

March 24, 2019

Water Storage

Water Procurement

*For water procurement, I recommend that you have a small cart, wagon, or other system for transporting water and a system to catch rainwater.

It is not practical for most people to store large amounts of water, so what would happen if there was no electricity to pump water or the water lines were broken? If the disaster is small and local, FEMA may provide water trucks until lines are fixed. However, you may have to walk several miles to the station where trucks come, then wait in line hoping that the water doesn't run out before you get some. If the disaster is extreme or widespread there may not be any trucks. Then what?

I have heard people say they would dig a well. Well, in much of the area that our stake covers you would have to dig at least 200 feet to reach enough ground water for a well. In the center of town it is not that deep, but digging a good well takes time. In a good year there may be water in our creeks part of the time, but in a dry year the creek water would be there 2–3 months tops. Carrying enough water to last even 3 days for a family would be hard, heavy work. Do you have a wagon, cart, yoke, or other means of carrying water if you can't get fuel for your vehicle?

The Lord is mindful of His people, so it is possible that he would send enough intermittent rain to provide water, but do you have the things you need to receive such a gift from heaven? While it

is illegal to collect rainwater in many states, in Utah the law states you can have two visible rain barrels per household totaling 120 gallons. You can have 2,500 gallons of rainwater catchment if it is underground. However, you need to register an underground reservoir and you need to have means to pump and keep that water fresh.

One problem with collecting rainwater is that you need to take proper care so that it does not become a breeding ground for mosquitoes. In a crisis lasting even one summer, if the environmental agencies are inoperable and can't spray, we will have an influx of flies and mosquitoes that want your water supply. With this in mind, a rainwater collection system needs to have some netting and other precautions against insect pests. There are some great videos on how to build a rainwater collection system on YouTube. Just keep in mind that it will be much more difficult to do once a crisis hits, and some of the systems you will see are not legal in the state of Utah.

Water Purification

Whether you have water coming out of your tap or you must collect water, contamination of a water supply is a possibility. Here are the three main ways to deal with contaminated water.

*Any water that is not clear of silt or debris should be strained before purification. You can use a cloth, a coffee filter, or a special water bag for this.

Water Filter—There are many types of water filters on the market from personal things like a life straw or drink bottle to counter top or tank filters, and even large pump filters that could help a whole ward (if we had a lake to draw from). They range vastly in price and what kind of contaminants they will filter. You may want to have extra filters for your system.

Boiling—While boiling water will kill bacteria, it will not remove metals or chemical contaminants. I learned this when I was in China and boiled water for herbal tea on very cold days. I came home with mercury poisoning, so be aware of your water source. Tap water here should not have that problem.

Chemical Purification—Water purification drops that last almost indefinitely can be purchased from emergency supply stores. You can also use new, unscented, chlorine bleach. Bleach has a short shelf-life. You need to keep it rotated every 6–11 months. Details for this process are found in the \$5.00 purification kit instructions. As with boiling, this will kill bacteria, but not remove chemicals and metals.

Revitalize Flat Tasting Water

Water that has been sitting in storage for a while or boiled water may taste flat. You can add a pinch of salt or pour it from one container to another to help this. However, my favorite way to revitalize water is with two large pop bottles and a “tornado tube.” A tornado tube can be purchased cheaply online or at a hobby store in the science section. It will spiralize your water and help to revitalize, it enabling better hydration. Just have one bottle $\frac{3}{4}$ full and screw the tornado tube on. Then screw the other bottle to the other side. Turn the water-filled bottle upside down and rotate it in a circle a couple of times. The water will then spiral into the empty bottle. Do this about three to five times before drinking your water. You will be surprised at the difference in taste.

\$5.00 Water Purification Kit

Items with a * can be purchased from a store where everything is 1 dollar.

- 1 pint bottle of regular Clorox unscented bleach* (doesn’t last more than about 6 months, so you should use and rotate it every 6 months, but there is a 32 gallon supply of water purification in one bottle.)
- 1 package of coffee filters* (to filter water before purification)
- A medium/large mesh kitchen strainer*
- A plastic 2–4 cup measuring cup*
- A six pack of water bottles*
- A 2½ gallon well-cleaned frosting bucket from the bakery section of Smith’s. (You have to ask for a small frosting bucket and lid before noon. Sometimes they have them and sometimes not, but they are free if you get lucky. You will have to clean frosting out.)

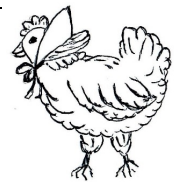
- Once your bucket is clean pour water into it a quart at a time and mark the level with a permanent marker or thing that will last so you know the amount of Clorox to use when treating the water. Keep all of your supplies inside the bucket. In the event you run out of potable water place a coffee filter in the strainer, and pour in your rainwater or creek water just so the coffee filter will hold it. This will filter out dirt and debris. Once you have as much filtered water in the bucket as you want, use 3 drops of bleach per quart/liter or 1 tsp. per gallon to purify it. Wait 30 minutes. The water should smell of chlorine, but should not be strong like a swimming pool. If it doesn’t, repeat and wait 15 minutes. If you are able, you can boil the water 10 minutes for purification, but that isn’t always possible.

When you use the water in your six water bottles, you will have the bottles to refill to hold personal drinking water for family members. With a large measuring cup you can dip water and also fill the drink bottles as needed. Keep the lid on the remaining water in the bucket to keep it clean. (You can also buy a new 2-gallon bucket and lid from Alpine Food storage or Winco, but it will put you over the \$5.00 budget.) Meanwhile, save every clear juice, sports drink, and soda bottle you can. Wash them and fill them with regular tap water so you have a water supply.

Notes from Red Hen

Dear Cousin Speckle,

How horrible for you to have putrid water. No one changes our water, so we have devised a system that keeps it fresh. There is a forgotten tap by the old tree next to our coop. We keep an old bottom that fits under a flower pot under the tap. Every day we turn on the tap and fill the clay dish with water. Every night we scrub it and dump it so it can dry a bit and not collect scum. Then in the morning we fill it again. Water is more important than food. I am glad you have found a source of fresh water. I hope that the farmer’s son learns to take better care of you soon.



— Love, Red