

YOUR PERSONAL WATER SURVIVAL GUIDE

HOW TO SOURCE IT, TREAT IT,
STORE IT AND MAKE IT LAST



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INTRODUCTION

When you are thirsty, need to do dishes or take a shower, you simply walk to the sink or bathtub and turn the handle on the faucet.

Most people in the United States have never turned that handle and been met with a lack of flowing water. It is for that reason that many find it so easy to take water for granted.

While the infrastructure in this country has been traditionally strong, it has become vulnerable in recent years. This has been proven many times over when various natural or manmade disasters left portions of the population without clean water for a period of time. Some of these contaminations have started at the source. More often water has become contaminated en route to homes and businesses. Especially when it travels through aging lead pipes.

It is possible to live without food for quite a few days, but this is not the case with water.



If your access to water were to be cut off, you would need to find a way to get clean drinking water in order to survive. And quickly.

What if there were no running water due to an incident that interrupted the flow from municipal sources or from your well? Or what if you did have running water, but it was contaminated by acts of terrorism, flooding or in other ways?

Many people assume the Federal Emergency Management Agency (FEMA) or the Red Cross will come to their aid in such situations. However, disasters stretch those organizations too thin, and the effects of these crises often make it impossible to reach stranded people.

We've seen this time after time over the past two decades. The devastation of Hurricane

Katrina, which slammed the Gulf Coast in 2005, is one of the most well-known examples of why being prepared is important. After the winds subsided, many residents thought they had dodged a bullet. When the levees failed, however, many died while praying for rescuers to reach them.



Few will ever forget the images of men, women and children huddled on rooftops and of dead bodies left on sidewalks. Not to mention the horrific conditions in the Louisiana Superdome where many went to seek shelter. Some said it was safer out in the storm than in that facility.

When Hurricane Ike bore down on the Gulf of Texas in 2008, some residents scrambled to evacuate. Flooding that took place much earlier than anticipated thwarted evacuation plans for many, forcing them to ride out the storm.

One of the hardest hit areas was Galveston. Three-quarters of the homes in Galveston were damaged or destroyed. Sadly, many who had tried to follow the orders to evacuate were killed when the flooding forced them to stay. Many who did survive were faced with the daunting task of getting through the first several days until rescuers could reach them.

Because they had planned to leave, many did not have any water or food to sustain them. The stories of survival are amazing. One older

man walked for four hours until he reached a flooded grocery store. He was able to find a case of water, which he then dragged back to his home. It took rescuers six days to reach him and his wife. Had he not found that water, it is unlikely they would have survived.

More recently, Hurricanes Harvey in southeastern Texas, Sandy in the Northeast, and Irma, Matthew, Michael, Florence, Dorian, Laura and Sally in Florida and other states devastated the landscapes and took a number of lives. In nearly every case we saw that it can take days and weeks before power is restored, supply chains are reopened, and clean drinking water returns to homes and businesses.

That is why you must have a plan that includes water storage and how to source and collect water in an emergency. There are any number of situations that could result in a need for you to be self-sufficient when it comes to water, food and other essentials.

This guide will teach you the basics of such preparation. Start making plans today. You never know when your preparation will mean the difference between life and death.

GENERAL PREPARATION

WHEN A DISASTER IS IMMINENT

As previously mentioned, you should begin your emergency planning today. Waiting for a disaster to be imminent could mean you do not have the time needed to properly prepare. Obviously, some disasters will come without warning. Others might give you some time, but you may find it difficult to find the items you need.

That being said, there are some steps you can take when you know a disaster is coming.

Fill Bathtub: Fill the bathtub, sinks and any other containers you can get your hands on with water. Some people keep five-gallon containers on hand, but even if you do not have such large containers, fill anything you can with water. Keep in mind that water stored in containers that are not food grade should only be used for sanitary purposes rather than for drinking. Still, you should collect as much water as possible in the hours leading up to the disaster.



Buy Extra Cases of Water: This is a step that really illustrates the importance of preparing ahead of time. If you wait until a disaster is coming, you will probably have a hard time finding cases of water. Thousands of people will also be attempting to prepare at the last minute and bottled water will be one of the first things to sell out.

Still, if you do not have a good supply of water on hand, you should try to find some even if it means driving to several stores to do so.

YOU WON'T ALWAYS HAVE WARNING

Running around to several stores looking for water in the hours before a hurricane or other disaster is inconvenient, but at least you will have a chance to prepare. This is not always going to be the case. There are many types of

disasters for which there will be no warning whatsoever. They include:

- Acts of war
- Terrorism
- Tornadoes
- Flooding
- Earthquakes
- Wildfires

When such disasters strike, you will either be prepared or you will not. Take to heart the reality that good preparation can save your life and the lives of those you love.

STORING WATER

HOW MUCH TO STORE

How much water you should store depends on many factors such as the number of people in your household, how much storage space you have and how long you would like your supply to last.

Obviously, the more water you have, the more prepared you will be. But the fact is, most people simply do not have the space to store sufficient amounts of water for the long term. That is why your preparation should include plans of where to source and how to collect water, as well as how to purify it.

The general rule of thumb is that you should have one gallon of drinking water per day per person. While this is more than is generally needed per day to survive, if you are particularly active – for example, clearing

debris in the hot sun – then you will need to drink more.

You should also have another one-half gallon or so per person for sanitary purposes and for handling other tasks, such as rinsing dishes.

If you assume 1½ gallons of water per person per day, you will be in good shape. You should aim for at least a three-day supply, but that is a bare minimum. How many days' worth you decide to store is up to you, but you should try to store as much as possible.



Even if you have access to water, such as a stream or nearby lake, you still need to consider a water storage program. Many types of disasters could cause the water source to become contaminated, forcing you to rely on your stored water for survival if you can't purify it.

WHERE TO STORE WATER

Some people are lucky enough to have a basement or large garage in which they can dedicate space for their emergency water and food storage. Others live in small apartments and simply do not have the extra space. Still, if you are creative, you should be able to find ways to store enough water to last your family for weeks in an emergency.

In all cases, you want to be sure to store water away from light and heat. A cool, dark space is best. You also want to be mindful of the potential for containers to leak. For this reason, you should not store bottles where a leak could damage wood floors or cause other types of damage.

For those with limited space, the types of containers you choose is important. There are options that enable you to stack the containers, allowing for more storage in a limited space. If feasible, take advantage of space under beds or consider dedicating part of an extra closet to your storage. Some people raise their bed for the purpose of adding extra storage space beneath.

Storing water outside is not ideal. As mentioned above, you want to avoid extreme temperatures and sunlight. If it is your only option, aim for storage in a carport or other covered area where you can at least avoid direct sunlight.

TYPES OF STORAGE CONTAINERS

There are many types of storage containers appropriate for storing water. Below are some ideas.

Repurposed Containers: These include soda bottles, juice bottles and any other containers you have used that can be filled with water. There are a couple of things to keep in mind when using repurposed containers for water storage:

- *Durability* – These bottles and containers were not designed for long-term use. For that reason, they are more apt to develop leaks than containers designed to be more durable.
- *Clear* – Many of these containers are clear. This makes it more likely that algae

may develop as none of the light is being filtered. That being said, these containers are better than nothing. If you do use repurposed containers for all or some of your water storage, it is important to rotate the water and to keep the water out of direct sunlight.

Bricks: Water “bricks” allow you to safely and easily store, transport and access your water supply. Some come with a convenient interlocking design for easy stacking in BPA-free containers.

Make sure to get the kind that contains three to four gallons of drinking water and includes an easy-opening lid, built-in spigot and carrying handle. Very portable, they take up very little space.

Boxes: Boxed water storage kits are a great choice for a number of reasons.

- The boxes, each of which holds five gallons, can be stacked, making this a good choice for those with limited space. You can easily stack 20 or more gallons in most closets and still be able to use the closet for other purposes.
- The boxed water storage kits keep out light completely, making this a good option for long-term storage.
- Should you have to bug out, boxed water storage kits are easy to take with you. Unlike large barrels that can be too heavy to move, each box only weighs about 40 pounds.

Each kit includes a Mylar pouch you fill with water. The pouch is then placed inside the box for easy stacking.

Barrels: For large quantities of water storage, barrels are a good choice. You want to be sure

to buy barrels designed for water storage. These barrels will be made of food grade plastic and will be resistant to light and algae. Water storage barrels can be purchased in a variety of sizes, including those ranging from five to 55 gallons. You will also need a siphon and a spout, and many barrels come with them. If yours does not, they can be purchased separately.

Pouches: Mylar pouches, similar to those used with the boxed storage kits, are a good choice for water storage that doesn’t take up a lot of room. Mylar pouches are available in a variety of sizes, so you can tuck them away in any extra small spaces around your home. They are also lightweight and easy to move.

While they are not too easy to puncture, you do need to treat them with care to avoid leaking.

Prepackaged Water: In addition to containers you fill with water, prepackaged water is another option for your water storage plans. The most common would be jugs and cases of drinking water. These are fine for short-term storage and must be rotated regularly.

For long-term storage, consider the following:

Canned Drinking Water: Canned drinking water is sealed in a number 10 can, just like dehydrated foods intended for long-term storage. The water has been treated in a way that makes it suitable for storage for up to 30 years. The cans are easy to move, can be stacked and there is little chance of leaking. The downside is that the canned water is pricy when compared to other options.

Prefilled Pouches: Pouches containing individual servings of drinking water are a great addition to emergency kits kept in a vehicle, go bags or school emergency kits. Each pouch contains about four ounces of drinking water.

Boxed Drinking Water: Prepackaged boxed drinking water is sold in four- and eight-ounce options. They are another good choice for emergency kits, but take up more room than the pouches.

SHORT-TERM STORAGE TIPS

- For short-term storage, rotation is important. Be sure to use and replace your cases of water, as well as water stored in repurposed containers.
- For very short-term use, such as when a disaster is imminent, use the tips above and fill your bathtub, sinks and any other container you can find. The water in the tub should be used for sanitary purposes rather than for drinking. This is also true for any water stored in containers that are not food grade or that once held non-food items.

LONG-TERM STORAGE TIPS

- If you store water in the proper containers and under the proper conditions, you will not need to rotate the water as often as with your short-term storage. That being said, it is still a good idea to rotate the water occasionally. One of the best ways to do this is by conducting practice drills, during which you only use your stored water. Such practice drills will be discussed below.
- Sometimes water can develop a bad taste after being stored for a period of time. This does not necessarily mean the water is “bad.” Often, simply pouring the water back and forth from one container to another will allow the water to aerate and improve its taste.

Some people have emergency food storage pantries that would sustain their families

for several years. It is very difficult to store enough water for that period of time, which is why learning how to source, collect and purify water is so important.

SOURCING AND COLLECTING WATER

Sourcing and collecting water can be important for both the short term and the long term. Even if you have stored water, it might not be enough. For that reason, it is important to know where you can find water. For the long term, it is important because storing enough for months and years is virtually impossible.

Know Sources Near You: Become familiar with water sources near you. This includes lakes, streams and similar sources. As mentioned above, you will not be able to rely solely on these sources, as it is quite possible for them to become contaminated. The key in your emergency water plan is diversity, so this could be one of the important pieces of the puzzle.



Rain Collection: Learning the basics of rain collection is one of the best things you can do in terms of your water survival planning. Rainwater collection generally includes four steps:

- Collecting the rainwater

- Channeling the rainwater to tanks or barrels for storage
- Purifying the rainwater
- Distributing the rainwater

There are many rainwater collection systems. Some are homemade, and it is quite inexpensive to get started. Others are more industrial and are a bit more costly to set up. Some think rainwater can only be used for gardening and similar purposes. But if you have the proper purification systems in place, you can use rainwater for everything, including drinking water.

For the most basic of rainwater collection systems, you need to simply cut one of your drainpipes and divert it to a large barrel. Be sure to have more than one barrel on hand, so you will be able to collect as much water as possible during a good rain.

Some of the most elaborate systems will include huge underground rainwater collection tanks. This allows you to collect much more water without the need to fill your yard with storage barrels or tanks. This is also a good option if you do not want it to be common knowledge that you have a rainwater collection system in place.

There are plans for do-it-yourself collection systems online and a simple search will yield you the names of companies that specialize in installing rainwater collection systems.

Underground Water Still: While this will not provide you with a significant amount of water, if done properly you can get about a quart per day. Below are the steps required to create an underground water still.

- Choose a location that gets plenty of sun

during the daylight hours and is in a low lying area.

- Dig about 15 inches down. You will need to dig this deep in order to get any water. The sides of the hole should not be straight up and down. Instead, you should aim for a bowl shape.
- Place your collection container in the center and cover the entire hole (including container) with plastic sheeting.
- Place a rock over the container and use other rocks to hold down the sides of the plastic sheeting.

In the morning you should find that the condensation has collected in your container. Because water collected in this manner may contain bacteria and other impurities, it is important to purify the water before use.

Wells: If possible, consider installing a well on your property. As is the case with other water sources, the water can become contaminated, but as mentioned earlier, it is about having different options at your disposal.



Cactus: You may have seen a survival show in which someone got water from a cactus in a survival situation. If you plan to spend time in the desert, you should get to know the various

types of cacti you may encounter, as well as the basic methods of acquiring water from each.

- Not all cacti are safe to eat or drink from. Some are poisonous and drinking water from them can put you in danger.
- It is important to learn the proper methods of getting water from each type of cactus. If you use the wrong method, you could waste what precious little water there may be in the cactus.
- If you plan to be in the desert, be sure you have some tools with you, including a machete. Getting water from a cactus without a machete will be very difficult.

Swimming Pools: Swimming pools can be a source of emergency water, but there are a few things you'll need to keep in mind.

- After a loss of power, the pools will quickly begin to grow algae. That doesn't mean you will not be able to use the water, just that extra treatment steps will be needed.
- Some are surprised to learn that it is possible to drink water from a swimming pool. Because different pool owners use different chemicals, it is best to only consider drinking the water from a pool for which you know how the water has been treated.
- Some chlorine is safe to drink. The FDA says that water with no more than 4 parts per million is safe to drink. Before drinking pool water, you should boil it for at least one minute and also run it through a high-quality water filter.

Hot Water Heater: Depending on the size of your water heater, you have somewhere

between 30 and 60 gallons of water on hand at all times. It is important that you learn how to access that water. Most hot water heaters have a valve from which you can access the water, but you will need a hose or pump to make collecting the water easier.

Drain Pipes: As a last resort, you can cut your pipes and drain any water that may have settled in the pipes. Be sure to have containers ready to catch the water so that none goes to waste.

TREATING WATER

If you do not have sufficient potable water in your storage or find yourself in an emergency situation in which you will need to treat water, there are several methods to consider.



Boiling: Boiling water will kill pathogens and bacteria, making many water sources safe for drinking. You must boil the water for at least three to five minutes. If you are worried about losing some of the water through evaporation during the boiling process, simply cover the pot.

If possible, filter the water before boiling. This is especially important if the water appears cloudy or has visible debris.

Filters: There are many different types of water filters. A high-quality water filter

can mean the difference between having safe drinking water and having to drink questionable water.

Ideally, you will include two water filters in your kit. The first will be a small pump type filter, like the ones you would use for camping. The other would be larger and would have the ability to process larger volumes of water.

If you are serious about emergency preparedness, high-quality water filters should be high on your list of items to add to your kit.

Chemicals: There are two chemicals commonly used to treat water: chlorine and iodine. Keeping iodine in your emergency kit is a good idea, as it is effective at killing many bacteria found in water. You must keep in mind, however, that water treated with iodine is not safe for everyone, particularly the elderly, pregnant women and those with an allergy to iodine. Iodine must be safely stored at the correct temperature or it will lose some of its potency.

All you need to treat water with chlorine is simple household bleach. For every quart of water, add two small drops of chlorine bleach and allow the water to sit for about 30 minutes. If the water is very cloudy, add a couple more drops and allow it to sit an extra 30 minutes.

If you keep bleach in your emergency supplies for this purpose, be sure to rotate it every three to six months, as the potency of bleach diminishes quite quickly.

MAKING WATER LAST

In a survival situation, you will need to conserve water and other supplies. Here are some tips to curb the use of water.

Tips to Curb Your Use:

- Ration drinking water. Know how much you need each day, then ration it throughout the day. While rationing is important, you should always drink when you're thirsty.
- Rather than taking a normal bath, wash up using a basin a few times a week and save a full bath for once or twice a week.

Think Like a Pioneer: Imagine if you had to find and then carry every drop of water you used. In a survival situation, this is how you need to think. Even if your emergency water supply is neatly stored in your basement, you need to think like a pioneer so you do not waste even one drop.

Gray Water: If part of your survival plan includes growing your own food, you will need water for your plants. Consider collecting gray water for this purpose. Gray water is water left over after bathing or washing clothes or dishes.

It is safe to use this water for watering plants, but you should only use it on older plants and use cleaner water when tending to seedlings.

NOTE: While practicing conservation is important, you should not conserve drinking water. Instead, drink what you need. Many people have been found in the desert. They died of thirst with a canteen full of water because they thought it best to conserve. You need water, so drink what you need.

IMPORTANCE OF PRACTICE

An important part of your survival planning, including water storage, is practice.

Drills: Do drills a few times a year with your family, during which you turn off the water supply and survive for a few days using only

your emergency water storage and source collection methods. This type of practice will ensure that every family member is familiar with the various treatment and collection options.



The drills will also make everyone much more prepared should an actual emergency arise. This will greatly reduce the amount of stress each person will endure as they will already be familiar with how to deal with only using your emergency supplies.

If you do not already have an emergency water plan in place, today is the day to start developing one. There could come a time when you do not have access to water and rescuers are unable to reach you for days. Should such an emergency arise, the preparation you make now could be the difference between life and death.



2920 Berry Hill Dr., Suite 300, Nashville, TN 37204
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