is a powerful force, humans have proven that they can disrupt this source of life.

History Repeating Itself – An example from antiquity is what happened to the great cedar forests of the Middle East when the Minoans sacrificed their regional ecosystem in the name of smelting copper and tin into bronze. This led to extreme desertification that is now the Sahara Desert. The same is happening in the 21st century with the rapid expansion of the Gobi Desert in China that regularly sends sand storms into Beijing and in Brazil with destruction of rainforests that has led to significantly decreased rainfall and lack of freshwater in the Amazon River. Humans have done this and it continues today in 2026.

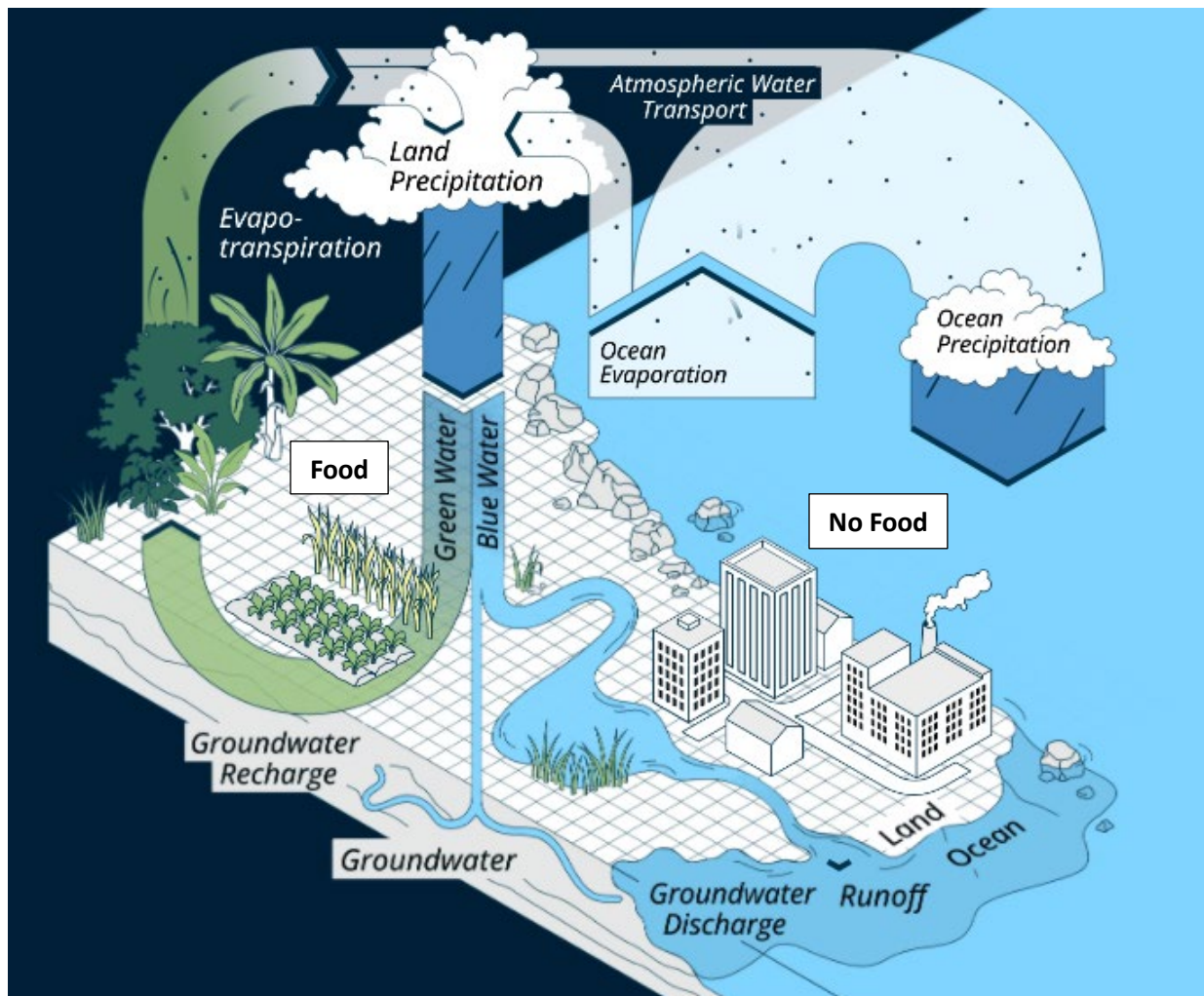
Close to Home – The Colorado River is now in 2026 considered one of the most endangered rivers in the world. This has flowed into massive dams with reservoirs with water siphoned off in desperation for agriculture and soon-to-be unsustainable urban living—Las Vegas and the entire southwest urban areas. The tragedy of it all is that unsustainable growth and extraction has led to no fallback position. Once it's gone and used up, that's it—nowhere else to go—and yet another migration for water occurs. Recent reports are showing that California is experiencing significant migration toward water—in the Midwest.



Unsustainable Living

The Beginning of the End -- It all started with the Industrial Revolution when innovation led to untethered use and pollution of previously fresh water. This created factories which drew in people from rural areas when their water sources became tainted. There followed dependence upon supplied water sources for life, eventually modified to compensate for Industrial Revolution water pollution. And it continues to this day in 2026—turn on the tap and water magically appears, that is, until it doesn't flow.

Comprehension of Water – The next time it rains, put out a cup or pot and have a drink. This is where *all* water comes from—not from a tap and certainly not from a plastic bottle in a store. So when there's no means for living with fresh water from precipitation, it becomes an end game with no fallback position as a finite resource. As shown below, water sustains life through vegetative growth that feeds more water. In an urban area with no or very limited means of vegetative growth, especially for food, the end is neigh.



Take and Take Some More – The Industrial Revolution shoved humanity down a dirty chute as if there would always be an endless supply of water and when the dirty water drifts downstream it's out of sight, out of mind, and no longer a greed-monger's concern. This is quickly coming to a screeching halt all across the globe because there's nothing left to take for the sake of greed. It always comes back to Maslow's Hierarchy of Needs: you can't eat money and money can't buy what's not for sale.

Homestead Living with Fresh Water

There is scarcely any aspect of homestead living that does not consume water in some regard, not all of which is entirely obvious. Nevertheless, there are ways in which each of us can minimize our impact.

Kitchen

After water for cooking, the biggest culprit is washing dishes. This consumes a tremendous amount of water but there are ways to minimize the volume. Start by wetting down every item immediately after use including pre-wash scrubbing with a brush and just a dollop of water. Drop small utensils into a glass or mug with water to soak. These quick and simple techniques minimize delayed washing and water usage. Clean out the sinks of all food debris. This minimizes excessive rinsing or even rewashing.

If time allows, proceed with washing immediately. With a small dollop of detergent on a scrubbing sponge, clean off all remaining food debris and stack in an orderly system in the rinse sink. Flat stuff on bottom, round stuff on top, large utensils to the side, pot lids to another side, glasses and mugs in the corners, and eating utensils segregated by type: spoons, forks, knives, other.

Key to minimizing water use on the rinse is organization on drying racks. Keep the water running over the load to gain many uses of the same rinse water. Work quickly with a plan for placing each rinsed item.

Dishwashers – Common is to see advertising that these machines consume less water than hand washing. Basically, hogwash. These are claims by manufacturers and marketers to sell their product. By the time a dishwasher is loaded, functioning, and emptied, an entire load handwashed is done—without electricity.

Detergents

Once this is put into play, you are contributing to water pollution, even if you're on a septic system. Somewhere downstream this grey water is scrubbed with more water to remove or counteract the chemicals that were produced using water and electricity that was also produced with water. This includes both kitchen, bathroom, and laundry detergents.

Detergent vs Soap – These are not the same. Detergents are chemically based whereas soap is naturally based. As such, they behave differently. Detergents are formulated to provide a combination of cleansing with foaming and scents. The foaming aspect is induced with hot water—rinse a sink with cold water and much less will be consumed to clear the drain. Soap, on the other hand is mostly natural but it has limited efficiency which tends to require much more water than detergents to accomplish the same tasks.

Bathroom Habits

Brushing Teeth – Dollop on the brush, quick spritz of water, turn off water, scrub, rinse brush, rinse mouth.

Shower – Work top to bottom. The various detergents used in hair can also wash the body as it cascades to the drain. If hair care is an issue, do this first and then the rest while it works. Then a final rinse. Turn off any vents when done—that work is finished with less electricity used.

Scrubbing – All so-called convenience products exist for just one reason—the yuck factor. A very effective means to minimize this is a vinegar and water solution coupled with a rotating scrub brush on a battery-powered drill. Then simply rinse off. Vinegar is all natural: water + 4-8% acetic acid that's produced through fermentation of sugars. In other words, no chemicals that would have to be removed from grey waste water with more water, more chemicals, and more electricity.

Electricity

With every moment that electricity is in use—In homes, businesses, food preparation, and industrial—water is being consumed in the manufacturing process of creating electrical current and then pushing it to its end use. Even at this moment when typing these words through a computer with lights on to see the keyboard, water is being consumed through electric production.

AI Data Centers – The massively huge environmental footprint of these behemoths is water for cooling. Where there is little water available, these operations are nowhere to be found but where there is water—in the Midwest regions—they are sucking up huge amounts of water for cooling the computer machines. This is the present-day version of the Industrial Revolution gone amuck. It's unsustainable yet greed-mongers are pushing hard for these monstrosities while they can separate money from one pocket into their own. When the water resources are used up—and they will be—they'll simply go dark and walk away with their money leaving behind a legacy of frivolous waste and useless junk.



Online Purchasing – Yes, it's convenient and often the only means to an end, but all of this again consumes electricity which is produced through water at generating locations. Then vehicles make the delivery after being manufactured with water for electricity, packaged with the same footprint, and fuel for vehicles that also required water. The bottom line—If you can hold it in your hand, water was consumed to make it.

Laundry

Scrubbing it down with a washboard at a creek just doesn't cut it in reality. This means maximizing water usage through full loads and minimizing electrical usage in the process. Even though the laundry pile might grow unsightly large, a full washer load is far more efficient in water use than a convenient half load. Then there's drying—again with water required to produce electricity. And with forethought, using an outdoor laundry line works surprising well with no footprint other than your own in the yard.

Driving

Vehicles are produced with heavy water usage and the fuel to power them comes through refineries after it's pumped from underground and transported with ships, trucks, and pipelines. Every moment with an engine running is impacting the use of water from the production of that fuel. Then the roads have to be maintained with more equipment, vehicles, and materials all powered with fuel produced through consumption of water.

Important Things to Do

So this brings us back to the homestead and what we can do toward sustainable living.

Harvesting Free Water – If roofs and topography are favorable collect the water and make it available to gardens, animals, and chickens. Bees, birds, bats, and other all-important insects also need water.

Moving Water – If there's a suitable source with clean water and enough fall, set up a hydraulic ram pump to a holding tank and then gravity feed to gardens through irrigation and to animal troughs.

Irrigation – Water for the plants through microbes, bacteria, fungus, and worms, not the atmosphere.

Standing Water – Maintain a pond to work with the water table to optimize growing conditions and provide water for animals, chickens, birds, critters, and kids.

Topography – Position gardens for free use of runoff water down slopes.

Erosion – Maintain understory growth to keep soil where it does the most good for the ecosystem.

Groundwater – If the conditions are right, consider a well but also consider that pumping out a suitable volume for household use requires, again, electricity.

Easy Things to Do

Walk by a light, turn it off.

Wait to wash clothes and combine loads.

Minimize water pollution with detergents.

Look around—find ways to live smart with water.

Bottom Line

Fresh water conservation is important—it's personal, accountable, and responsible to each of us. Every drop of water we can avoid using furthers the availability of water to sustain life. In the end, we do not live because of electricity or transportation or manufactured goods. We live because we have water to drink and food to eat. Strip away the frivolous and this becomes the baseline for truly effective homestead living.