

PREPPER

EMERGENCY SURVIVAL MANUAL

ALL YOU NEED TO KNOW TO PREPARE FOR AND LIVE THROUGH ANY SURVIVAL CHALLENGE

•FOOD•WATER•SHELTER•SECURITY•COMMUNICATION•HEALTH•

150 How-To's and Tips
85 Survival Must-Haves



2 Page
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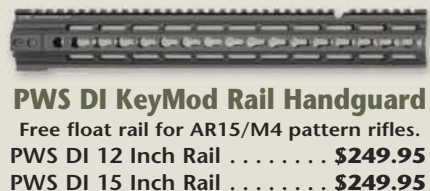
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AMERICAN SURVIVAL
GUIDE UNIVERSITY
PREPPER CHECKLIST

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WORDS

PREPPER SURVIVAL FIELD MANUAL

Welcome to the Spring 2017 Prepper Manual from American Survival Guide. While every issue of ASG is full of informative articles and advice for preparing for a wide variety of predicaments, this issue is designed to be a ready reference guide that is easy to navigate.

This manual is organized according to the Six Pillars of Survival that are the foundation for the survivalist and prepper training programs available through American Survival Guide University (ASGU). When you finish this issue, take a few minutes to visit ASGU online at ASGU.ASGMAG.com to learn more about our curriculum and training staff. The Pillars organize virtually all of your survival needs into these logical groups: Food, Water, Shelter, Security, Communication and Health.

In this manual, each Pillar is divided into three sections. The introductory article discusses critical topics included in that Pillar and provides useful background and important insights on those subjects. The next section provides a number of tips and tricks or how-tos that will help you become more effective at responding to challenges presented by various survival threats covered by that Pillar. The final section is a gear guide that highlights numerous products that address many of the threats discussed and can make a difference in your chances for success. With this format, you can read and easily reference all the information about a given topic without having to hunt through the whole issue to find it.

With a true manual-style layout this issue provides a means to improve your ability to zero in on, and easily return to, specific topics and information. You will find the sections and all subordinate topics organized so that you can reference headings and numbered paragraphs without having to slog through info that you don't need at the moment.

Our writers have pulled together more than 160 tips and how-tos and almost 90 helpful products you need to be aware of to make your survival plan more effective. Whether you're new to prepping or a long-time practitioner of the survival arts, you will find valuable life-enhancing information and advice that will help you and your family weather many different types of challenges.

Another new feature in this issue is the ASGU Prepper's Checklist. This will serve as a reality check and inventory sheet for anyone who has, or plans to, put survival supplies and gear in place. No matter what the type and volume of provisions you have, you are not prepared if you don't know what you have or are missing. Our checklist can be cut out of this manual and kept with your supplies as an inventory sheet or used as a shopping list when you are ready to add to your cache.

Remember that the first part of successfully surviving any challenge is proper preparation. That starts with an assessment of what you perceive to be the most likely threats to your health, safety and security. Whether you feel that the biggest risks come from civil unrest, extreme weather events, or the fuel refinery down the street blowing sky high, there are a lot of common supplies and response plans that address all of these threats.

Exercise common sense when it comes to getting started. If you're new to prepping, after you make your initial assessment and determine what your needs are, take stock of what you already have so you can check those items off your list and save your cash for things you don't have. (You may be surprised to learn that you've been a prepper for some time already.) Then, concentrate on acquiring the most critical items you lack.

Prioritize your procurements based on the greatest necessity or threat, not the latest sale flyer or new product releases. You will find helpful information on the essential requirements for food, water, shelter and other survival imperatives in this manual, perhaps the first step in taking advantage of its addition to your library.

Remember that self-reliance is the result of collecting a lot of little things that you bring together to help you confront each obstacle on your path. It all boils down to these ten little words - If it is to be, it is up to me.

Now, get to work!

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www.asgmag.com

www.facebook.com/americansurvivalguidemagazine

PREPPER MANUAL is published by

Engaged Media Inc., LLC,

17890 Sky Park Circle, Suite 250, Irvine, CA 92614.

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A person wearing a dark puffy jacket, a beanie, and gloves is standing on a rocky mountain peak. They are holding a blue water bottle to their mouth and drinking. The background features a vast mountain landscape with pine trees and a bright, hazy sky, suggesting a sunrise or sunset. The word "LIQU" is written in large, white, bold letters on the right side of the image.

LIQU



POTABLE WATER IS A SURVIVAL ESSENTIAL

BY: FRANK PHILLIPS

LIQUID LIFE

Without water, life on this planet would not be possible. But the vast majority of the water on the planet is not potable; only 3 percent is drinkable. Most of that is in underground aquifers or trapped in snow and ice where it's not readily accessible to humans. The rest is saltwater, which might as well be poison for we humans.

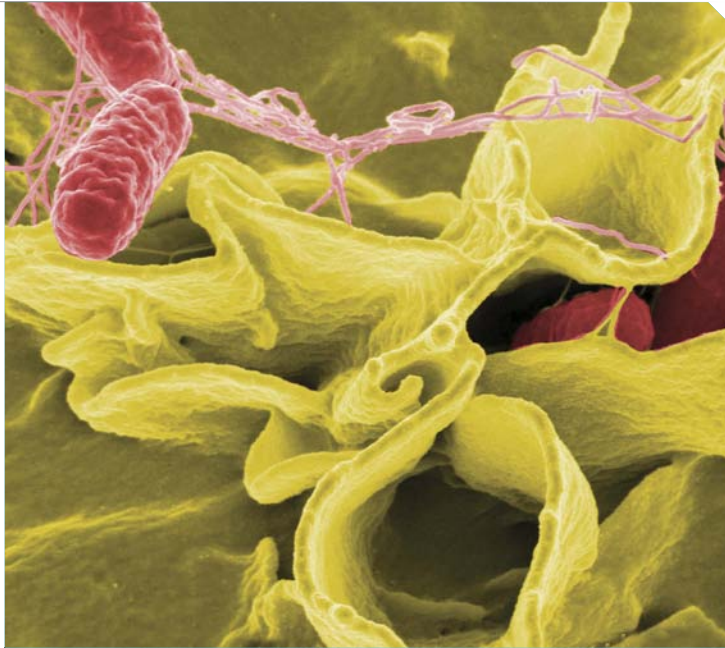
In the backcountry of North America, water is usually a readily available commodity, as the climate of most of the wilderness is perfect for streams, creeks and rivers. Finding water in more arid regions—such as the Southwest or the dry cold regions of the north—can be challenging, but not impossible.

1 DANGEROUS WATER

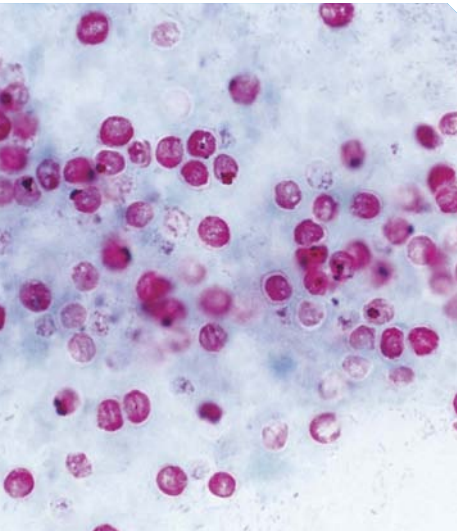
Regardless of its source and despite desperation, be wary of any water you come across. Without proper treatment, any water might be loaded with bacteria, viruses, protozoa, parasitic worm eggs or chemical contaminants.

1.1. Potential Toxins: Bacterial spores such as *Campylobacter jejuni*, *Salmonella*, *Shigella*, and *Escherichia coli*; viruses such as rotavirus, Norwalk virus, and hepatitis A; parasitic worms like tapeworms and flukes; and industrial toxins such as lead, mercury and cadmium all lead to unhealthy and potentially deadly drinking water.

1.2. Parasitic Protozoa: The complex parasitic protozoa are especially prevalent in almost all water found in nature. Many, including *Giardia lamblia*, *Cryptosporidium parvum*, and *Entamoeba histolytica*,



◀ Color-enhanced scanning electron micrograph showing *Salmonella typhimurium* (red) invading cultured human cells.



◀ *Cryptosporidium parvum* protozoa up close and personal.

◀ Water in ponds with high mammalian traffic can have elevated levels of *Giardia* cysts present.

transform from free-living forms into dormant but highly infectious cysts when expelled in the host's feces.

1.3. Giardia Lamblia: *Giardia lamblia* is a protozoan parasite that enters the water via the feces of mammals and then attaches itself in the small intestines when people drink that water. It can cause diarrhea, vomiting, bloating and weight loss.

1.4. Cryptosporidium Parvum: *Cryptosporidium Parvum* is another protozoa species that populates fresh water in North America via the same method as *Giardia*. The result of ingesting water infected with *C. parvum* is tremendous diarrhea.

› Always take advantage of available water sources, whether it's to replenish lost fluids immediately or to top off your supplies.





› Refilling a canteen at a trailside stream.

2. DEHYDRATION

Humans can go without water for only a few days. High and low temperatures, a lack of shade, dry or windy conditions, and other factors can further reduce the amount of liquid reserves left in the body and dramatically reduce the time available for waterless survival.

2.1. Salt Buildup: When too much salt is in your system, water is leached from individual cells to compensate for and correct the imbalance. The body fights this by urinating to remove the salt, so we urinate more water than we drink. The result is dehydration.

2.2. Effects of Fluid Loss: The body compensates for the fluid loss by increasing the heart rate and constricting blood vessels to maintain blood pressure and flow to vital organs. Eventually, you'll feel nausea, weakness and delirium. As you become more dehydrated, the brain and other organs receive less blood, which leads to coma, organ failure and eventually death.

2.3. Common Signs of Dehydration: Some symptoms of dehydration are dark odiferous urine, darkened skin around the eyes, unusual fatigue, loss of skin elasticity and a deep line down the center of the tongue.

2.4. Prevent Dehydration: Even when you are not thirsty, drink small amounts of water at regular intervals to prevent dehydration.

2.5. Don't Eat Snow! Melt the snow first. Consuming snow or ice can reduce the body's temperature and lead to additional challenges.

2.6. Slaking Thirst: Rinse your mouth for 30 seconds before swallowing. Most of your thirst comes from a dry mouth.

3. WATER AND YOUR HEALTH

Your body's normal temperature is 98.6 degrees (F). It gets rid of excess heat primarily by sweating. The more you sweat, the more moisture you lose. If you stop sweating during periods of high air temperature and heavy exertion, you can quickly develop a heat-related injury.

› Loss of body fluids through perspiration is as important a consideration in cold weather as in hot environments.





3.1. Keep Drinking: Drinking water at regular intervals helps your body remain cool and decreases sweating.

3.2. Cold-Weather Sweating: When bundled up during cold weather you may be unaware that you are losing body moisture. You must drink water to replace this lost fluid. Your need for water is as great in a cold environment as it is in a hot environment.

3.3. Too Much Water?: Over-hydration can occur if total water intake exceeds what your kidneys and sweat glands can process. A rule of thumb is that consumption that exceeds 1.5 liters (1.6 quarts) per hour can result in over-hydration. Over-hydration can cause low serum sodium levels resulting in cerebral and pulmonary edema, and, possibly, death.

3.4. Heat Cramps: The loss of salt due to excessive sweating causes heat cramps. These are moderate to severe muscle cramps in legs, arms or abdomen. These symptoms may start as a mild muscular pain. Stop all activity, seek shade and drink plenty of water.

3.5. Heat Exhaustion: A large loss of body fluids and salt causes heat

➤ Above:
By properly controlling activity levels and staying properly clothed in cool and cold weather, you can reduce the amount of fluid you lose by sweating.



➤ Animals, especially those that graze, can often lead you to water sources.



➤ Birds can also lead you to water sources if you know their drinking habits and pay attention to their movements.

exhaustion. Symptoms include headache, confusion, irritability, excessive sweating, weakness, dizziness, cramps and pale, clammy skin. Seek shade immediately. Lie down, loosen all clothing and sprinkle yourself with water while fanning the wet skin. Drink small amounts of water every few minutes.

3.6. Heat Stroke: An extreme loss of water and salt and the resulting loss of your body's ability to cool itself can cause heat stroke. Symptoms are the lack of sweat, hot dry skin, headache, dizziness, quick pulse, nausea and vomiting, and confusion, leading to unconsciousness. The victim must be quickly cooled by any means available. Massage their arms, legs and body. When they regain consciousness, let them drink small amounts of water every few minutes.

4. FINDING WATER In a survival scenario, you must measure the risk versus the reward of every task. This becomes especially true with calories and water consumed. Expending calories and time on a fruitless long distance hunt for food or water is a bad investment of both.

4.1. Follow the Leader: Animals can often lead you to water. Grazing animals, such as deer, are usually never far from water and typically drink at dawn and dusk. Converging game trails often lead to water.

4.2. Birds and Water: Birds can sometimes lead you to water. They drink at dawn and dusk. When they fly straight and low, they are heading for water. When returning from water, they are full and will fly from tree to tree, resting frequently.

4.3. Insects and Water: Insects, especially bees, can be good indicators of water. Bees seldom range more than a few miles from their nests or hives. They will usually have a water source close by. Ants need water as well. A column of ants marching up a tree is likely going to a source of water.

4.4. Observe Wildlife: If you haven't seen any wildlife for a while and then suddenly you do, there is likely a source of water nearby.

4.5. Ice Melt: When ice is available, melt it rather than snow. One cup of ice yields more water than one cup of snow.



› Above: Opt for ice, rather than snow, as ice provides more water, by volume, than snow, and melts faster, too.



› Above right: Another good source of water is the morning dew, which can be collected most mornings.



› Water can sometimes collect in flat rock formations, especially if they're protected from the sun.

4.6. Body-Heated Water: You can use body heat to melt snow. Place it in a container between your layers of clothing (not directly on the skin).

4.7. Morning Dew: A good source of water is dew. By stretching out a sheet of plastic you can capture dew during the night.

4.8. Safe Sources After Radiation Exposure: After a radiation exposure, naturally filtered water from springs, wells or other underground sources will be your safest sources. Any water found in the pipes or containers in abandoned buildings will also be free from radioactive particles.

5. FINDING WATER IN PLANTS

Many types of plants have plenty of water, either in their roots or in capillary systems in their vines, branches, fruits or leaves.

5.1. Observe the Leaves: Broad-leafed trees, like cottonwood and willow, indicate abundant water is present. However, trees with needles, such as pine, juniper and cedar, grow in dry to semi-dry areas.

5.2. Cactus Pulp: Cut off the top of a barrel cactus and mash or squeeze the pulp to get the water out. Do not eat the pulp.

5.3. Bamboo: Cut the tops off bamboo stalks and water will then begin to drip from the cut area.

5.4. Plant Roots: Many plant roots hold water. Mash them into a pulp, strain off the water, then purify it before drinking.

5.5. Palms: The buri, coconut, sugar, rattan and nips all contain liquid. Cut a lower frond, pull it down, and water will drain from the tree at the injury.

5.6. Water Plants: Ice plant and Amaranth (aka: pig weed) are ground coverings found in much of North America that contain large amounts of drinkable moisture.

6 GROUND WATER

■ In the desert, water may be found underground. If you are lucky, the water table might be only a couple of feet below the surface. Sometimes, water can be found in specific places such as at the base of a cliff or at the bend of a dry riverbed.

6.1. Water in a Dry Lake: Find the lowest point of a dry lake or riverbed and dig. If you hit wet sand, stop digging and allow the water to seep into the hole.

6.2. Stream and River Bends: Dig into the far bank of a bend in a dry stream or riverbed. Since that is where the water was hitting the bank with the most pressure, some moisture may remain.



➤ Above, top: Palm trees of various sorts can provide water.

➤ Above: Rainwater is an excellent option for replenishing your water supply. Just beware of the possibility of contaminants and necessary treatment before you drink it.

6.3. Plants Know Best: If you see thriving vegetation in a barren area, there is probably a water source there. Dig down in low areas and you might find moist sand or water.

7 WATER AT HOME

■ Sometimes, an emergency situation will have you stranded at home, where you might run out of your reserves before the catastrophe has been resolved. There are numerous sources for water in and around your home.

7.1. Rainwater: Processing rainwater is one of the cheapest and easiest things you can do to help improve your level of self-sufficiency. Be sure to treat the water for chemical runoff and other impurities before using.

7.2. Water Heater: There might be up to 80 gallons of fresh water waiting for you to tap into.

◀ Barrel cactus can provide water with a little effort to harvest it from the pulp.



7.3. Toilet Tank: The water in the tank of your toilet is perfectly safe to drink

7.4. Fish Tank: After processing, a 20-gallon fish tank will provide drinking water for a single person for weeks.

7.5. Pool Water: A 15 x 4 foot round pool has around 5,000 gallons of water you can use after processing it.

7.6. Water Pipes: After the pressure drops, water may have collected in low spots and can be collected by disconnecting the pipes.

7.7. Canned Foods: Most canned foods are packed in water or juices that can be consumed..

➤ You can recover at least 30 gallons of potable water from full-size water heaters.

➤ Below: Most fruits, vegetables, and other foods are packed in water or other edible fluids. Don't waste this resource!

➤ Below: A good rule of thumb for daily drinking water is one gallon per person. When in doubt, store more.

8. PROCESSING WATER

There are dozens of filters, distillers and chemical treatment options available for a wide range of situations. If none are handy, there are natural methods such as stills, bleach, boiling and solar disinfecting that you can use to make water safe.

8.1. Filter Size: The smaller the pore size, the more effective the filter is. Use a filter with the smallest pore size you can find.

8.2. Chemical Limitations: Chemical treatments eliminate bacteria and viruses but they do not eliminate particulate matter, and they usually have a negative effect on the taste of water. Note that long-term use can be harmful, especially to children and pregnant women.

9. STORING WATER

Water doesn't have an expiration date. What causes water to become undrinkable are the chemicals, algae, bacteria and biological contaminants that get into it. Make sure the containers you use to store water for long term are BPA-free and approved for food grade use.

9.1. Three-Day Supply: The Centers for Disease Control and Prevention (CDC) says that a three-day supply should be kept on hand at all times but suggests keeping two weeks' worth of water. Three days of drinking water for a family of five is about 15 gallons.

9.2. Rotate Your Stash: Rotate out your stored water every eight to 12 months. When you buy a new case of water, date and place it in your stash and use the oldest case of water from your supply.

9.3. Water Cooler Bottles: Three, five, and seven-gallon water bottles for home water coolers are a cheap storage solution that enable you to store a large amount of water efficiently.

9.4. Stackable Containers: Stackable water containers made with food-grade plastic are great for tight spaces.

9.5. 55-Gallon Barrels: A BPA-free, UV-resistant 55-gallon water barrel will provide almost a month of water for two people. **ASG**





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HOW TO QUENCH YOUR THIRST

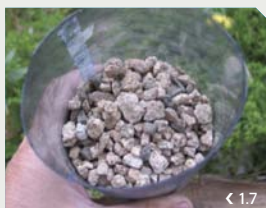
WHAT TO DO WHEN THE WELL RUNS DRY

BY: FRANK PHILLIPS

1. THE DIYER'S NATURAL WATER FILTER

Regardless of how well stocked you may be with water filters, chemical tablets and other means of water purification, all might be lost and you'll end up needing to purify some water with just the things found in nature. All is not lost, however, as the wilderness is full of materials you can use to make a DIY water filter that works much like the one you have in your emergency kit or B.O.B.

1.1. Cut off the bottom of a plastic 1 or 2-liter drink bottle to serve as a catch basin for your filtered water. You can also use another bottle or container as your storage vessel that you will fill from your catch basin. The advantage of this approach is that you can filter the water more than once if needed to get it as clear as possible.



1.2. Bore a hole in the center of the bottle cap for the water to drain through. You may need to experiment to find the right size hole, but start with a quarter-inch hole and make it bigger if you need to.

1.3. Place a layer of clean fabric at the neck of the bottle to serve as a final filter and to keep everything else in place. Hold it in place with the cap or a piece of string or rubber band.

1.4. If you have some kind of packing material, like grass or straw, put it in at this time to prevent the charcoal (step 1.5.) from falling out.

1.5. Next, add a 1-inch-thick layer of charcoal. This is where the majority of the filtration takes place, and it is also where some purification happens. Charcoal is the black outer layer on a burnt log in your campfire. Scrape it off of the burnt logs and grind it up until it is as fine as you can make it. A word of caution, though: Ashes do not have the same properties as charcoal, so do not use them in your water filter. All that will do is give you gray water that tastes horrible.

1.6. On top of your charcoal layer, add a layer of fine sand to serve as your filter for fine particulate matter.

1.7. Add a layer of coarse sand to serve as the filter for larger particles.

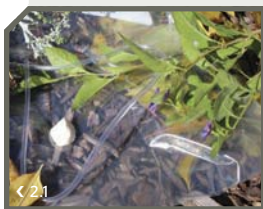
1.8. Next, add a layer of small gravel, and then a final layer of larger gravel as the top layer of your water filter.

1.9. Each of your layers should be at least 1 inch thick to ensure each has the ability to catch all of the impurities of the size for which it is designed.

1.10. To use your DIY water filter, hold it in one hand, cap end down, over the catch basin made from the bottom of the bottle. Pour the dirty water through the opening in the top. Let it filter its way through the various layers to remove the particulate material from the water. Once it gets to the charcoal, there shouldn't be much of anything left in the water, and the charcoal can do its work on the microscopic organisms that might be in it.



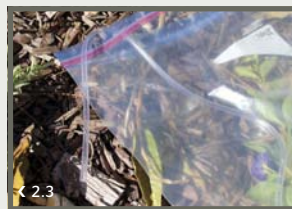
◀ 1.10



◀ 2.1



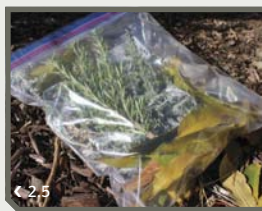
◀ 2.2



◀ 2.3



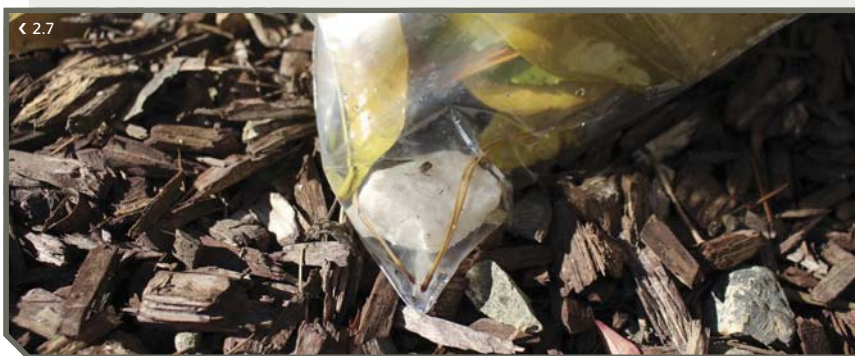
◀ 2.4



◀ 2.5



◀ 2.6



◀ 2.7

2.

BUILDING A VEGETATION BAG STILL

If you are stranded in a forested area or even somewhere with a plethora of vegetation and your water supply is running low, water can be had easily as long as you're patient and resourceful.

The trees and plants around you need to drink, too, and if you understand how a plant drinks water (xylem tubes, like drinking straws), then you'll realize there is water all along the roots, shafts and leaves of a plant.

The trick is to draw out that water, and it can be done with a vegetation bag still. Note: Do not use poisonous plants for this method.

2.1. Place a small rock in the bottom of the bag so that it weighs down one corner.

2.2. Fill the bag with air and then add enough leafy vegetation to fill the bag one-half to three-quarters full. Make sure to remove all of the hard sticks or spines that might puncture the bag.

2.3. Place a clean piece of tubing into the open part of the bag before tying it closed. Make sure to keep as much air inside the bag as possible and tie the mouth of the bag tightly so that air can't escape (plug the end of the tube sticking out of the bag as well).

2.4. Place the bag and its contents in a sunny spot on a gently sloping hill so that the mouth of the bag (and tube) are uphill and the rock is at the bottom.

2.5. As the water condenses on the sides of the bag, it will bead up and run down to the rock at the bag's lowest point. The tube will be the straw, with which you can drink directly from the bag. If you don't have a tube, gently untie the bag and drain the water into another container. Try not to leave the bag open too long and the heat to escape.

2.6. Change the vegetation as the water output begins to slow.

3.

HOW TO MAKE A TRANSPIRATION BAG STILL

Similar in concept to making a vegetation bag still, you're relying on the moisture content of plant material to be leached out by heat from the sun. This is a very effective way to obtain a steady flow of drinkable water with minimal materials and/or effort. Like with the vegetation bag still, don't use poisonous plants.

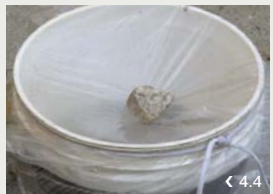
3.1. Fill the bag with as much air as you can before slipping it over a very leafy tree limb.

3.2. Place a small rock in the bottom of the bag so it hangs down to the lowest point.

3.3. If you have a tube or a straw, tie the bag tightly around it. It'll be your way to extract the water without opening the bag.

3.4. The end of the limb should hang down below the level of the mouth of the bag and the rock should be at the lowest point. Condensation will bead up and run down and collect there.

3.5. Simply drink from the straw as the water pools or open the bag and pour it into another container. The tree limb will be able to do this for a few days before it is damaged.



4.

DISTILLING SEAWATER

Surrounded by high-salinity water from the ocean is a terrible fate. Water is all around you and you can't drink any of it. However, a simple still can be made with two buckets and sheet of plastic that will draw drinkable water from the salty water. It's not a perfect system, it's not highly efficient, and it may not be all that quick, but it will provide drinkable water with very little effort on your part.

4.1. The simplest way to do this is to

place a smaller bucket into the larger bucket.

4.2. Fill the larger bucket with seawater. You may have to put a rock or a weight into the inner bucket so it stays put.

4.3. Cover both buckets with a sheet of clear plastic and secure it. Place a weight in the center of the plastic so it creates a divot. Make sure the plastic doesn't touch the edge of the center bucket.

4.4. As the ocean water evaporates, pure water condenses on the bottom of the plastic, and drips into the inner bucket.

5.

BUILDING AN IN-GROUND SOLAR STILL

Another method that is useful for purification when no specialized equipment is handy is an in-ground solar still. At minimum, a clear plastic sheet or similar material will be needed. This method combines the usefulness of a vegetation bag still with the convenience of the bucket-water still. The object of this is to collect moisture from the soil or surrounding vegetation, so adding plant life to the pit is a way to generate additional liquid.

5.1. Dig a hole in the ground about 3 feet across and 2 feet deep. The actual size of the hole depends on how much vegetation you have and how big your plastic sheet is.

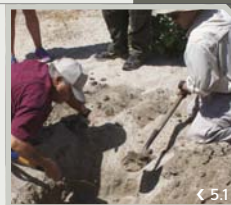
5.2. Dig a divot at the base of the hole to accommodate your catch basin. The size of this divot will depend on the size of your catch basin.

5.3. If you have a length of clean tubing, place one end securely in the catch basin and run it from the hole. Keep the outside end plugged to avoid water loss via evaporation.

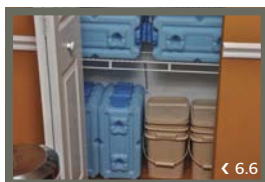
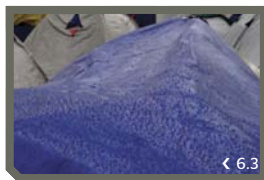
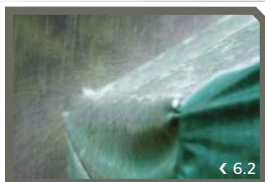
5.4. Fill the hole with vegetation and/or unclean water. Adding unclean water, urine, or other liquid can also increase the amount of useful water produced by the process.

5.5. Place the plastic sheet over the hole, covering its edges with soil or rocks to hold it in place. Try to avoid disturbing the sheet once it is in place.

5.6. Place a small rock on the plastic sheet so that it forms an inverted cone, with the apex of that cone directly over the catch basin. The angle of the cone's walls should not be too steep.



5.7. Solar radiation will then condense the water from the covered soil onto the sheet and it will then drip into the bowl. If you have a tube, you can drink directly from the catch basin without disturbing the still's production by allowing heat and moisture to escape if you were to open it.



6.

OTHER TIPS AND TRICKS

Rainwater collection is a technology that is as old as civilization.

Wherever people lived together and faced water shortages, they developed methods for collecting and storing what little rainwater did fall. These methods are better suited when you're hunkering down as they require more resources than other methods described.

6.1. HOME METHOD

The very simplest method you can use to collect rainwater is to simply put out pots, buckets and watering cans before each storm to catch it as it falls from the sky and then transfer it to a storage container. You can also rig plastic sheets, ponchos and similar materials to direct rainfall from a broader area into your containers.

One-quarter inch of rain falling on an 8-by-8-foot tarp will produce 10 gallons of water.

6.2. STINK-BE-GONE

Remove unpleasant odors from water by adding charcoal from your fire. Charcoal is also helpful in absorbing some agricultural and industrial chemicals. Let the water stand for 45 minutes before drinking it.

6.3. SODIS

Water can be purified via the Solar Disinfecting (SODIS) method. You put clear water in clear, glass or PET type plastic bottles with the labels removed, filled three-quarters of the way up. Then lay them flat in direct sunlight for at least six hours.

6.4. CHEAP FILTERS

Keep some coffee filters in your pack to filter out the larger particulate matter in the water.

6.5. WATER IN COLD CLIMATES

Once you have water, keep it next to you to prevent refreezing. Also, do not fill your canteen completely. Allowing the water to slosh around will help keep it from freezing.

6.6. KEEP IT SEALED

Water should be completely sealed in an airtight, opaque container.

6.7. COOL WATER

Water should be kept in a relatively cool place (or at least where temperatures don't fluctuate too broadly).

6.8. BARREL LOCATION

Place rainwater collection barrels under each downspout and keep them covered with a lid. Adding a screen to the downspout will filter out large debris. **ASG**



CLEAN WATER WARES

GEAR TO PROCESS, MOVE AND STORE YOUR MOST PRECIOUS COMMODITY

BY: FRANK PHILLIPS

With very few exceptions, water is the most important element required to survive an extended emergency. Humans have only a three-day window of life without hydration, making this is the most important commodity you should plan for.

Since you probably won't have the space to store enough water for extended periods, and, to be prepared for a likely need to bug out, the wise prepper has a number of water treatment and storage solutions in their survival kit.





SQUEEZE WATER FILTRATION SYSTEM

BACKWASHING

When the filter flow slows, it is time for cleaning – this is normal. To clean the filter, follow these simple steps:

1. Remove cap/filter from pouch.
2. Remove push-pull cap.
3. Fill syringe with clean water.
4. Place tip of syringe on opening that the push-pull cap was on.
5. Aim filter away from yourself.
6. Vigorously squirt water from the syringe into the filter.
7. Repeat several times.

STORAGE

For Long-term Storage:

1. Backwash the filter as outlined above.
2. Fill the pouch with water and add 1 capful of bleach.
3. Attach cap/filter to the bag.
4. Open push-pull valve and squeeze some of the bleach water through the cap/filter.
5. Close push-pull valve and let stand for an hour.
6. Drain bleach water from bag and allow all components to air dry.

www.sawyer.com
16 oz.

SQUEEZE WATER FILTRATION SYSTEM

TO USE:

1. Unscrew cap/filter from bag.
2. Fill bag with water.
3. Screw back on cap/filter.
4. Wipe off any dirty water from cap.
5. Open push-pull valve on cap.
6. Squeeze bag and dispense water. Suck on push-pull valve.
7. Close push-pull valve when done.

Note: Filter will need initial wetting and flow will increase after initial uses, this is normal. Avoid freezing this filter. Freezing this filter. If unit is suspected of being damaged, discontinue use and replace it.

32 oz.

TO USE:

1. Unscrew cap/filter from bag.
2. Fill bag with water.
3. Screw back on cap/filter.
4. Wipe off any dirty water from cap.
5. Open push-pull valve on cap.
6. Squeeze bag and dispense water. Suck on push-pull valve.
7. Close push-pull valve when done.

Note: Filter will need initial wetting and flow will increase after initial uses, this is normal. Avoid freezing this filter. Freezing this filter. If unit is suspected of being damaged, discontinue use and replace it.

1. FILTERS AND PURIFIERS

Each member of your group should have their own filter, and you should also have one that serves the group as a whole. Be sure to also have plenty of replacement filters and maintenance materials on hand to ensure the longest and most effective service life for each unit.



> 1.1

1.1. SURVIVOR 6 WATERMAKER

The Watermaker uses only human power to operate, so no batteries, generators or any other power supplies are needed to transform seawater into potable water. Just manually pump the lever to send the seawater under very high pressure through a membrane that filters sea salts and other contaminants easily and effectively.

Specs and Features

- Capacity: 30 ounces per hour
- Dimensions: 5 x 8 x 2.5 inches
- Weight: 2.5 pounds
- Materials: Stainless steel and plastic

www.Katadyn.com
MSRP: \$995

1.2. SAWYER SQUEEZE FILTER SYSTEM

Just fill the durable Mylar foil pouch (100 percent BPA-free) with water from nearly any source, attach the screw-on filter and enjoy 99.99 percent bacteria-free water directly from the included sports cap. The versatile filter cap also fits most 2 liter bottles. The 3.5-ounce Sawyer Squeeze Filtration system comes complete with reusable, collapsible pouches, the Sawyer 0.10 micron hollow fiber membrane, screw-on/off water filter, pop-up spout and cleaning syringe, enabling you to maintain the unit under all extreme conditions. (Image on page 23.)

Specs and Features

- The PointONE filter removes 99.99999 percent of all bacteria
- Three pouches: 64-, 32- and 16-ounce capacity
- Weight: 3 ounces

www.Sawyer.com
MSRP: \$19.37

1.3. KATADYN BASE CAMP PRO

Just fill the large 2.6 gallon bag with questionable water from any source and hang upright. In less than 20 minutes you will have clean, safe, drinkable water. The glass-pleated filter element removes harmful bacteria and protozoa. Filter up to 200 gallons before changing filters, depending upon initial water quality. The included 6-foot hose with on/off valve makes filling individual containers fast and spill-free.

Specs and Features

- Output: 2.11 quarts/minute
- Technology: AntiClog Technology with 0.2 micron glassfiber
- Dimensions: 10.53 x 2.73 x 5.85 inches
- Weight: 12.35 ounces

www.Katadyn.com
MSRP: \$79



> 1.3

1.4. AQUAMIRA PRO WATER FILTER STRAW

Drop the straw into nearly any questionable water source and drink. This straw does all the work by filtering out 99.9 percent of illness-causing microorganisms like Cryptosporidium and Giardia. Miraguard Antimicrobial Technology suppresses the growth of bacteria, algae, fungus, mold and mildew within the filter media. Its integrated cap keeps the mouthpiece clean, and the unit itself can attach directly to any common water bottle.

Specs and Features

- Flow rate: 500 ml/minute
- Filters 50 gallons/filter
- Includes three pre-filters to extend filter life
- Weighs 2.5 ounces
- BPA free, chemical free and iodine free

www.Aquamira.com
MSRP: \$20.95



> 1.4

1.5. SURVIVAL STRAW

Similar in size to a normal pen, the Survival Straw can be easily carried anywhere and used instantly when presented with unsure water. It processes the water while you drink through the use of MIR high-iodine resin. Granular activated charcoal (GAC) and nano balls continue the process by removing heavy metals, odors and any residual iodine.

Specs and Features

- Can filter 18 gallons of water
- Two-stage Multi-layer Hierarchical filtration system
- Dimensions: 6.25 x 1.25 inches
- Can be used with an inline gravity system

www.H2OSurvivalStraw.com
MSRP: \$20.99



> 1.5

1.6. CAMPING WATER FILTER

This camping filter first removes up to 99.99 percent of harmful bacteria, algae, spores and cysts. Its second stage of protection removes heavy metals, like arsenic, lead, nickel and mercury. Finally, its sediment filter removes debris and other solids.

Specs and Features

- Filters up to 400 gallons of water
- Sediment filter with cage attachment and line floats
- Two 28-inch output and input hoses
- Features Dual Ceramic and GAC replaceable cartridges
- 20 year warranty

www.H2OSurvivalStraw.com

MSRP: \$250



> 1.6

1.7. CREEK'S BUG-OUT COMPLETE HYDRATION KIT

This complete kit includes all you'll need to process water for drinking. The Aquamira filter straw allows you to drink directly from any water source. Included in the kit are chlorine dioxide purifier tablets, a 40-ounce stainless steel canteen, bottle holder, emergency water bag, 4-liter dry sack and a survival bandana.

Specs and Features

- Removes 99.9 percent of harmful Cryptosporidium, Giardia and other pathogens
- Aquamira Frontier filter straw filters up to 30 gallons.
- Chlorine dioxide tablets treat one liter of water (12 tablets included)
- Pack dimensions: 10 x 4 inches (fits 32-ounce Nalgene bottle)
- Stainless steel Klean Kanteen capacity: 40 ounces

www.NotIfButWhenSurvivalStore.com

MSRP: \$89.23



> 1.9



> 1.8



> 1.7

1.10. SAWYER MINI WATER FILTER SYSTEM

This mini-filter system removes microorganisms and other pathogens from water that can be harmful to your health. This unit can be used in many diverse ways including drinking directly from the unit, attaching it to an included squeeze pouch, using it inline on a hydration pack and finally attaching it to almost any bottled water. Includes a cleaning plunger to extend filter life.

Specs and Features

- Cartridge life: Up to 100,000 gallons
- Filters to 0.1 micron
- Filter material: Hollow fiber
- Weight: 2 ounces
- Attaches to 28 mm thread

www.Sawyer.com

MSRP: \$24.99



> 1.10

1.8. LIFESTRAW SURVIVAL WATER FILTER

The LifeStraw surpasses EPA guidelines for E Coli, Giardia and Cryptosporidium. It's lightweight, compact and filters impurities down to 0.2 microns, which means that virtually all bacteria (99.99 percent) and all protozoa (99.9 percent) are removed.

Specs and Features

- Processes up to 1,000 liters of water
- Dimensions: 9 x 1 inches
- Weight: 2 ounces
- BPA free and contains no chemicals

www.Lifestraw.com

MSRP: \$24.95

1.9. LIFESTRAW FAMILY

This family-sized version filters water for a family of five for up to three full years. Viruses, bacteria and protozoan cysts to 0.02 microns are nearly eliminated entirely, as your "unsafe" water comes out crystal clear.

Specs and Features

- Purifies 4,755 gallons of water to 0.02 microns
- Removes 99.9999 percent of bacteria
- Lightweight and easy to use
- BPA and chemical free
- No aftertaste: LifeStraw doesn't use iodine or iodinated resin chemicals

www.Lifestraw.com

MSRP: \$89.95

2. STORAGE

Once you've secured a good source, you need to use appropriate storage containers to ensure the potability and accessibility of your supply. Depending on how much you stock, you should consider using a variety of large and portable containers to make sure storage and access are both handled as efficiently as possible.

2.1 WATER-BOB

The WaterBOB is a bathtub-sized food-grade plastic container that allows you to fill up your bathtub with fresh tap water without having to worry about contaminants from cleaning chemicals (or a dirty bathtub). According to the manufacturer, it will keep water fresh for up to 16 weeks.

Specs and Features

- Holds up to 100 gallons
- Plastic is FDA compliant for food storage
- A siphon pump is included

www.WaterBob.com

MSRP: \$24.95

2.2. 55-GALLON DRUM KIT

One of the best ways to store water for the long term is with a 55-gallon water drum. At 35 inches tall and 24.25 inches in diameter, the kit includes a water preserver, a siphon pump and a bung wrench. It is made with food-grade polyethylene.

Specs and Features

- High-molecular-weight polyethylene.
- FDA approved resin.
- Weight: 21 pounds (empty)
- Dimensions: 35 x 24 1/4 inches (diameter)

www.MorePrepared.com

MSRP: \$99

2.3. 7-GALLON AQUA-TAINER

The square shape makes these seven-gallon containers easily stackable, and the strong handle allows them to be portable. Can be stored vertically or horizontally. Each container includes a spigot that is stored inside the lid.

Specs and Features

- Dimensions: 11.25 x 11 x 15.25 inches
- Weight: 2.17 pounds (empty)
- Stackable
- Reversible spigot

www.MajorSurplus.com

MSRP: \$16.95



› 2.1



› 2.2



› 2.3



> 2.4



> 2.5



> 2.6

2.4. RELIANCE 8-GALLON HYDROLLER

The Hydroller makes transporting 8 gallons of water that weighs around 66 pounds easy with the wheels and attached handle. The handle folds down and the large diameter cap makes filling and emptying easy.

Specs and Features

- Dimensions: 11.25 x 15 x 20.75 inches
- Weight: 4.5 pounds (empty)
- Capacity: 8 gallons (30 liters)

www.RelianceProducts.com

MSRP: \$43.99

2.5. WATERBRICKS

The main benefit of WaterBricks is that they are stackable and easy to store. Built into the 3.5-gallon container are protrusions (like LEGO toys) that allow them to be stacked in a number of configurations. The handle helps for easy portability, while the holes through the centers can be used as lashing points.

Specs and Features

- Dimensions: 18 x 9 x 6 inches
- Weight: 2.25 pounds (empty)
- Capacity: 3.5 gallons
- Mouth: 3.25 inches
- Wall thickness: 3/32 inches
- Colors: Blue or tan

www.WaterBrick.org

MSRP: \$18.95 each/2-pack \$37.90/10-pack \$180

2.6. 1000-GALLON STORAGE

This is a free-standing plastic tank for use in storing water indoors or outdoors. It features a vented lid and comes with one fill and one drain fitting. Manufactured from food-grade polyethylene with UV inhibitors, it may be placed on any flat surface.

Specs and Features

- Dimensions: 75 x 65 inches tall
- Weight: 170 pounds
- 16-inch lid with air vent
- 11 colors to choose from

www.PolyTankSales.com

**MSRP: \$800
ASG**



FOOD FOR THOUGHT

**ENSURING A PROPER FOOD
SUPPLY IN DESPERATE TIMES**

BY: CHRISTOPHER NYERGES



◀ Homemade pumpkin rings hang in the sun to dry before long-term storage.

FOOD

Sometimes, just the word “food” makes you hungry.

Now, imagine how you’ll feel when you can’t run to the store to pick up something for dinner or a few things to keep you going until the weekend. Imagine a situation where there is no ready access to grocery or convenience stores or other food sources, and there’s no end in sight to the disruption. What will you do and how will you do it?

This section addresses one of the most important topics on the serious prepper’s mind, even if it is one of the more obvious things that need to be addressed in extreme circumstances. Without proper prior planning, you are putting your life, and those of your family members, at great risk.

Experts tell us that humans can survive several weeks or more without food. There is no set timeline because everyone would start this journey from a different level of health and body mass, but think about what “survive” actually means. Do you really think you’ll be able to function upright, care for others, get water, keep a fire going and do other physical things necessary to live if you haven’t eaten for three weeks? After just a few days, you might be OK – or you may be too weak to do any strenuous work or even stand on your own.

Don’t risk your life thinking you’re the one who can still chop wood after three weeks without eating. Take a close look at this section, make notes and eliminate the risk by making proper preparations.



➤ The author’s friend Dolores shows boxes of canned foods, designed for long-term storage.



◀ Don't forget the coffee. Gary Gonzales shows some canned coffee.

1. MAIN SOURCES OF FOOD

If you ever found yourself in a situation where the normal food distribution system is disrupted, you need to know what you can do to maintain a proper and sufficient diet. By analyzing your needs and the needs of your family, as well as careful consideration of your location, ability to grow or hunt or forage, and the possibility of barter, you should be able to meet your needs when you can't go to the store. Remember, one of the biggest aspects of being ready is that you thought through your situation and you planned ahead.

1.1. PHYSICAL REQUIREMENTS: The average adult male requires about 2,500 calories a day, and the average female requires about 2,000 calories a day. It could be more or less depending on age, height, health conditions, weight, etc. And this doesn't take into account the added stress and exertion that may be part of a survival scenario. For a better sense of your needs, track your own diet over a two-week period so you can realistically store enough for your needs.

1.2. MINIMUM SUPPLY: While you cannot know precisely what your needs will be, you should store at the very minimum a three-day supply of the diversity of foods you normally eat in a three-day period. Gradually, increase your food storage to a two-week supply, and even longer if you can do it.

2. CHOOSING THE FOODS YOU STORE

What foods to select and how much to store are both very personal issues that you need to figure out for your family. There is no one size fits all. Also, you should probably always store more than you think you need. In a stressful situation, you might eat more. Also, you can use food for barter.

2.1. FOOD SELECTION: One of the main rules for food storage is to "Store what you eat, and eat what you store!"

2.2. VARIETY IS IMPORTANT: Foods that you store should be as diverse as the foods you normally eat every day. You can get a more balanced diet through diversity, but you also want to avoid monotony. A Mormon lady told me about a time when she was trying to live off the food she'd stored. Unfortunately, she had a lot of wheat. "One of the best ways to lose weight," she told me, "is food monotony."



◀ Far left: Going to the fridge whenever you're hungry may not be an option during an emergency.

◀ Nearly every food can be obtained in a can. Here, canned foods are piled up in a market in Cabinda.



◀ Far left: A variety of chilies dry in the sun in China.





2.3. HOW TO DECIDE WHAT YOU SHOULD STORE: Yes, there are books telling you what to store. But please, please, do not make the mistake of reading a book and then doing what that author did. Make a list of all the foods you eat. Breakfast, lunch, dinner, snacks. All of it. Take a couple weeks to record precisely how much you eat.

Write down not only what you ate, but how much you ate, and begin storing the things that you actually eat. Obviously, if you have a family, you need to do this for each person. Then begin to buy those things that you are now already eating.

2.4. HOW MUCH IS ENOUGH? To repeat this general rule of thumb: You can never have too much. If you rotate your stored food, it will not go bad, and you will always be using up your older foods. Though it is often said in survival literature that you should store up at least two weeks for an emergency, consider that some preppers try to store enough for a year or two!

◀ Top: Homemade preserves ready to be put into storage for use in the future.

◀ Above: Vegetables spread on racks before being put into dehydrator.

3 METHODS OF STORAGE AND PRESERVATION

Whether you live on a farm or in an urban apartment, you should have an extra supply of food to keep yourself fed during emergencies. There are many possibilities here.

3.1. REFRIGERATION: Yes, refrigeration is a good thing, and it's a technology that has vastly improved the lives of billions of people. You can freeze various foods and store them for long periods of time. Whether meat or vegetables, you should still label and date your frozen goods so you're sure to use the oldest foods first.

But never put all your eggs into one basket. Refrigeration and freezers are great, but not if the power goes out. If you decide to store much with a refrigerator, also seriously consider having a stand-alone solar photovoltaic (PV) system to produce your electricity in emergencies.

3.2. DRIED FOODS: Foods have been dried for millennia. This is the single most common method of food storage that has been practiced pretty much everywhere in the world from the beginning of time. Fruits, vegetables, herbs and meats can all be dried and then packaged for storage.

3.3. CANNED FOODS: Canned goods should be a part of your survival pantry. You can buy everything from meats and milk to



◀ Mountain House freeze-dried foods are very popular with outdoor enthusiasts and preppers.



➤ Right: Taste-testing MREs.



➤ One can practice archery skills in a backyard.

fruits, vegetables and soups. Modern canning methods will last up to five years and even longer, depending on the contents and how you've stored them. Tomatoes generally only last a few years because the acid content eats through the cans.

Date your cans when you bring them home, so you always eat the oldest ones first.

How long do canned goods last? There are many factors to determining the shelf life of canned goods, but some of the commonly asked questions can be found at www.USDA.gov and Reference.com, or search other credible online sources.

3.4. HOME CANNING: Home canning is not that difficult if you have the right equipment. You need a big tub, canning jars (Mason jars are most popular) and lids, and a heat source. If you've never done it before, you should check out a YouTube video telling you how to do it safely, or read any standard cookbook that covers these details. Be sure to always label and date your canned goods.

3.5. MREs AND OTHER RETORT MEALS: MREs are "Meals, Ready-to-Eat," developed for military personnel in the field. These are pre-cooked foods, so you can (if you had to) just open and eat. You could also lay the pouch in the sun until it warms up, and you could drop the pouch into a pot of boiling water until warm. These days, most of the MREs come with

a heater pouch, into which you place the MRE pouch and water, and it heats up by chemical reaction.

There are also several manufacturers of civilian retort pouches. Most of these cost more than military MREs, but are generally more nutritious with less salt and additives.

The shelf life here is generally about three to seven years, depending on how they are stored.

3.6. FREEZE-DRIED: Foods that are freeze-dried will last longer than any other method of food storage. You can buy individual items that are freeze-dried, and you can buy entire meals. These are not especially cheap, but they last a long time. Also, you can buy a machine in the neighborhood of \$200 for doing at-home freeze-drying.

◀ Below: Hunting has always been a method of acquiring food. Most birds are edible and a decent source of protein.



4. HUNTING, TRAPPING AND FISHING

It's not that long ago that many Americans did their protein shopping in the wildlands around their homes. Before the growth of grocery chains and industrialized food production, it was common for meat and fish to come from a recent hunt or trip to the local lake or creek.

With most Americans living in areas where hunting is banned or heavily regulated, and associated game processing skills being the exception rather than the rule, this option is less viable today, but it may be your only option if the situation gets bad enough. In dire circumstances, where the rule of law will be more challenging to enforce, daily competition for these resources may quickly become excessive, rendering the game and fish populations severely depleted and less dependable.

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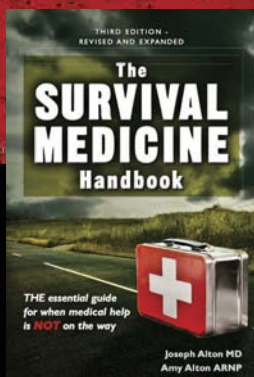


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4.1. WILD FOOD SOURCES: You can still hunt today, but you need to know the laws and restrictions in your area. For example, in most places you need to purchase permits for hunting and fishing. And you may not be able to hunt wherever you want. Usually there are guidelines and restrictions so you aren't discharging firearms too close to neighborhoods, or where people might be hiking or camping.

4.2. FISH SOURCES: Fish can be obtained throughout the country if you live near a waterway or most larger bodies of water. If you already go fishing, you're aware of the vast number of magazines, clubs and TV shows intended to help you to become better at angling. And even if you've never gone fishing, caught a fish and cleaned and cooked it for your dinner, it's really easy to learn. Fishing stores are a great place to ask questions. Another advantage to fishing is that you can set multiple lines simultaneously, exponentially improving your chances of success.

In most areas, a fishing license will be required by the local game warden. Also, do a little research before you go fishing to make sure you're not fishing in polluted waters. Usually, you can get good advice at stores where fish, bait and tackle are sold.

4.3. PRESERVING YOUR HARVEST:

Meats can be preserved in the freezer, though you are subject to blackouts. They can also be canned, smoked, dried or freeze-dried for later use, as mentioned earlier. Use a variety of methods to keep your dinner options varied and less monotonous.



◀ Above: Fresh-caught trout, cleaned and ready to be cooked for the evening meal.

5. COOKING FOODS IN AN EMERGENCY

In the event of a power outage or a gas line break, we should be prepared to go out back and cook our meals when the convenience of our modern kitchens is unavailable.

5.1. MAKESHIFT STOVES: If you've ever gone camping, you should know how to make a stove. In your backyard, you can create a circle of bricks or rocks, put a grill over it and – presto! – you have a cooking area. Bear in mind that, in a survival situation, many items you can scavenge will qualify as a “grill.”

5.2. BACKYARD STOVES: To make cooking slightly more convenient than a circle of rock out back, you can obtain any number of stoves that are easy to store and are not expensive. A simple three-legged charcoal barbecue pit is great for backyard cooking. You can use charcoal or scrap wood from tree prunings.

5.3. PORTABLE STOVES: Various portable stoves, such as Coleman stoves carried by campers, are readily available at camping, sporting goods and backpacking stores. One of the old standbys, Esbit, has also come out with a larger model that is great for car camping or backyard use.



➤ A quickie backyard cooking arrangement.

➤ Far right: Cooking in the backyard may become the norm in a severe survival situation.

◀ A dove hunter takes aim in hopes of securing part of a meal.



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glass lid to keep in the heat. Some of the good commercial ones, such as the Sun Oven, will cook your food as fast as if it were on the stove. Solar cookers can also be made very economically – a box within a box, with crumpled newspaper insulation between them, a foil lining and a removable glass lid. Plenty of plans are available online.

6. LAWS AND ETHICS

We no longer live in the day of the free-range hunter-gatherer. Laws, rules and guidelines impinge upon most aspects of foraging, fishing and hunting.

6.1. MIGRATION: Ever hear about how hunter-gatherer people often moved their campsites from place to place? Ever wonder why? If you're not farming, a large population can clear out all the available vegetation and animal life within a given area. Plus, vagaries of weather, such as drought, would also affect the food supply. People moved along to ensure stable supplies of food and other resources.

6.2. LAWS OF NATURE: Forget man-made laws about hunting seasons and catch limits for just a second. If you had to get all your food from a given area, it would be suicidal to not harvest in a sustainable manner.

You don't uproot plants if you're not eating the roots or pollute water sources so they're no longer usable. You don't take everything that's in a given area and leave it barren for the next visitors. To be a successful hunter-gatherer, you need to use a balanced approach to your consumption to ensure the resources will be able to recover after your departure and before your return. If there are not many, you move along and find others.

6.3. TREAD LIGHTLY: If you found yourself in a world with no stores or supply lines to go to and you had to live off the land, it is in your long-term interest to harvest plants and animals in a sustainable manner. By carefully pinching off only the leaves you intend to eat, an annual plant could actually produce new leaves for several months beyond what it would do if left alone.

For this reason, it's a good idea to always be looking for your next habitat unless you're able to build a homestead and help your environment replenish what you harvest. **ASG**

5.4. FUELS: Specialized stoves require specialized fuels. Some Coleman stoves, for example, require use of a propane tank, which is widely available at supermarkets and mass merchants. A number of good options allow the use of multiple fuels and may be the best option for you. On the other hand, some stoves require very specific fuels that may be hard to find in a survival situation. If you're concerned about the need to use these stoves for extended periods, consider where and how to safely store the volume of fuel you'll need.

Other stoves use charcoal, wood and other organic materials, and most charcoal stoves can be fed with scrap wood.

5.5. SOLAR OVENS: There are some really good and efficient solar ovens out there. Of course, it must be sunny for them to work. Construction consists of an insulated box with a

◀ Above: Prudence Daniel cooks with a commercial solar oven.

◀ Below: Well-tended vegetables are neatly planted in a large backyard garden.



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20 TIPS FOR SUCCESSFULLY MANAGING YOUR FOOD SUPPLY

**THESE TIPS AND TRICKS WILL HELP YOU KICK OFF YOUR PLAN
AND ACCELERATE YOUR PROGRESS AS YOU PREPARE FOR ANY
SORT OF SURVIVAL SITUATION.**

BY: CHRISTOPHER NYERGES

◀ Invest the time to keep an accurate inventory of your food reserves.



1. WHAT TO EAT

1.1. How much do you eat? Carry a little notebook and pen for a couple weeks. Jot down everything and how much you eat. Everything, including snacks. This is the only way you can analyze what your actual consumption, and how much you actually eat versus how much you think you eat.

1.2. "Passport to Survival" is a book that shares recipes for all the things that you can make and bake if you've stored wheat, honey, salt and powdered milk. Wheat is made into flour for bread, groats for hot cereal and even sprouted for fresh greens. The powdered milk makes milk, but also yogurt. Though storing just four items is probably not a good idea, this book shows that a lot of diversity is available with very little.

1.3. "Diet for a Small Planet" by Frances Lappe explains how to get complete proteins from grains and legumes. It's not highly complicated, but if you've chosen to be a vegetarian, you'll want to plan your meals carefully so you get all that your body needs. Some traditional examples of getting a complete protein by combining grains and legumes, including rice and soy, wheat and garbanzo, and corn and beans.

› Above top: A woman harvests wheat by hand in India.

› Above: Organizing and checking expiration dates on a cache of canned foods.

› Right: Delicious fresh corn is plentiful at a farm stand in season, but how will you get corn in an emergency?



› Right: A number of local families planted and tend this community garden for their mutual benefit.



2. CANNED GOODS

2.1. Canned goods will likely be a part of your survival pantry. You can purchase a broad variety of foods in cans, and they should last several years, but not forever. When you purchase canned goods, take an indelible marker and write the date and contents on the top of the can. Then, when you select food from your larder, you'll know what to eat first whether the label has survived storage or not.

2.2. Nothing lasts forever: Do foods in cans go bad? Yes, of course. High-acid foods like tomatoes and citrus will go bad in less than two years. Low-acid foods can last for years, though the flavor will lose its appeal and the nutritional value may diminish over time.

2.3. Bulging cans have gone bad: If you see cans that are bulging, toss them! They have swollen because bacteria has started growing inside. Check your canned goods regularly and be sure to store them in a stable cool dry environment or as directed on the container.

2.4. Buying in large cans is not necessarily the best way to go: I used to think that buying various foods in the large cans was most economical and I'd get more for my buck. Sometimes that's true, but not always.

After one earthquake, my wife and I decided to try some of our stored food. We opened one of our huge cans of applesauce. We were the only two in the house, and could only eat so much applesauce daily. So even with a refrigerator, we could not eat it fast enough, and about half of it molded. In such a case, it is better to buy smaller cans, all of which you can eat once you open. For a large family or extended groups, the larger cans may make sense.

3. WHEN TO BUY

3.1. Buy in season: Pay attention to the seasonality of the various crops. When a crop is abundant, it is less expensive, and you can buy a lot for drying or canning.

3.2. Watch for sales: Often, grocery stores will have sales or specials on canned foods. In many cases, you can find great deals on foods on your list and extend your food budget significantly. One grocery store chain in the northeast promotes an annual winter sale of canned goods that has been run for more than 40 years.



◀ Richard Buckland shows the banana orchard he grows, almost entirely irrigated from the water from his washing machine.



▶ Above: Honey lasts forever if it is stored properly.

4. STORAGE

4.1. Storing meat: If you have to hunt during an emergency, you're most likely going to be hunting small game such as rabbits and squirrels. These are usually easy to clean and cook, and there's not much left over. The skins could be saved and sold or bartered. And any excess meat can be sliced thin, soaked in some tasty barbeque sauce of your choice, and dried in a dehydrator. Jerky will last for years if properly processed and stored.

4.2. Foods that never go bad: Well, never is a long time, but... Honey keeps indefinitely because it lacks moisture. It will crystallize over time, however. Wheat, properly stored, can be viable for decades. Wheat that was found in the great pyramid at Giza, Egypt, was successfully planted and grown. Salt lasts forever.

5. GROWING FOOD AND HARVESTING

5.1. Don't waste yard space—grow edible ornamentals: Many urban and suburban yards are landscaped with "ornamental" plants, trees and bushes that have an aesthetic look, but that are not particularly useful for food or medicine. Don't ignore your landscaping plants. Replace any non-useful trees and shrubs with fruit trees appropriate to your zone. Roses are common ornamentals and their petals and fruits are edible and high in vitamin C. Many common and easy-to-grow fruit trees also make great ornamentals, like figs, apples and cherries.

5.2. Neighborhood groups and organizations: Neighborhood Watch is a great way to get to know your neighbors and stop crime. In the event of a disaster, your close neighbors are now your “family,” like it or not. It behooves you to get to know your neighbors. One benefit of regular Neighborhood Watch meetings is that it may give you a chance to share ideas about prepping and food storage. It also gives you an opportunity to swap and barter your surplus fruits or vegetables.

5.3. Don't overlook local farms: Farms are our primary source of food. If you have farms nearby, get to know them. Some, but not all, sell retail to customers like you. Some have educational programs where you can volunteer and learn to grow, set crops and harvest.

5.4. Local farmers markets: “Certified Farmers Market” means that it is the farmers or their direct employees who are selling to you. This means the farmers are coming to you, and nearly every city these days has farmers markets. Get to know the farmers that come into your town, and discover details about this critical part of our food chain. Remember: the produce for sale at farmers markets is not necessarily organic. However, it is sold to you by the people who did the growing.



➤ Above: Oscar Duardo shows the tall edible and ornamental amaranth he grows in his garden patch.

➤ Above right: Produce from a local farmers market.

➤ Onions are easy to grow anywhere.

➤ Far right: Canisters of propane fuel in this 16.4 ounce size are readily available.



you want. One of the best things about local neighborhood gardens is that you can interact with other more experienced gardeners and learn some tips of the trade.

5.6. Wild foods: Many common wild foods are easy to identify, tasty and abundant, and are found nationwide. Some of the most common edible wild greens include sow thistle, chickweed, purslane, lamb's quarter, watercress, oxalis, mallow, nettles, and dandelion. Wild fruits such as apples and blackberries are found nationwide, as are wild nuts, like acorns and walnuts. Never eat any wild foods until you have positively identified them.

5.7. How to identify wild foods: Take a plant to a nursery or to the botany section of a college for identification. You can refer to numerous reference online sources for identification, such as native plant societies, where you can post pictures of plants. There are also many books and videos on the subject, such as this author's “Guide to Wild Foods and Useful Plants,” “Foraging Wild Edible Plants of North America,” and his DVD “Survival Foods.”



5.5. Neighborhood gardens: These are getting more and more popular, especially in areas where people just don't have a yard for gardening. These are typically fenced and protected so you needn't be worried about theft, in normal times, anyway. You pay a fee for your plot, and you grow what

◀ Produce from a local farmers market.

6. STOVES

6.1. Fuel for your backyard stoves: Depending on the type of stove you have, you might need charcoal, wood twigs, fuel pellets or bottled fuel. For the greatest versatility, be sure to have a stove that is not limited to using one source of fuel. A charcoal stove, for example, can usually be fueled with twigs and even newspapers in some cases.

6.2. Solar ovens: Solar ovens are practical for most of the United States, at least some of the time. If you cannot afford a commercially made solar oven, you can make one yourself from mostly scrap materials.

The basic principle is that you place one box inside another, with insulation between the two. The inner box is lined with tin foil, and the lid must be removable. You create a window in the lid that corresponds to the size of the inner box, and you secure a piece of glass to the lid. Though not as efficient as a commercial solar oven, these will cook your food, though at a lower temperature. Detailed plans for making a low-cost solar oven are readily available online. **ASG**

THE GRUB GEAR GUIDE

PROVISIONS, FOOD PREP AND PRESERVATION

BY: CHRISTOPHER NYERGES



No plan has a chance to work if it never gets off the checklist and into practice. This group of products represents a great start for getting your food plan into practice. With confidence in your menu selections and the days of supply you've stashed, you'll take a lot of stress off your plate so you can concentrate on other pressing challenges.



1. FOOD

These products are ready to store and ready to eat, with varying degrees of preparation. It's best to have an assortment of types and menus to balance nutrition as well as the variety of foods you'll be eating.

1.1. WISE FIVE DAY SURVIVAL KIT FOR ONE PERSON

Wise Company provides quality food options for longer-term storage. You can buy individual foods or select from a wide variety of food and general preparedness packages. This kit is loaded into a backpack that's ready to grab and go and also includes first aid and other supplies. It's great for keeping in your vehicle, office, dorm room or anywhere that you don't have a lot of space. Each pack includes the following food: 32 servings, including apple cinnamon cereal, brown sugar cereal, pasta, southwest beans and rice, hearty tortilla soup and whey milk. Also comes with five 4.227 fluid ounce water pouches.

Specifications:

- Camouflage backpack
- Portable stove with fuel tablets
- Stainless steel cup
- Squeeze flashlight
- 5-in-1 survival whistle
- 42-piece first aid and hygiene kit
 - 37 piece bandage kit, N95 dust mask, pocket tissues, three wet naps and waste bag
- Waterproof matches
- Mylar blanket
- Emergency poncho

www.WiseFoodStorage.com
MSRP: \$79.99



1.2. THE READY STORE MEALS READY-TO-EAT

You can buy a whole year's supply of MREs from The Ready Store, but if you've never had them, it would be a good idea to try them out first. This case with self-heating units first includes 12 complete servings of the SOPAKCO brand MRE, the same supplier that serves the U.S. military as well as FEMA. MREs (Meals, Ready-to-Eat) are the operational ration used by the U.S. military because they are easy to prepare, extremely durable, self-contained and provide excellent nutrition and energy. You'll get about 12,660 total calories with a shelf life of up to five years, depending on how and where you store them.

Specifications:

- No cooking or preparations, but you can heat them if preferred
- Longest MRE shelf life available
- Meals include Vegetable Ratatouille, Beef Taco, Chili Mac, Chicken Alfredo and others
- Each meal includes sides like crackers, desserts, a beverage mix, condiments, an eating utensil and a towelette

www.TheReadyStore.com
MSRP: \$155.88



1.3. MOUNTAIN HOUSE FREEZE-DRIED FOODS FIVE-DAY SUPPLY

Now you can easily customize an emergency food supply with Mountain House Just in Case... Emergency Food Supply Multi-Day Kits. This stackable five-day boxed kit contains a variety of popular breakfast, lunch and dinner entrees for one person. Each box is compact, making it easy to store almost anywhere. The kit contains 37 total servings in 15 total pouches with approximately 1,850 calories per day. With meals that include portions like biscuits and gravy, eggs with ham and peppers, chicken fried rice and pasta primavera, you don't have to worry about bland boring rations.

Specifications:

- Biscuits and gravy: two 1-cup servings
- Hash browns and scrambled eggs mixed with pork sausage, peppers and onions: one 1-cup servings
- Eggs with ham & peppers: two ¾-cup servings
- Chili mac with beef, onions and beans: two 1-cup servings
- Chicken fried rice with onions, mushrooms, peppers, peas and carrots: two 1-cup servings
- Macaroni and cheese: two 1 ¼-cup servings
- Mexican rice and chicken with beans, peppers, tomato and olives: two 1-cup servings
- Pasta primavera with zucchini, cauliflower, broccoli, peppers and green beans: two 1-cup servings
- Box dimensions: 13.625 inches long, 12 inches wide and 8 inches high

www.MountainHouse.com
MSRP: \$104.99



1.4. JOHNNY'S SELECTED SEEDS CHEROKEE PURPLE TOMATO SEEDS

Johnny's is a great resource for anything you want for your garden or farm – fruits, vegetables, herbs, books, tools and supplies. Try some Cherokee purple tomatoes, an unusual variety with a famously rich flavor and texture. This colorful variety is a favorite among heirloom enthusiasts. "Heirloom" means open pollinated, so it's not a hybrid and the seeds you save after harvest will grow this same plant.

Specifications:

- Size: medium to large, flattened globe, 8 to 12 ounce fruits
- Exterior color: Dusky pink with dark shoulders
- Interior color: Ranges from purple to brown to green
- Vine size: Relatively short vines
- Organically grown
- Packet includes 40 seeds

www.JohnnySeeds.com

MSRP: 40-seed packet, \$4.35; 250 seeds, \$6.10

2. PRESERVATION

For use now and after an extended emergency situation challenges your food supply, food preservation equipment is an essential part of a comprehensive survival plan.



2.1. EXCALIBUR FOOD DEHYDRATOR, MODEL 3900

Excalibur sells several models of dehydrators, and this one is a good mid-range unit suitable for long-term regular use. It consists of nine large trays, for a total of 15 square feet of drying space.

Specifications:

- Adjustable thermostat from 105 to 165 degrees Fahrenheit
- Seven-inch fan
- Power: 600 watts
- Dimensions: 12 ½ inches high, 17 inches wide and 19 inches deep
- Includes a free dehydrator guide
- 10 year warranty

www.ExcaliburDehydrator.com

MSRP: \$299

2.2. LEHMAN'S CANNING SUPPLIES

For decades, Lehman's has been one of the best sources for self-reliance gear. They supply the Amish with many of the appliances needed for non-electrical living. For example, they sell a box of 12 wide-mouth Ball canning jars for \$17.99. A true symbol of America's past and ongoing self-reliant tradition, they still work great for today's home canning. Other canning supplies are also available.

Specifications:

- Case of 12 wide-mouth pint jars
- Includes all the bands and lids required
- SKU H661153

www.Lehmans.com

MSRP: \$17.99



3. PREPARATION



Even if your emergency is short-lived and you're just eating MREs, you'll need gear that enables you to prepare warm meals and to heat water for consumption and other uses.



3.1. NEWSPAPER BRIQUET MAKER

This handy device converts newspaper into burnable "bricks." If fuel is hard to get, you can actually save your newspapers, soak them in water until they're mush, and then put them into this device to make newspaper bricks for your hearth. Children love using it too, so put 'em to work!

Specifications:

- Made of heavy duty steel
- Dimensions: 10 ¼ inches by 5 ¼ inches
- Bricks burn for about an hour
- Model number 47114

www.Amazon.com

MSRP: \$34.99

3.2. VARGO HEXAGON WOOD STOVE

This stove is unique because it is all one piece, hinged together, so there are no parts to lose in the field. It is available in stainless steel or titanium, which both have an identical appearance. It folds to a slim, compact size for storage. The individual panels snap easily into place for quick set-up, providing you with a wood burning stove in short order. The durable construction is able to endure long-term heat without damage. A hinged access door can be opened or closed for air control as well as re-fueling. This stove also makes a great windscreen for use with alcohol stoves.

Specifications:

- Folded dimensions: 5 inches wide and 3/8 inch thick
- Assembled dimensions: 4 inches high, 5 inches at its base and 3 inches on top
- Weight:
 - Stainless: 7.4 ounces (8.2 ounces in case)
 - Titanium: 4.3 ounces (5 ounces in case)
- Includes a nylon carrying case

www.SurvivalResources.com

MSRP: \$39.95



3.3. ALL AMERICAN SUN OVEN

If there's an emergency and you don't have gas or electricity or can't build a fire, you can cook during the day with this oven. The Sun Oven features a glass cover and a convenient swivel tray where the food is contained. Simply point the oven at the sun, load it up and let it cook. Realign toward the sun every 30 minutes for shortest cook times. This helps ensure that it takes no longer to cook in this oven on a sunny day than it does to cook with a conventional gas stove.

Specifications:

- Heats up to as much as 350 degrees F
- Can boil water and cook a wide variety of foods
- Works best with black enamelware
- Dehydrating baking racks are available
- Carry handle allows convenient portability

www.SchoolofSelf-Reliance.com

MSRP: \$349

3.4. COLEMAN CLASSIC PROPANE STOVE

Coleman is one of the most tried and trusted brands available for outdoor gear. Of the many stoves they make, the Classic is affordable and easy to use, store and transport. Wind block panels help shield burners from breezes and adjust for various pan sizes. Designed for survival, camping, hunting and other outdoor activities.

Specifications:

- Output: 20,000 total BTUs of cooking power
- Fits a 12 and 10 inch pan at the same time
- Two independently adjustable burners give you precise control
- Durable, chrome-plated grate is removable for easy cleaning
- Aluminized steel cooktop for durable rust-resistance
- Runtime: Up to one hour with both burners on high
- Uses one 16.4 ounce propane cylinder (sold separately)
- Closed dimensions: 23.25 inches wide, 5.5 inches high and 14.75 inches deep
- Three-year limited warranty

www.Coleman.com
MSRP: \$59.95



4. PROCUREMENT

In extended survival situations you will need to procure new sources of food, especially protein.

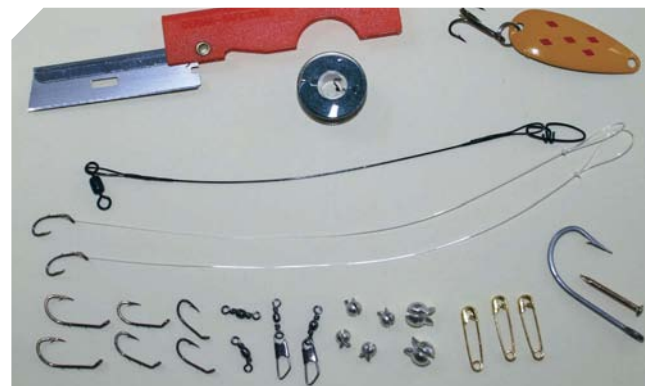
4.1. SURVIVAL RESOURCES FISHING KIT, EMERGENCY, SMALL

Designed and packaged by Survival Resources for fresh water fishing, this kit is made with name-brand components. Everything is stowed in a Nalgene snap-cap vial that's only 3 3/8 inches long by 1 inch in diameter, so it will fit in most small survival kits.

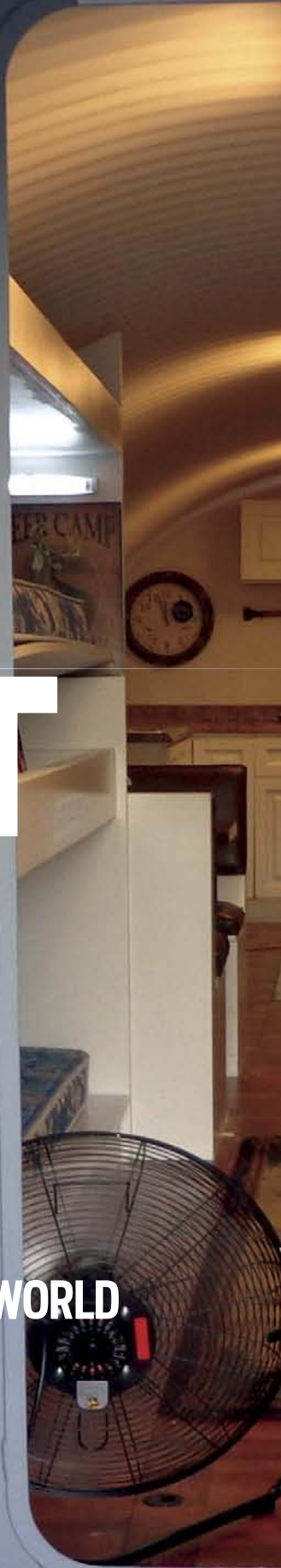
Specifications:

- One folding razor knife
- One Berkley 6-inch wire wound leader
- Two each, Eagle Claw #6, #8 and #10 baitholder hooks
- Two each, Eagle Claw #14 and #16 snap swivels
- One 50-plus foot length of 20 pound Power-Pro braided fishing line
- Two Eagle Claw size 10 snelled hooks
- Two Eagle Claw non-lead #7 and four BB removable split shot
- One #3 O'Shaughnessy hook and brad for gaff
- One 1/8 ounce spoon (color will vary)
- Three small safety pins

www.SurvivalResources.com
MSRP: \$10.95
ASG



YOU ARE NOW



PROTECT WHAT'S YOURS

PRIORITIZING HOME SECURITY IN A SELF-RELIANT WORLD.

BY: JIM COBB

W 20' UNDER GROUND



All of the supplies in the world won't be of much help to you if someone is able to easily take them away. In a world without the rule of law and where common courtesy is a thing of the past, only those who can protect their families and their stockpiles will survive.

Even during "normal" times, you are at risk for home invasion, assault, theft, vandalism and other unpleasantness, so you should protect yourself from these threats now.

Whether we're talking about a single-family apartment or a giant corporation, every comprehensive security plan centers on three facets—Deter, Delay and Defend.

1. DETER

Almost every decision made by a human being can boil down to risk versus reward. Is devouring the fresh-out-of-the-oven pizza with gooey mozzarella cheese worth the risk of burning the roof of your mouth? Is the new knife going to be worth the tongue-lashing you'll receive from your spouse for buying it?

You can deter the threat by increasing their perceived risk and/or reducing their perceived reward. Remember, perception is reality.

1.1. Alarm Company Signs

Burglars and other ne'er-do-wells don't want to mess with alarms. Putting up signs and stickers advertising alarm companies goes a long way toward making your home look like a less appealing target.

1.2. Gun Ownership Signs

Those funny signs that say things like, "These premises protected by Smith & Wesson" do nothing other than advertise the fact that there are likely firearms inside. They increase the perceived reward so don't put them up. A criminal may zero in on your home for that reason alone. They will wait until the home is unoccupied, and then break in and search for anything that goes bang.

› An alarm sign, even if totally fake, can be enough of a deterrent to send a burglar down the street to another target.



› Below: A dog is one of the top deterrents to home invasions.



1.3. Dogs are a Tremendous Deterrent

If you have the means and are able to commit to it for the long haul, a canine companion is an excellent security asset. Few home invaders will want to tangle with a sizeable dog with a convincing bark if given the option to just move on to another target.

1.4. Light Up the Night

Exterior lighting is critical to a home security plan. Every entrance to the home should have a motion-activated light above or nearby. Not only will the lights deter a break-in, but you'll also know instantly if your teenager is trying to sneak in after curfew.



› Above: Exterior lighting is a crucial element of home security.

REMEMBER:

**DETER
DELAY
DEFEND**

2. DELAY

Should the criminal be undeterred, the next goal is to delay their entrance to your home for as long as possible. The idea here is to increase the amount of time it takes for them to reach their goal while, at the same time, reducing the amount of time it takes for you to become aware of their presence.

2.1. Install Locks and Use Them

Sometimes the simplest solution eludes us. Almost every home is equipped with locks on its entrance doors. Use them every single time you leave home. Add a deadbolt on all exterior doors and use them, too. Be sure the bolt extends at least an inch into the door frame.



› An unlocked door leading to an unoccupied home is an invitation for trouble.

2.2. Door Hinge Screws

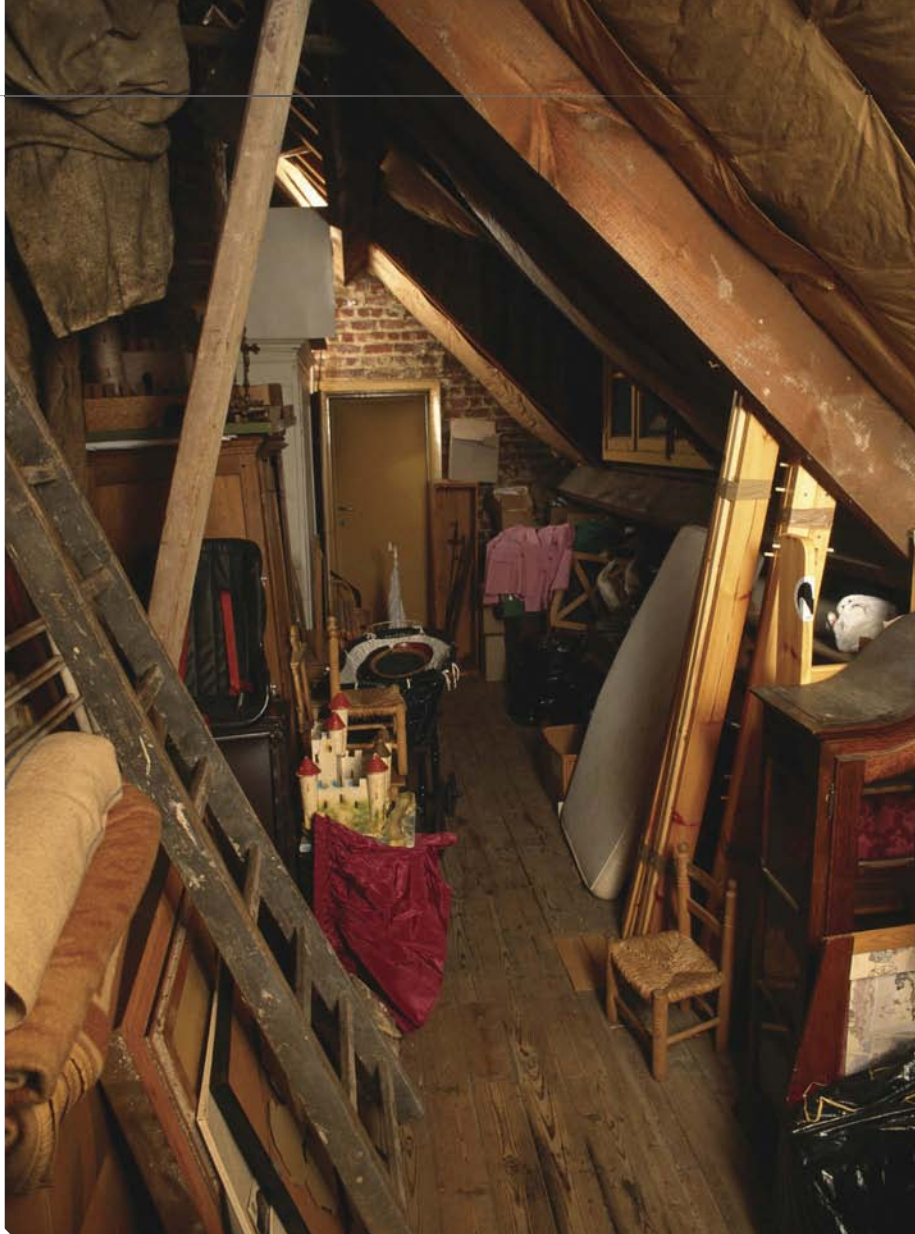
When doors are installed, the hinge screws used are typically very short. Replace them with stainless steel wood screws that are at least 2-3 inches long. Swap them out one at a time so you don't need to rehang the door. If the screws go beyond the frame and into the stud itself, the door will be much harder to kick in.

2.3. Prevent Party Crashers

Buy and install shatter-resistant film on all ground level windows. Done right, it is invisible and you'll never see it. It works very much like safety glass in a windshield in that it keeps the glass fragments together. They can break the glass but won't be able to get their hand inside to unlock the window frame or door.

2.4. Alarms

Store-bought window and door alarms can work very well and aren't that expensive. Do some searches for traveler alarms and you'll find all sorts of gizmos that should suit your needs. A very cheap DIY approach is to buy the loudest and most obnoxious wind chime you can find at the thrift store. Hang it on the back of your front door each night before retiring. Make sure it is high enough that your cats can't mess with it.



➤ Above: Care to guess where the valuables are hidden?

◀ Replacing hinge screws is a simple and inexpensive way to strengthen doors.

2.5. Hiding Valuables

The master bedroom is the first place a burglar often visits, as that's where people tend to stash their jewelry, cash, firearms and other valuables. Don't make their job easy. Make use of your basement, attic and other seldom-used areas of your home. Consider hiding precious baubles and trinkets you don't use often in deliberately mislabeled cardboard boxes in the basement. Few home invaders will think twice about a box marked "Grandma's Old Clothes."

"My friends accused me of bootlegging, but I told them I was making something better than booze... pure drinkable water.

The stuff that distilled out of my so-called drinking water was incredible. I like the fact that I can put it on my gas stove."

Terri Mitchell, Biloxi MS

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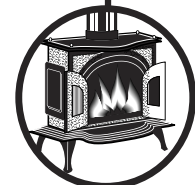


electric stove

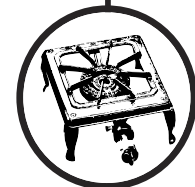


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3. DEFEND

When confronted with the strong potential for violence to be visited upon you or your family, you need to be prepared to act without hesitation. Few people relish the thought of injuring or killing another human being. But, if the decision is them or a member of your family, the choice is obvious and your response should be immediate.

3.1. Know the Laws

It is important to know just how far you are legally allowed to go in terms of self-defense. While, yes, as long as you are on the green side of the grass the next morning you can consider it a win, you could lose your savings, your house and even your freedom if you didn't comply with the laws in place at the time of the confrontation. Look up the applicable state statutes or, better yet, talk to an attorney familiar with such cases.

3.2. Act Decisively

A confrontation, particularly with an armed assailant, is no time to be wishy-washy. Act fast and act decisively, neutralizing the threat as quickly as possible. Remember, too, that the ultimate goal is for you to get away from the threat. Sometimes, a shot of pepper spray to the face is all that is needed for you to have the opportunity to beat feet.

› A self-defense class not only teaches unarmed fighting techniques but grants greater self-confidence.



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3.3. Educate Yourself

Seek out training in basic self-defense, including empty hand techniques and the use of weapons (improvised as well as those of the concealed carry variety). You'll not only learn how to protect yourself and yours but you'll gain a higher level of self-confidence, which will be evident in how you carry yourself. Training should also help you prepare for the decision-making process you'll face in such an emergency, which will reduce your response time and, possibly, make the difference between success and failure.

3.4. Armed is Ideal

If you are legally allowed to do so, carrying a weapon will put you ahead of the game when it comes to self-defense. Know your weapon intimately and know how to use it properly. Shotguns are great for home defense as your shot likely won't penetrate the intruder and go through the wall into the next room. Plus, there are few sounds more pants-filling to a home invader than racking the slide on a 12-gauge pump shotgun.

3.5. Don't Overlook Non-Firearm Weapons

While they may not be ideal in some situations, weapons like pepper spray, knives, stun guns, monkey fist keychains and such are still an improvement over your own two hands. Be sure to know how to use them effectively and understand the limitations they have, such as range and intimidation factor.

➤ Above: Carrying a weapon is a serious responsibility but also affords you far greater protection than being unarmed.

➤ Below: Knives are a good secondary weapon. Fixed blades are quicker to deploy than most folders.

4. SUMMARY

Improving your level of preparedness in any of these areas is a solid move forward, but upping your game in all of them is preferred. Remember that self-defense doesn't start at your property line or your line of sight.

You've heard it a million times but it can't be stressed enough that situational awareness is key to maintaining a safe environment for yourself and your family. Expanding the area you monitor is a smart way to see trouble coming before it sees you. Evaluate your environment to see what you can do to extend your visual and auditory horizons because knowing about a potential threat earlier may swing the advantage in your favor. **ASG**



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STAYING SAFE AND SECURE

PERSONAL PROTECTION IS UP TO YOU

BY: JIM COBB

You probably won't experience continuous serious challenges to your security and safety but the potential for trouble does exist 24/7/365. The more you can do to avoid or deter the bad guys the better you'll be able to identify and respond to the real threats when they occur.

In many ways, you have the advantage as long as you have made appropriate preparations and have a well-contrived plan. If you're hunkered down at home or in a defensible location, you can set the stage for how and where you will confront the hazard. If you're on the move, you will usually have the option of avoiding confrontations by staying away from unsafe areas. The more you can control the terms of the engagement, the more likely you will be to prevail.



1. EARLY WARNING SYSTEMS

The sooner you detect a specific threat, the better you'll be able to respond to and defeat it. There are lots of useful gadgets and devices you can employ to increase your chances of identifying potential danger but they're worthless unless you commit to creating a security plan and knowing how to employ your tools to your best advantage.

1.1. Alarm Systems

Monitoring services work well as deterrents as well as an early warning that something is amiss. Burglars generally don't want to mess with alarm panels and sensors so, if they see those or other indications of an alarm system, they are more likely to move on to another target.

The downside to an alarm system is they can provide a false sense of security. An alarm system should only be part of an overall security plan, not the entire plan.

1.2. Cameras

Consider motion activated Wi-Fi enabled cameras for your home or business. They will allow you to see what's going on wherever you have an internet connection.

Used in conjunction with an alarm system, you'll receive alerts on your cell phone when motion is detected in the home. Then you can view what's going on in real time, allow-

ing you to respond as appropriate. These systems prevent false alarms caused by pets or family members.

The cameras need not be obvious, either. There are many options for hidden cameras built into common objects, such as clocks, lamps, smoke detectors, and even stuffed animals.

1.3. Booby Traps

Be wary of setting any sort of injury-causing booby traps. Anti-personnel devices cannot discern between a home invader, a wild animal, a family pet, your spouse or your child. Once armed, they will go off no matter what triggers them.

Instead of wiring the trigger to some kind of explosive device, consider setting it up to activate an alarm.

Booby traps cause injury or death and they can cause other serious issues too. Assuming they're still functioning, most jurisdictions have various laws against the use of such devices. The penalties can be severe, not to mention the inevitable civil suit brought against you by the intruder or their surviving family members.

1.4. Trip Wires

Trip wires are triggers for an alarm or some other device and they're easy to set up and use. While you can certainly buy

purpose-made trip wire, braided fishing line works well in many applications.

A simple example is a trip wire that is connected to aluminum cans with pebbles inside them. An intruder hits the wire, causing the cans to rattle, giving you an audible warning that something is moving in a specific location.

Keep in mind, too, that the wire need not be at ankle level. Get creative. Attach the wire to an object an intruder would likely shove out of their way, further increasing the odds that they will trip the alarm. When they move the object, the alarm goes off.

1.5. Exterior Lights

Motion-activated exterior lights can serve as an early warning system as well as a deterrent. Install them above or near every entrance to your home as well as on outbuildings. Be sure you don't have any hanging plants or decorations nearby whose movement in the wind could trigger the light sensors.

While there will inevitably be false alarms due to wildlife, consider those alerts to be research into what critters are in your immediate area should you suddenly have a need for procuring wild meat. If you don't also have cameras rigged, get into the habit of looking out the window every time one of those lights goes on so you can see what



caused it. It is easy to get lazy and just assume it was a raccoon when, in fact, it might be a bandit on two legs instead of four.

2. LIMITING ACCESS

You define your perimeter. Don't necessarily restrict this space to traditional property lines, fences, or other borders or boundaries simply because they're there or that's the conventional way of defining your space. Technically, any area from which you are vulnerable to an attack, within reason, should be considered within your perimeter. While you may not control all of this space, you should be aware of any activity here, even if it's just to give you advance warning of impending threats.



◀ Above: Just the presence of an alarm panel, visible through a door pane or window, can be enough to give a home invader second thoughts.

◀ Better to look through an upper floor or adjacent window to see who is at the door than to make yourself an easy target by looking through a peep hole.

2.1. Visibility

Criminals don't want to be seen while breaking in so don't make their job easy. Remove all shrubs and bushes in front of windows and near doors. If you must have some greenery in your landscaping near the home, consider something like hawthorn, which has long, incredibly sharp thorns. Talk to the folks at your local garden center for the best options for your area.

2.2. Funneling

Funneling refers to forcing intruders to take specific routes on your property through the use of obstacles and other methods.

Most people will almost always choose the path of least resistance. They will go around piles of debris rather than climb over them. Force them into specific locations through the use of plants, odiferous materials and the like.

Decide where you want intruders to go, such as an area that has a clear line of fire from an upper window of your home. You draw them to that location by making it look appealing when, in reality, you're able to target them from a distance quite easily.

2.3. Minimize Opponents' Concealment and Cover

Most property layouts are going to have trouble areas where someone could hide and observe your home or even take a few shots at you and your family. One example would be areas behind outbuildings. Eliminate these concealment options with thorny shrubs or even a layer of broken glass or junked metal debris spread on the ground.

Don't overlook the possibility of alarming these areas, too. Trip wires in these spots could set off a remote alarm inside the home.

2.4. Caution Before Courtesy

Answering the door post-disaster could be problematic. From the outside, it is easy to see if someone is looking through the door's peephole. If they stand close and stare into the peephole, they can see movement inside even if you don't come all the way to the door.

It would be a simple matter for someone to fire a couple of rounds through the door and hit you on the other side. A far better option is to peek through a window away

from the door to determine if the caller on the front stoop is friend or foe.

2.5. Reinforce Your Doors

The more hinges, latches, and deadbolts a door has, the stronger it will be against intrusions. This can be something of a balancing act between having a very secure door and having an impediment to your escape.

One latch and one or two deadbolts should suffice for most situations. Be sure the latch and doorknob operate smoothly, with little to no wiggle or play. The bolt on the deadbolt should extend at least one full inch into the door frame. The strike plates for the latch and the deadbolt are important components, too. Strike plates and hinges should be securely fastened to the door frame with long stainless steel screws.

3. EDC SECURITY

Everyday carry means that these tools should be close at hand at all times, that is, on your person. It's good practice to keep them in the same location and orientation, regardless of what you wear, to allow muscle memory to speed deployment when you have no time to fumble around searching for a given item.

3.1. Lighting

A small flashlight is one of those tools that, once you start carrying it, you'll wonder how you ever got along without one.

Being able to clearly see your surroundings in darkness is important for several reasons. First, you need to be able to see the threat so you can react to it. Plus, human beings are sort of wired to be cautious in the dark and a bright flashlight helps to dispel the psychological boogeyman. On top of all that, the bad guy is less likely to target you if he thinks you'll see him coming.

Choose a flashlight that is comfortable to carry and that uses a common size battery, such as AA or AAA. There are hundreds of good options, but the brighter the light the better, of course; shoot for at least 60 lumens if choosing a penlight. Multiple outputs are fine for general use but don't depend on being able to accurately cycle through complicated switch options if it's "game on".

3.2. Edged Weapons

Choosing an EDC knife can be overwhelm-

◀ Above: A flashlight is an indispensable security asset. You should have more than one—several should be located around your home.



ing due to the number of choices on the market and the plethora of tasks you'll need to be prepared to address.

First, choose a knife that is comfortable for you to use. Your daily environment is a factor, of course. A nine inch sheath knife might not fit in well in an office. Know what is and is not legal for you to carry in your area.

Think of your knife as your backup weapon, not your primary means of self-defense. To use it effectively, you need to be up close and personal with your assailant, which is to be avoided if at all possible. Seek out training and practice relentlessly if you plan to use your knife defensively.

3.3. Mobile Phone

One of your most powerful EDC items may well be your cell phone. With it, you can reach out for assistance, look up driving directions, find instructions on how to do just about anything, check the latest news and weather, and so much more. Quite literally, the sum total of mankind's recorded knowledge is at your fingertips. Assuming, of course, the phone is charged and you have a good signal.

Carry a portable power pack you can use for a quick boost to your phone's battery. While it is a good idea to program in frequently-called numbers, you should memorize them as well in case you end up needing to make a call using a different phone. Know the numbers for close family members and friends.

3.4. Situational Awareness

Keep your head on a swivel and your eyes open as you move through your day. Practice good situational awareness. Stand up as straight as possible, keep your shoulders back and your head up. Not only will this allow you to see many threats before they become serious issues, it projects an air of self-confidence. You'll not look like an easy target.

Get into the habit of noticing the environment and people around you. Who they are, what they look like, what they are carrying. A good exercise is to make up short stories about the people you see. Make note of one or two little details, such as the presence or absence of rings or watches, and incorporate the detail into your story. After time and practice, you'll start making note of details without consciously trying to do so.



◀ A cell phone could literally be a lifeline in an emergency.

one that fits your hand comfortably. Go to a range and rent several candidates to see how they feel and perform. Remember, you're going to be spending a lot of time getting to know the weapon so comfort is important.

Choose a common caliber as that will make it easier to find ammunition now and later. You can save money by purchasing a used weapon but you may want to take a more experienced friend with you to check out the firearm for you.

4.3. Shotguns

While handguns are the typical choice for being armed while out and about, shotguns are a great option for home defense.

The risk of over-penetration is less with a scattergun than with a rifle or handgun. Victory is short-lived if, in bringing down the intruder, you inadvertently also shot your child in the next room. Stick with shot shells rather than slugs, of course. Even birdshot will do some damage at close range.

Think about it like this. How long is the longest hallway in your home? That's about the longest range you'll have to handle. Consider adding a weapon light or flashlight mount to your weapon so you'll be able to see what you're shooting. As always, be certain of your target and what lies beyond.

◀ Proper training is critical where firearms are concerned.

5. LESS LETHAL WEAPONS

In some locations and situations, it may not be prudent to carry weapons that cut or go

4. FIREARMS

With rights come responsibilities. Before you decide to carry, consider the circumstances you may encounter, the response you're willing and able to make, and your physical, mental and emotional capabilities. The more time and effort you put into skill-building, the more likely a positive outcome will result from your decision to add firearms to your security plan.

4.1. Preparation is Key

Carrying a firearm involves a tremendous amount of responsibility. The decision to do so should not be made lightly.

Seek out training that involves more than just sending rounds down range to a paper target on clear, sunny, warm days. Learn how to shoot accurately under a wide range of conditions, including low light and high stress environments. Become familiar with offhand shooting and reloading, too. Be confident in your ability to draw your weapon and acquire your target smoothly and with no hesitation.

Invest in good quality carry systems that include space for extra magazines or speed loaders. Understand, too, that bringing a firearm into a confrontation really ups the ante. In many situations, you'll actually be better served by beating feet than by drawing your weapon.

Have a complete understanding of all laws in your area that apply to self-defense and firearm usage, including an education that goes beyond just being able to recite a statute by chapter and verse. Know the case law and how it has been applied in your jurisdiction.

4.2. Decision Time

Choosing a firearm is, or should be, a personal decision. If you ask a dozen firearms enthusiasts for recommendations, you're likely to get twenty or more suggestions.

Spend some time at your local gun shop handling different firearms until you find





bang. Whether you're limited by local laws or other considerations, it's still a good idea to have some sort of defensive tool readily available. There are many options so you'll again be faced with evaluating them before making your selection. Again, you will need to invest time and effort into training and gaining familiarity with your new sidekick.

5.1. Personal Defense Sprays

Pepper spray can be a powerful tool against assailants. Choose one that shoots a stream rather than a fog. A stream is easier to aim, has a longer range and there is less chance of a breeze blowing it back at you.

The pepper spray industry is largely unregulated, at least in terms of measuring the disabling strength of the spray. Some brands will advertise the percentage of oleoresin capsicum (OC) in the spray. This only tells you how much of the active ingredient there is in the spray, which isn't necessarily an indication of the strength because the strength of the OC depends upon the peppers from which it is derived.

The Scoville Heat Units (SHU) rating is also essentially meaningless because while the SHU value of the spray might be quite high, the liquid could be severely diluted. Look for the Capsaicin and Related Capsaicinoids (CRC) measurement. This is a measurement of how much of the OC is actually capsaicin, which is what provides the heat. A CRC measurement of 1% is the minimum you'll want. Some products also include a dye in the mix, making it easier to identify your assailant later. Some products include a gel or foam to temporarily distract or debilitate the recipient. Foams generally have a range under six feet and gels can extend out to 15 feet, but your focus should be on the heat factor.

Check the regulations regarding ownership and use of pepper sprays in your area. In some cases, you can't carry it at all while, in others, you're just limited in the size of the dispenser you can have.

◀ A shotgun is an excellent choice for home defense.

5.2. Shock Tactics

Stun guns come in a wide range of outputs, sizes and shapes and can have additional features too. All of them boil down to a power source, such as a battery, connected to two metal prongs. If the two metal prongs touch something conductive, such as skin, a circuit is completed and current will flow.

Stun guns are powerful weapons and will easily bring down many assailants. However, to use it effectively you will need to be within arm's reach of the bad guy. If you can touch him, that means he's close enough to grab you. Most stun guns won't put the aggressor down permanently so if you utilize one, get away from the attacker, don't look back and keep on trucking.

5.3. Atypical Weapons

Forget all about sword canes and other such nonsense. Not only are they illegal in many areas, without proper training they can be difficult to use in any sort of effective manner.

While martial arts weapons like nunchaku and tonfa can be fun to play around with at home, you're more likely to injure yourself or have the weapon used against you than you are to successfully fight off throngs of ninja warriors in a back alley. YouTube and late night movies are poor substitutes for actual training with an instructor.

If you're attacked, grab whatever you can to pummel, stab, whip or otherwise injure your attacker. A ball point pen will penetrate skin with moderate force. A rock grabbed from the ground will hurt quite a bit when you smash it into your assailant's skull.

5.4. Use Your Head

The single most important weapon in your arsenal is that lump that rests between your ears. Make decisions based on logic and common sense, rather than ego and emotion. In any confrontation, your goal is to live to see another day. Quite often, that goal can be reached simply by getting away from an assailant. Don't let pride get in your way.

That said, if you're going to take action against a bad guy, the action should be immediate and decisive. A response that is sudden has the element of surprise and can work in your favor. Training and repetitive practice are the only ways to hone the skills you'll need to overcome an attack. **ASG**

MUST-HAVE SECURITY EQUIPMENT

KEY ITEMS FOR PERSONAL AND HOME SAFETY

BY: JIM COBB

> 1.1

Knowledge is power and a good plan is essential, but you've got to have the tools to make it all work. As you work your way through your preparations, you'll see that you already have a lot of what's needed to prevail in most emergencies, but we think you'll find some of what you're missing in this group of gear that is specifically tailored for your personal security concerns.

And remember, there are plenty of tools that you should have at least one backup for... maybe even two or three, so don't be shy when building your kit.



> 1.2

1.1. Steel Will Darkangel 900 Fixed Blade

The Darkangel is 11 inches of beautiful menace. Extremely comfortable to hold and use, the molded handle has just enough texture to be grippy in all conditions without causing hot spots. The blade is razor sharp out of the box and comes with a Kydex sheath complete with several methods of carry. For those looking for a tactical fixed blade, this is an excellent option.

Specs and Features

- Overall length: 11.26 inches
- Blade length: 5.83 inches
- Blade thickness: 0.2 inch
- Steel: N690Co hardened to HR 58-60
- Blade finish: PVD
- Weight: 8.04 ounces

www.SteelWillKnives.com

MSRP: \$159.99

1. EDGED WEAPONS

Knives have numerous places in your survival kit. If you plan to make a knife part of your personal security plan, your best bet is to get some real training before assuming the sight of a sharp edge will make your assailant stand down. Here are a couple models that are worth some consideration.

1.2. CRKT Synergist Fixed Blade

A double-edged dagger like the Synergist has but one purpose—to put a serious hurt on someone. You'll not be using it to open boxes, baton firewood or cut your steak. The only time you'll want to draw this knife from the great quality leather sheath is when you need to convince someone they really should find someone else to target. The needle sharp point is designed for penetration, pure and simple. The Synergist has a very thin profile and feels very comfortable in hand. The handle is laminated with G-10 handle scales that provide a positive grip even when wet.

Specs and Features

- Overall length: 7.63 inches
- Blade length: 3.63 inches
- Blade thickness: 0.16 inch
- Weight: 3.6 ounces
- Steel: 8Cr13MoV
- Sheath: Leather with boot/belt clip

www.CRKT.com

MSRP: \$89.99



2.1. Wildfire Pepper Spray

Wildfire Pepper Spray contains not just the incapacitating OC ingredient but also a UV dye to make it easier to identify the attacker later. It's small enough to keep on a keychain or in your pocket or purse yet very powerful. Check your local laws for possible restrictions.

Specs and Features

- Heat: 3,000,000 SHU
- 18% oleoresin capsiicum
- Dimensions: 3.5 inches by 1.25 inches
- Size: 0.5 ounce
- Range: 6 to 8 feet
- Bursts: Six to 10 1-second bursts

www.TBO-Tech.com

MSRP: \$9.95

2. LESS LETHAL PERSONAL DEFENSE



Personal defense sprays allow you to fend off an attacker without having physical contact with them. There are many types on the market, and most experts will advise an option that projects a stream so you can engage at a safe distance. When you're taken by surprise and in the grasp of an assailant, a compact stun gun can deliver the jolt needed to get separation from your attacker to enable a clean escape or time to deploy a more formidable defensive option. Impact weapons may be another option in a scuffle, especially if they can be kept handy as an accessory on your keychain.



2.2. Rechargeable Runt Stun Gun

This compact stun gun delivers 20,000,000 volts into an attacker. It includes a holster for belt carry as well as a wrist strap with a disable pin. If the stun gun is pulled from you, the pin slides out and disables the weapon. Rechargeable means you don't have to change batteries; plug it into an outlet overnight as needed to keep it charged. The ergonomic design is instinctive and easy to use. Check your local laws for possible restrictions.

Specs and Features

- Includes an integrated flashlight
- "Fires" 300+ times per full charge
- Size: 4.5 x 1.625 x 1 inch
- Weight: 8 ounces
- Available colors: Black, red, pink, blue, purple, green

www.TBO-Tech.com

MSRP: \$19.95

2.3. Monkey Fist Keychain

The monkey fist was originally used in the nautical world to toss lines from one ship to another. The weighted end allowed for more accurate throws. A monkey fist can be a great last-ditch weapon. It is typically made from a ball bearing that is wrapped in paracord. Kept on your keychain, it'll be there when you need it. Monkey fists are used as a bludgeon type of weapon. Swing it at your assailant's head or face to dissuade them from further action.

Specs and Features

- Length: 8 inches
- Weight: 2.4 ounces
- Colors vary

www.TheMonkeyFist.com

MSRP: \$6.50



3.1. Streamlight ProTac 1AAA Penlight

The Pro-Tac 1AAA will light up the night without weighing you down. At just a few inches long, you won't feel it in your pocket but it'll be there when you need to shine a full 70 lumens on the problem. The single AAA battery lasts about 30 minutes on high if alkaline and more than two hours if lithium. The low setting is just 5 lumens, but it is still enough for you to see into your car's back seat before opening the door. The ProTac 1AAA also has a strobe setting that works great for disorienting an attacker.

Specs and Features

- Functions: High, low, strobe
- Output: 70 lumens (high), 5 lumens (low)
- Runtime: On high, 30 minutes (alkaline), 145 minutes (lithium)
- Length: 3.94 inches
- Head diameter: 0.71 inch
- Weight: 1.3 ounces
- Battery: One AAA alkaline (included)

www.Streamlight.com

MSRP: \$48.00



> 3.2

3. LIGHT

Whether lighting up shadowy areas around your home or the sketchy alley you're navigating through, illumination tools are key to safety and security after dark. There are thousands of options but, with a little time and effort, you're sure to find some that meet your specific needs. Be sure you include multiple backups in your plan.

3.2. Streamlight ProTac HL USB

The ProTac HL USB is the perfect solution for the homeowner wanting to shed some light on a strange noise in the middle of the night. On high, it emits a blinding 850 lumens and will do so for 1.5 hours on a full charge. You can save some juice by dropping down to a still very bright 85 lumens and go for 12 hours on a charge. With a crenelated head, the light has enough heft to work as an impromptu weapon, too. The internal battery can be charged via an included USB cord or an optional AC outlet charger. The light can also be powered by two CR123A lithium batteries, making the ProTac HL USB fairly versatile.

Specs and Features

- Three output levels plus a strobe mode
- Length: 6.5 inches
- Diameter: Head, 1.23 inches; body, 1.07 inches
- Weight: 7.2 ounces
- Light source: C4 LED
- Recharge time: Seven hours

www.Streamlight.com

MSRP: \$89.99

3.3. Three-Head LED Floodlight

A motion activated outdoor light is an essential part of home security. This model by Lithonia blasts out 2,163 lumens, turning night into high noon. The motion sensor will detect a full 180 degrees. The heads are directional, allowing you to truly customize where the light falls when the sensor is activated. The light is available in white or black/bronze.

Specs and Features

- Model: OFLR 9LN 120 MO
- Mount: Wall or eave to recessed junction box
- Number of LEDs: 3 per lamp
- Sensor range: 70 feet
- Unit size: 12W x 7.25H x 8D inches

www.HomeDepot.com

MSRP: From \$99.00





4. SECURITY SYSTEMS

The best defense includes an early warning system that alerts you as early in an engagement as possible. Whether it's a simple perimeter alarm or a comprehensive home security system, taking the element of surprise from your attacker is critical to a successful protection plan.

4.1. Brite-Strike Camp Alert Perimeter Security System

This very small alarm packs a huge punch, emitting a piercing 135 dB alarm when activated. The CAPSS3 works great in conjunction with a trip wire. When the pin on the alarm module is pulled, the shrieking begins. When the alarm sounds, the module also lights up with a blue LED strobe. In addition, the module has a red light you can use for map reading or other night activities when you don't want to compromise your night vision. Suitable for indoor or outdoor perimeters.

Specs and Features

- Two APALS units with blue LEDs
- Includes: Two 10-meter lengths of trip line, a 6-inch strip of duct tape and two nylon ties
- Size: 3 x 1 x 0.75 inches

www.Brite-Strike.com
MSRP: \$40.00

4.2. SimpliSafe Alarm System

The SimpliSafe alarm system uses a cellular network rather than telephone landlines. The system arrives ready to work and you can install all of the components yourself in about an hour. You control the system through your smart phone – arm, disarm, monitor alerts, everything is right at your fingertips 24/7/365. The SimpliSafe monitoring station will call you if it detects an alert and, if no response is received, they will call law enforcement. They have several packages to choose from as well as standalone items you can add to create a customized solution to your alarm needs.

Specs and Features

- One each base station, wireless keypad, motion sensor and keychain remote
- Three entry sensors
- Range: 400 feet for the wireless sensors
- Standard monitoring service: \$14.99/month

www.SimpliSafe.com
MSRP: Economy Package \$259.95

4.3. Streetwise IP Wireless Camera

Using your smart phone and an Internet connection, you can see what's going on at home in real time no matter where you are. You aren't limited to a fixed viewpoint, either, as you can pan and tilt remotely. The camera can be set to alert your phone when it detects movement, making it a great asset when you're away from home. If you're not available to view, it can record to an SD card for later retrieval. On top of all of that, you can even broadcast your voice through the camera.

Specs and Features

- Resolution: 720p HD
- Night vision enabled
- Integrated microphone and speaker for two-way comms
- Supports up to 64GB microSD card (not included)
- Movement: Pans 355 degrees and tilts 120 degrees
- Runs on your AC power source

www.TBO-Tech.com
MSRP: \$162.95



5. SECURE YOUR ASSETS

Sometimes the best way to conceal things is to hide them in the open. The first place a home invader will be drawn to is the master bedroom. That's where most people gather their items of greatest value and there are limited hiding places. The safest safe is one that doesn't look like what they're expecting to find.

5.1. Diversion Safe

This can of shaving cream is just one example of many different common objects that are actually hiding secrets. Diversion safes come in all shapes and sizes. Burglars want to get in and out quickly. They probably won't check every single can and box in the house to see where you've stashed the family jewels. Options available are appropriate for every room, closet, pantry, garage and garden.

Specs and Features

- Storage space varies depending on the individual safe
- More than 30 options available

www.TBO-Tech.com
MSRP: From \$7.95
ASG





HOME IS WHERE YOU MAKE IT

SHELTER IS A TOP PRIORITY IN EVERY SURVIVAL SCENARIO

BY: LARRY SCHWARTZ

A photograph of a campsite in a forest. In the foreground, there is a large, light-colored tarp pitched as a shelter. To the left of the tarp is a blue storage bin and a small, tan-colored tent. The ground is covered in pine needles and dry leaves. The background is a dense forest of tall, thin trees.

HAT OF IT

Image from Tech 101

The dictionary defines the word shelter as, "something beneath, behind or within which a person, animal or thing is protected from storms, missiles or adverse conditions." The word itself comes from a combination of Old English words that mean to shield a body of men.

Although it is just one of the pillars of preparedness covered in this magazine, it is also the foundational one with which all others work in concert. Without shelter, heat is radiated into the environment where it does the body no good. Without shelter, first aid and medicine take more time to do their work. Without shelter, food and its calories are spent to generate heat rather than provide nourishment to the body and growth to the muscles.



AT THEIR SIMPLEST FORM, SHELTERS MUST HAVE FIVE CHARACTERISTICS:

- 1. They should be sturdy enough to withstand bad weather.**
- 2. They should protect you from the wind and weather.**
- 3. They should protect you from intruders and invaders.**
- 4. They should provide you a safe place to rest and recuperate.**
- 5. They should keep you cool or warm, depending on the weather and environment.**

All of the shelters we will cover here do these things to one extent or another, based on the trade-off you make when you pick one style over the other. So let's take a look at the different kinds of shelter and how they fit into your preparedness strategy and plans for different scenarios.

1. PERMANENT SHELTERS

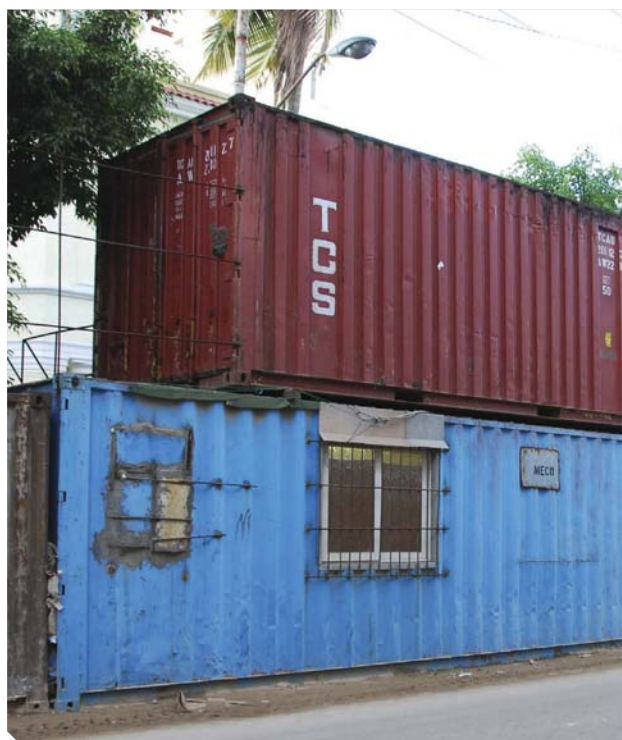
Permanent shelters, as discussed here, are those that are made to stay in one location for a long period of time and are larger than other styles of shelter. They are normally made from manufactured materials, although they can be made from raw materials you find in your environment.

1.1. TRADITIONAL HOUSING: If you have the time and resources, then building a traditional house for your shelter, be it for your daily use or for a bug-out location, is by far the best way to go. You can make it the way you want and with the features you need for the variety of scenarios you need to be prepared for. Examples range from apartment buildings and condominiums, to row houses and single family homes, all the way up to grand estates and mansions.

1.2. CONTAINER-BASED STRUCTURES: If time and cost are at a premium or you don't want to make a show of building a fixed structure, like if you are building a bug-out location in the back country, then a container-based structure might be what you want.

These include CONEX shipping containers used by the military for storage and in-the-field housing or the metal shipping

➤ Below left: Traditional housing gives you the ability to design and build your shelter the way you want it with the features you need to address your preparedness plans and strategies. Image from Degcn.com





➤ Above: A log cabin is a strong structure that can withstand all kinds of weather and temperature extremes. You can get them as kit houses or build them from the trees you have on the property. Image from Wikimedia.org.

containers you see tractor trailers hauling down the road. They provide a strong, metal structure of roof, flooring and walls that you can then fit out the way you want with interior walls, plumbing and electric services. You can put them end to end or side by side as your site and needs dictate, or you can stack them together to provide two or more floors.

1.3. PREFABRICATED DWELLINGS:

Other options that are most like the home you left behind and are ready to inhabit quickly are RV or house trailers and modular homes. Trailers are ready to move into as soon as you install them on your property and make the power and plumbing hook-ups. Modular homes take more time as most are built to order. Production time can take six weeks or more, but that's still less than it takes to build a house on-site.

All of these options afford many choices for style, size and amenities. The trailers also give you the potential to relocate if desired, assuming roads are passable, tow vehicles are available and you're not in a lawless area.

◀ Left: Container units, like those used for transporting cargo, on-site storage buildings and remote offices are a good way to get a strong exterior in place quickly and easily. Image from Wikimedia.org.

1.4. LOG CABINS: Probably the earliest kind of permanent structure made here in North America was some form of log cabin. An interconnected square or rectangular framework of notched logs is built upon a good solid foundation. Once this is in place you add a roof, preferably pitched to let the rain and snow run off. Before you put on the roof, you will want to cut openings in the walls for a door and windows. Make sure to leave at least one log uncut on the bottom when you make the door so that you don't damage the structural integrity of the wall and to keep rain and small animals out of your new home.

We are fortunate in this day and age to be able to buy kits to build a log cabin, but if you can't afford it or don't want to use one you can still do it the old school way and use the trees that are on the property you are building on.



➤ Image from Wikimedia.Org



› Above: Packable two-person tents like these are constructed of lightweight nylon fabric that is supported by fiberglass or aluminum poles. Image from Wikimedia.org.

◀ Left: This wall tent is equipped with comfortable bedding, electric lights and heating, and is made with heavy-duty fabric walls.

› Right: The most versatile of portable shelters, the tarp, can be set up in a number of configurations, based on the weather and the needs of the user. Image from Tech Craft.

2. TEMPORARY SHELTERS

While we all want a permanent shelter as part of our prepping strategy, there will come times when you need something temporary or more portable. You might be moving to your bug-out location or your home may have been destroyed by a tornado and you need someplace to stay while you rebuild or figure out your next step. Or, you just don't want to spend the money to build something permanent. Whatever the reason, there are plenty of times when you might need a portable shelter.

2.1. WALL TENTS: Wall tents are the houses of the tent universe. A house has walls made of frame, brick or stone for the exterior and walls of drywall and lumber for the interior. A wall tent, on the other hand, has walls made of heavy fabric, both for the exterior and interior. The fabric is heavy and strong enough to keep out wind, rain and cold while keeping the heat in.

Most wall tents come with a means for installing a gas- or wood-fired stove for

cooking and to keep the interior warm. They also have plenty of room for the creature comforts you want in a home like comfortable beds, tables and chairs, and a kitchen area. You will still want to leave the bathroom outside though.

2.2. BACKPACKING TENTS: A

step down in both size and weight are backpacking tents. These are normally no more than 5 or 10 pounds with everything you need to set one up and will fit inside or onto a decent-sized backpack. They, too, are made of fabric, but it is lighter in weight than the canvas used in a wall tent.

The framework is normally made of flexible fiberglass poles or aluminum tubing, depending on the design. Tents of this size and for this purpose normally only have one large open area rather than being divided into separate rooms. They come in sizes designed for one to six people.

But when you decide on the size you want, you need to know that a six-person tent is only big enough so that you can lay six adult sleeping bags out in it. That doesn't leave any room for moving around or for your equipment. So when you pick a tent, divide the number of people it says it sleeps by 1.5 or 2 so that you will have room to move and to bring your equipment in at night. In other words, a six-person tent will really only accommodate three or four people.



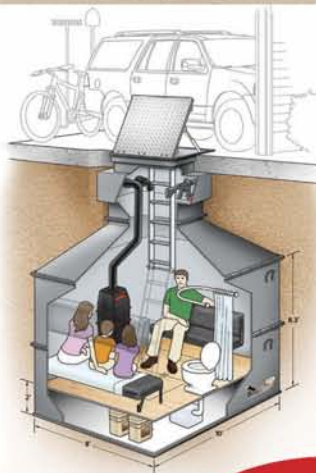
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2.3. TARPS: Tarps are probably the most versatile and also the most under-rated piece of equipment you can have in your preparedness arsenal. They come in a number of sizes and materials so you can have just the right one for the purpose at hand. You can set them up in dozens of configurations to give you the features you want or need based on what you will be doing in your shelter, how much gear you will have and what kind of environmental challenges you are facing.

3. PRIMITIVE SHELTERS
There will be times when you don't have anything with you to make a shelter, other than maybe a cutting tool and some cordage. No tarps. No tents. No shipping pallets to cannibalize for wood and lumber.

That is when knowing how to make do with what nature provides will save your life. These three types of shelters can be made with no tools at all if necessary, or with tools that you fashion in the field with available materials.



◀ Top: A simple poncho shelter is quick and easy to rig and the poncho also has the benefit of having multiple uses. Always a good thing when you're packing light. Image from Wikimedia.org.



◀ One step up in size from a bivouac sack is the small one or two person tents popular with backcountry hunters. Image from Wikimedia.org.



◀ Above: A growing trend in the outdoor and survival market is the use of reflective fabrics and materials to help conserve body heat. This heavy duty Mylar tarp is reflective on one side and olive drab on the other. Image from Larry Schwartz



◀ This military issue bivouac sack provides the most basic of shelter by protecting the sleeping bag and the person in it from rain and wind. It also helps to trap warm air next to the sleeping bag, making it more efficient. Image from Wikimedia.org.

Ham radio is **not** a toy



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3.1. A-FRAME SHELTERS: A-frame shelters are probably the simplest shelter to make and the most recognized. They look like the old Boy Scout pup tents, or the poncho tents they teach you to make in the military.

All you need is a cross beam of some sort to lean your materials against to make the walls of your lean-to. This can be a fallen log, a long stick stuck into the ground or a rope running between two trees. Once you have your cross beam in place, you want to put something on it to make your walls that will keep the weather out. This can be a tarp, but if you are in a really primitive setting and only have what nature provides, then you will use pine boughs, sheets of bark or moss laid across a framework of branches.

◀ **Top:** An A-frame shelter is one of the simplest and easiest primitive shelters to make. In this picture the soldier used a cord run between two poles for his cross beam and then strung two ponchos together to make the sides of the A-frame. Image from Wikimedia.org.

3.2. DEBRIS HUTS: A debris hut is a round or oval structure with insulating materials on the outside. You start by building a framework of large to medium sticks and saplings to make a dome or A-frame like structure. Once this is in place you will place medium to small sized branches along the outside of the framework.

Then put insulating materials like leaves, moss and sheets of bark to keep the wind and rain out of your shelter. You want each layer of insulation to be at least 6 inches thick. Then lay another layer of branches on this insulation to hold it in place. Continue adding layers of insulation and branches to hold it in place until you can't see light coming into your debris shelter.

4. SUMMARY

As you can see, those who have gone before us have come up with a wide variety of innovative ways to build shelters, from the more expensive, complicated and time consuming permanent structures to simple but effective primitive structures that have protected indigenous peoples from the elements for centuries. Modern technology is also bringing forth new tools and materials to augment these time tested-designs and we should consider them for a place in our preparedness arsenal as they come to light. **ASG**



◀ **Debris shelters** are shaped like a dome in most cases. You build a framework out of large to medium sized branches and then cover it with layers of smaller branches, leaves or sheets of bark to repel the rain and to insulate the walls. Image from DVIDSHUB.net.

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BUILDING YOUR **SURVIVAL SAN**

SHELTER OPTIONS AND IMPROVEMENTS YOU CAN MAKE

BY: LARRY SCHWARTZ

A man in a tan t-shirt and camouflage pants is kneeling in a field, working with long green leaves. He is wearing a watch and a bracelet. Another person in similar gear is partially visible in the background. The scene is outdoors with trees and foliage in the background.

R NCTUARY

< Image from DVIDSHUB.Net

Shelter building is one of those activities that comes down to just a few basic concepts. But the really good shelters – the ones that provide protection from the elements and are also comfortable in the worst of environments – are built by those who know how to maximize those basic concepts with the ideas and techniques covered below.

1. SEASONAL CONSIDERATIONS

Many of the tips and tricks of making effective shelters are based on the weather and temperatures you are facing. These ideas help you make the best of warm weather shelter opportunities.

1.1. Lanterns for light and warmth

Although the weather from spring through fall doesn't require a stove to keep you warm, the nights can get cold and dark. A very simple way to address both of these problems is to use lanterns.

They not only provide light, but they generate a bit of heat as well. You can find lanterns that burn candles, you can find lanterns that burn liquid fuels like kerosene and white gas, and you can find others that run on canister fuels. The simplest type, and the lightest, is a candle lantern that burns a regular candle inside of a glass globe that is protected by a metal frame. It can be hung from the roof of your shelter or tent or set on the ground. It gives off good light and more heat than you would expect, certainly enough to light and take the evening chill off an individual shelter.



1.2. Create airflow to cool your shelter

We already know that condensation inside your shelter can be a problem. Trapping dampness or humid air inside your tent or tarp shelter can lead to condensation. As it drips off the tent roof and walls it can soak you and your gear, making for a pretty miserable environment.

For this reason it is important for you to engineer some way to promote airflow in a shelter you build yourself or to buy a shelter that has ventilation integrated in the design. The easiest way to accomplish good airflow is to have two opposing openings in your shelter, either a front and back door, or side or end windows. The bigger these openings are, the more effective they'll be to keep the moisture and temperature as low as possible inside your shelter. They should also include no-seum screening to keep pests out.

> Above: A candle lantern will not only give you nice light inside of your shelter but you will be amazed at how it can take the chill off an enclosed shelter on a cool night. Image from WikiMedia.org.

One of the best designs for good airflow, and to get rid of hot and humid air, are ridge vents in the top of the shelter. Because heat rises, this is like a natural chimney that will also create a draft to pull air in from outside of the shelter through the doors and windows.

2. MAKING THE MOST OF WHAT IS AVAILABLE

A fundamental skill for the survivalist and the prepper is to take stock of what's available nearby and make the most of what you can scrape together. Below are some tips on what to look for and how to use it.

2.1. Sometimes litter is a good thing

It is a shame, but wherever you go you will find some kind of trash. The happier side of that coin is that when you have to build an emergency shelter, you will likely also have at least some kind of trash that you can recycle into materials you can use to build your shelter.

You should keep this in mind as you make your way through an area. Pick up things that might be useful for the shelter that you will need to construct at the end of the day. Scrap wire, cord and string are always useful and will help to lash things together to make your shelter's frame. Pieces of plastic sheeting or trash bags are perfect for ground cloths or to waterproof the roof of your shelter or help to keep in warmth. Many parts from vehicles can be salvaged to make an impromptu shelter, assuming the vehicle itself isn't an option.



< Left: Trash gets blown or washed into the water from various locations and then it winds up on the beach. A walk along any ocean beach will provide all kinds of useful materials. Image from WikiMedia.org.

< Keep an eye out for scrap materials like these that are found in many urban and suburban areas. Image from Pexels.com.

2.2. Take advantage of nature's bounty

Your environment holds many things that you can use to make or improve your shelter. Poles can be made from fallen trees or cut from saplings. Bark from trees like birch and aspen, and even from some kinds of hardwoods, can be removed in sheets and used as roofing tiles for your lean-to or brush shelter.

Sandy soil can be used to create a smooth bed to lie on at night, and clay from a stream bank can be shaped and baked in a fire to make bricks to build walls and tiles to make roofs. Vines can be used in place of cordage for tying shelter components together. Look at everything around you and think about how it can be used.

Fallen trees can provide one or more walls for a shelter; a tarp or branches and pine boughs can then be added to make a lean-to. Brush piles are a great start on a debris shelter. Just add boughs with leaves or needles on them over it and use branches and poles under it to make an area for yourself.



2.3. Take advantage of natural shelters

Sometimes, when we are lucky, Mother Nature provides us with pre-made shelters. Caves are found in practically every part of the country, but especially in mountainous areas or along river banks, and can provide immediate protection from the elements. Just be sure that they don't already have another resident.

Overhangs at the base of cliffs are another good source of shelter but may require some additional work on your part depending on the wind direction. In addition, be sure that the area above your shelter is stable and not a falling rock or avalanche hazard.

In some areas you may even find abandoned buildings or ruins from early homesteaders that you can use as a basis for a decent shelter.

2.4. Urban and other inhabited areas

In addition to the examples from wilderness areas, you can also find useful structures in urban and suburban locales. In a serious survival environment, it will be easy to locate abandoned buildings, overpasses and other options. Remember that even empty dumpsters and other small containers and structures can provide effective cover from the elements and protection from both two- and four-footed predators.

Needless to say, chances are much greater that there will be competition for shelter in areas with higher prior populations, and in buildings in general, than in the surrounding areas. Be very vigilant and careful when evaluating potential shelters in these environments to ensure that you avoid confrontations with existing occupants.

2.5. Shipping pallets are your friend

In urban and suburban environments, you can find a ready supply of lumber in the form of shipping pallets. Pull the nails to take them apart and you will have several pieces of seasoned lumber and a supply of nails to make a wide variety of structures.

You can nail shorter pieces to longer pieces to make wooden walls. The same long and short pieces can be used to make boxes and other containers for whatever purpose you have. They can also be combined with whole pallets to make furniture like chairs and tables. You can stack and organize whole pallets to store supplies off of the ground or for making sleeping platforms. A quick Internet search for "pallet projects" will provide dozens of ideas on how these useful resources can be used, including building small homes. Just be careful that you don't use pallets that may be contaminated with toxic chemicals or other health hazards, especially if you plan to burn them at some point.

< Below left: This large blowdown provided a great starter shelter which only required a tarp to form the roof.



< Above: Shipping pallets provide you with modular wall components and when you take them apart they give you a supply of nails and lumber for your shelter building needs. Image from WikiMedia.org.

> Bottom: This person didn't take good drainage into consideration when picking his campsite and wound up with a river flowing through his tent. Image from WikiMedia.org.



2.6. Location, location, location

There are all kinds of shelters that you can make or bring with you, but their effectiveness is based in large part on where you put them. Yes, the old realtor's axiom of "location, location, location" applies to survival situations, too.

Your ideal campsite will have water nearby, be out of the wind, and, if possible, be on slightly higher ground than its surroundings to provide for good drainage in the event of rain. In the desert you should avoid setting up your camp in arroyos or dry creek beds for they can quickly turn into rushing rivers from a storm you're not even aware of that is dumping rain on the earth miles away.

3. SUMMARY The big thing to keep in mind with whatever shelter you make, buy or otherwise acquire is that it is a work in progress.

Assuming you get to inhabit it for an extended period of time, you can always do something to make it more comfortable, more efficient or easier to use. Always look for ways to improve its effectiveness, safety and ability to stay below the radar. If it's portable, be open and prepared to move it to new locations if the need or opportunity arises. Your ultimate goal should be to make it work better for you. **ASG**

SUR



Image from Pexels.com

ESSENTIAL VIVAL SHELTER SOLUTIONS

WITHOUT A SHELTER OVER YOUR HEAD, YOU'RE DEAD

BY: LARRY SCHWARTZ

According to the Survival Rule of Threes, you can live for about three hours without shelter in an extreme environment. For many of us, that's assuming we're having a really good day. If you can't button up at home or work, don't poke the angel of death unnecessarily; know how to create a decent shelter in short order.

Regardless of your environment, be aware of

the materials available to construct even basic temporary living quarters. And whether it's a tarp, large trash bag or small tent, do yourself a favor and stow something in your bug-out bag and your vehicle that you can use to hunker down in.

When things stabilize, you can investigate more elaborate options, all the way up to moving into a house or building. Read on for some ready-made options.

1. INDIVIDUAL SHELTERS

For a single person, there are two types of shelters on the market: small, low profile, bivouac-style tents that will hold a sleeping bag and some gear; and bivouac, or bivvy, bags that are just big enough to cover your sleeping bag.



1.1. Hilleberg Akto

The Akto is an ideal choice any time you need a lightweight all-season solo tent. Though it was not designed for extreme use, it has proven itself even on extended polar expeditions. You'll appreciate having a sturdy, comfortable room of your own at the end of a long day on the trail.

Specs and Features

- Packed weight: 3 pounds, 12 ounces
- Kerlon 1200 outer tent fabric and 9mm fiberglass poles
- Outer tent walls extend to the ground
- Breathable mesh areas are backed with adjustable fabric panels
- Plenty of room for one occupant and their gear
- The single entrance with vestibule configuration

<http://us.Hilleberg.com>

MSRP: \$530



1.2. Survive Outdoors Longer Escape Bivvy

This bivvy is nothing less than a revolution in backcountry shelters. With the Escape Bivvy, condensation is no longer an issue, and you never again have to choose between staying dry and staying warm. Waterproof seams plus a drawstring hood closure and side zip mean you can seal out the elements entirely or use the bivvy like a traditional sleeping bag.

Specs and Features

- Size: 31 x 84 inches
- Weight: 8.5 ounces
- Highly water-resistant fabric shell
- All-season durability
- Hard-wearing fabric resists punctures and tears through heavy use
- High-visibility orange exterior

www.SurviveOutdoorsLonger.com

MSRP: \$60.00

2.1. Boen All Purpose Blue Tarp, 10 x12 Foot Two-Pack

Tarps are used in commercial and residential applications for many purposes. They can be used to build tents, wind breaks and sun shades, and to protect your space from rain and to collect rainwater. If placed underneath a tent, they will prevent the floor from absorbing and passing water up and also serve as a buffer against dirt, insects and other undesired elements. Image from JayDeeUSA.com.

Specs and Features

- Extra strength weave
- Heavy duty double laminated coating
- Rustproof grommets
- Reinforced hem
- Sewn corner patches
- Water, mildew and tear Resistant

www.Sears.com

MSRP: \$19.99



2. TENTS AND TARPS



Portable homes made of lightweight and waterproof fabric, tents and tarps provide the most function and versatility for the weight of any other shelter. Tents come in a wide range of designs and sizes. Tarps, too, come in different shapes and sizes, but their simple nature also makes them extremely versatile and adaptable; if you only have one piece of shelter gear, you should make it a tarp.

2.2. Cabela's 12' x 20' Ultimate Alaknak Tent with Vestibule

Sidewall condensation vents have hook-and-loop closures all around the perimeter for better ventilation control. Three large multi-panel windows each have a zippered cover, a clear vinyl window that zips out of the way, and a mesh screen for added ventilation. The stove jack is covered by a storm flap that rolls down to avoid contact with the piping. Image from Todd Tatum.

Specs and Features

- Tent body dimensions: 12 x 20 feet
- Tent body weight: 49 pounds
- Frame weight: 41 pounds
- Stakes weight: 16 pounds
- Includes 12 inch steel stakes, guy ropes and a large zip-close storage bag
- Screen door to let the breeze blow through

www.cabelas.com

MSRP: \$1,199.99

2.3. Hilleberg Nallo 4 GT

THE NALLO 4 GT is able to handle all season, all weather adventures. This tent is an ideal choice for those needing a roomy, lightweight tent that still offers multi-season functionality. Three-person teams often opt for the Nallo 4 GT, as it offers both the extra interior room and ample storage space with very little weight penalty. Families with younger children and those who have pets also love the extra space.

Specs and Features

- Kerlon 1200 outer tent fabric and 9mm diameter poles
- Outer tent walls extend to the ground
- Mesh windows are backed with adjustable fabric panels
- Tunnel construction offers maximum space to weight ratio
- A single entrance and extended vestibule for easy access and maximum storage space

<http://us.Hilleberg.com>

MSRP: \$985



3. EMERGENCY SHELTERS

Like tarps, the items in the emergency shelter category can be used in a number of ways but are so light and retain heat so efficiently that you can and should keep one in your gear bag or pack all of the time.

2.4. Hilleberg Atlas Basic

Large group tents that are very strong, relatively light and easy to pitch are difficult to find. Rated for eight people, the eight-sided Atlas Basic fills these needs and more since it is also totally modular. It appeals to large backcountry groups, from mountaineering expeditions needing a highly reliable and spacious base camp tent to outdoor programs looking for large, easily portable spaces for sleeping and group gathering.

Specs and Features

- The Atlas Basic includes outer tent, poles, guy lines, vent cover with pole and 20 Y-pegs.
- Size: 13 feet, 11 inches in diameter
- Weight: 23 pounds
- Center height: 6 feet, 6 inches
- An inner tent, external vestibules and other accessories can be added as desired
- An accessory, the Connector, can join multiple Atlas tents together
- The included Carrier Bag functions as a backpack for transporting the Atlas and all its optional components

<http://us.Hilleberg.com>

MSRP: \$2,085



2.5. Kifaru SuperTarp

The SuperTarp is truly a "home away from home" for the solo outdoorsman with enough floor space for any amount of gear, or two people with their gear outside. It is open at the front for three-season use, but with the addition of an Annex and their back-packable stove, you'll have a credible four-season shelter.

Specs and Features

- Weight for canopy, pegs, and poles: 2 pounds, 4 ounces
- Length: 11 feet
- Width (Rear/Front): 56 inches, 68 inches
- Height (Rear/Front): 26 inches, 52 inches
- Highly wind resistant (60 mph+) and waterproof

<https://Store.Kifaru.net>

MSRP: \$419.00



3.1. Survive Outdoors Longer Emergency Shelter Kit

Always be prepared to survive an unexpected night out, any time of the year. With this ultra-light emergency shelter kit, you will always be able to stay dry and protected in almost any weather. Kit includes: four anodized aluminum stakes, lengths of cord, reflective cord tensioners and instructions.

Specs and Features

- Can be used as a wrap or as a tarp to make a shelter
- 96 x 60 inches and 2.5 times thicker than survival blankets
- Reflects 90 percent of your body heat back to you to keep you warm.
- Panel is green, reversible to reflective silver for your choice of visibility

www.SurviveOutdoorsLonger.com

MSRP: \$25



4. Kit Houses

If you're thinking about having a back-up bug-out location, one of the easiest ways to get into a full featured shelter is to buy a kit house; either log cabin style or container based modular buildings. These options provide you with proven floorplans and construction materials and take much of the guesswork out of the project, allowing you to concentrate on finding the right location and executing the building phase.



3.2. Survive Outdoors Longer Survival Blanket

This blanket is made with a vacuum-metalized polyethylene sheet that reflects up to 90 percent of your body heat. It opens easily and will not shred if nicked or punctured; rips and tears can be repaired with tape. It is quiet and won't crinkle in high winds, and its high-visibility orange exterior makes it easy for rescuers to find you. In addition, survival tips and techniques are printed directly on the blanket so you have them when you need them.

Specs and Features

- Size: 60 x 96 inches
- Weight: 3.2 ounces
- Can also be used as a ground cloth, gear cover and first aid blanket

www.SurviveOutdoorsLonger.com

MSRP: \$7



4.1. Conestoga Log Cabins Susquehanna Model

This comprehensive kit includes all the materials required to build the cabin. From the pressure treated sill plates to the metal roofing panels, the exterior log walls, windows and doors, to the interior finish materials and electrical supplies, Conestoga provides what you'll need to build a very comfortable remote habitation. Many floorplans in various sizes are available.

Specs and Features

- Size: 24 x 32 feet (ground floor), 24 x 16 feet (loft)/1,143 square feet
- Two bedrooms with living, dining and kitchen areas, plus loft
- One full bathroom
- Covered front porch included
- See website for complete details and options

www.ConestogaLogCabins.Com

MSRP: Starting at \$67,900



4.2. Coventry Log Homes Adventurer Cabin

The Adventurer is part of Coventry Log Homes' Cabin Series and is available in three kit levels – log walls only, shell package and complete package – to allow you to have more control over how the cabin is built. The Adventurer offers one bedroom, one bathroom and living space on the main floor and a loft.

Specs and Features

- Size: 20 x 32 feet (ground floor), 10 x 20 feet (loft)/840 square feet
- One bedroom with living, dining, and kitchen areas, plus loft
- One full bathroom
- Front porch
- See website for complete details and options

www.CoventryLogHomes.com

MSRP: Walls: \$26,700; Shell: \$39,600; Complete: \$49,950 ASB



IS ANYB OUT THE

WHEN STAYING IN TOUCH CAN MEAN STAYING ALIVE

BY: JIM JEFFRIES



ODDY RE?

◀ Image from Tech Craft



Here's a short story to illustrate how even a simple communications plan can make a big difference...

Years ago, I was part of an offshore fishing party on a trip along the coast of Washington state. We set out from the mouth of the Columbia River, at Ilwaco, and headed north to Westport. The local weather was picture perfect – warm and sunny – and the seas were calm with just a few moderate swells. It was a great day to be out on the ocean.

The boat was a brand new Bayliner 24 foot Trophy; the hard-top cabin offered a very comfortable and dry ride, along with plenty of room for gear. There were six of us and besides our fishing gear, coolers full of ice and beverages, a couple of heavy home-made crab pots and lead downrigger weights were stowed aboard. We knew we were a bit on the heavy side, but well within the capacity of the craft, and the powerful MerCruiser stern drive had plenty of power to get the boat on plane. The Trophy was designed for deep water fishing; stout rod holders were mounted in the gunwales, and fish wells ran the length of the self-bailing rear deck.

My job that day was piloting the boat on its maiden saltwater voyage. I had extensive experience with many different types of watercraft from my days in the U.S. Coast Guard so the crew of the Bayliner felt comfortable with me at the helm; I was comfortable with it, too, and it was exhilarating to be out on the deep blue waters of the Pacific Ocean again.

As we made our way toward Westport, the swells began to grow and the boat rolled more and more the farther north we went. I still felt confident as I had been in much worse conditions in vessels not nearly as seaworthy, but it was time to head in.

I turned the boat to the east toward Grays Harbor; this placed our stern directly into the swells, forcing me to pull back the throttle to keep from burying the bow into the backside of the wave ahead of us. As I tried to match the speed of the waves the boat suddenly lost power!

I went from the confidence of Skipper to feeling like Gilligan in a single heartbeat. Without propulsion I had no steerage, leaving the boat's heading to the mercy of the sea – if turned sideways to the swells, the boat would be at risk of capsizing. I repeatedly tried to restart the big V-8 engine; it would crank, but wouldn't fire.

Exiting the cabin, I lifted the engine cover to find the top of the engine soaked with seawater. The ill-designed deck scupper system allowed water to enter the drains beneath the swim platform on the stern and blast into the inside of the engine compartment each time a wave slammed into the transom (the saltwater shorted out the ignition system). I grabbed a can

"A COMMUNICATIONS PLAN MUST INCLUDE TOOLS AND METHODS THAT WORK IN MOST SETTINGS..."

◀ Multiple antennas on a mast, operating on different frequencies, can provide local and regional radio communications... or reach anywhere in the world.

"Coast Guard Station Westport, Coast Guard Station Westport," I said with urgency. "This is a private small boat outside the entrance to Grays Harbor. We are experiencing intermittent loss of power, over."

A steady, professional voice replied, "This is Coast Guard Station Westport. We are dispatching a rescue boat. What is your exact position?"

Upon hearing the calm voice of one of my former colleagues, my fears began to subside. I gave our coordinates, number of souls aboard and other pertinent information over the radio. Knowing help was on the way, we were able to maintain our composure and deal with the problem at hand.

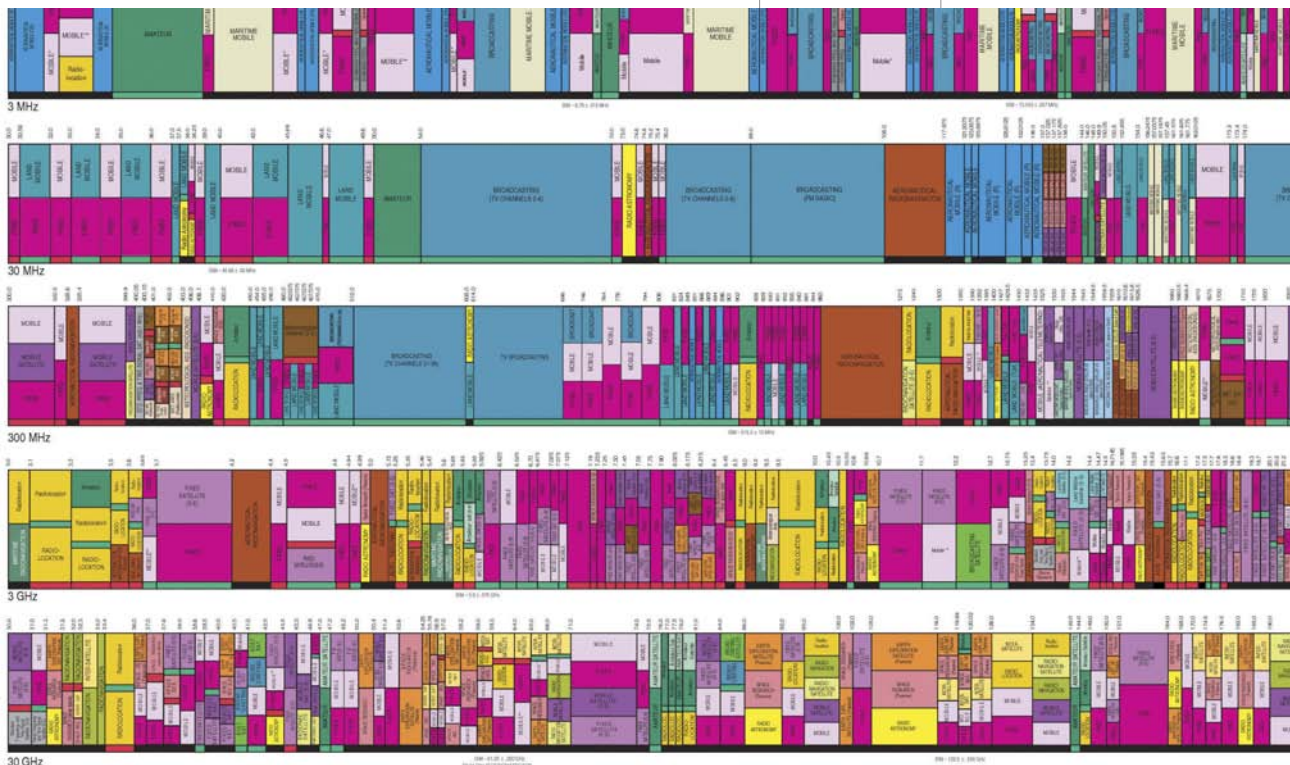
Within minutes, a beautiful 44 foot Motor Life Boat, with US COAST GUARD painted on its side, appeared before us ready to render aid. In the meantime, one of our crew discovered the red cap of the WD-40 fit perfectly in the deck drain under the engine cover, effectively preventing any

of WD-40 and sprayed everything down, closed the cover and went back to the helm – the engine restarted and I once again had control. When the next wave slammed the stern, the engine died again.

I began barking orders for everyone to put on their life jackets and for someone to spray the water-displacing aerosol on the engine again, while at the same time reaching for the microphone of the Marine VHF radio mounted to the ceiling.

◀ Below: A Marine VHF radio is often your only line of communications to shore. The international distress channel is monitored continuously by the Coast Guard and many vessels at sea.





more seawater from coming in. With the situation under control, we were escorted into the protected waters of the bay.

We were very fortunate. Due to a design flaw, our pleasure cruise turned into a very bad situation in an instant. Had we not kept our heads as well as we did we would have been in a fight for survival and, without the radio, we could not have called for help.

No matter how much faith you have in your abilities or you gear, unforeseen circumstances can leave you dead in the water. Because we had the appropriate gear and the knowledge to use it, we made it home to fish another day.

Our communications plan consisted of more than just the radio. We also had a flare gun kit, day/night pyrotechnic devices, a signal lamp and the boat horn. In addition, each member had a waterproof strobe light, signal mirror and survival whistle attached to their personal flotation device. This is an example of a comms plan tailored to a day on the ocean.

Developing a plan to include other situations as well can be considerably more complicated, but it will be manageable if we understand the way the pieces fit together. Understanding starts with awareness. Once we know what methods and options are available, we can start see how they may be of benefit in our plan to ensure we always have the ability to reach our loved ones and members of our group, or get outside assistance when we find ourselves in a bad situation.

A communications plan must include tools and methods that work in most settings, as well as specific items for situations that require them, as in the account above. There is no single method that will work "all the time – every time," but radio comes close...and since it is often misunderstood, that is where we will begin.

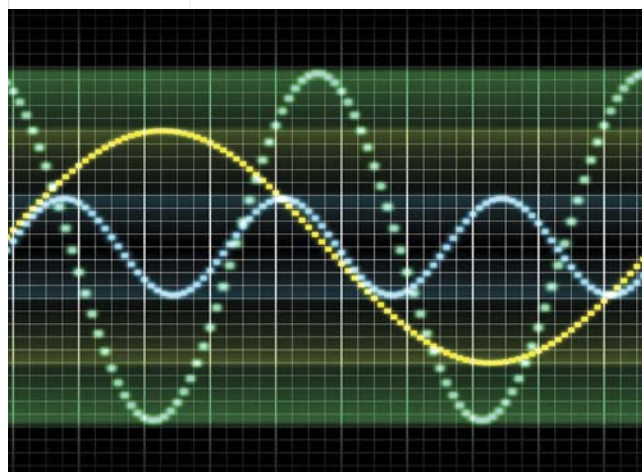
◀ Above: Chart of the RF frequency allocations in the United States. (Chart credit Wikimedia Commons)

◀ Below: Radio waves of different frequencies can have very different characteristics.

1 RADIO COMMUNICATIONS

Radio is almost always the most effective way to communicate, whether just listening to find out what's going on, or utilizing two-way radio to pass information, coordinate with others or call for help. But not all radio is created equally. Understanding the differences will go a long way to help you prioritize what to include in your plan.

1.1. BACKGROUND: The radio frequency (RF) spectrum is broken down into regions based on frequency; of interest are the high, very high and ultra-high frequencies, HF, VHF and UHF respectively.



Within each of these regions, portions are allocated for different purposes, called services. Some are private, some public, but each one has a specific purpose. Keeping radio services within set boundaries prevents the chaos and interference that would otherwise occur.

Generally speaking, radios are designed to be used within one service and are manufactured to comply with the rules and regulations that apply to that service. Some services are free to use by anyone, while others require a license, such as ham radio for example. Other segments are off limits to anyone but government agencies, the military, law enforcement or other vital services.

1.2. RANGE POTENTIAL: Low radio frequencies, like low audio notes, can travel remarkable distances as they bounce off the atmosphere and curve around the surface of the planet, whereas high frequencies are



◀ Above: A few of the author's radios. Several radio services are represented in this group photo.

◀ Ham radio provides the capability to talk across town or across the country with ease.

absorbed by or dissipate into the environment (comparing it to lightning – when it strikes nearby you can hear the splitting CRACK-BOOM, however strikes occurring miles away present only the low rumble of thunder).

1.3. POWER CONSUMPTION:

Transmitters that operate at higher frequencies generate more heat in the process – wasted energy that doesn't make it to the antenna. In many multiband transceivers, the rated output (watts) is lower at higher frequencies.

1.4. PHYSICAL CHARACTERISTICS

OF RADIO: The most notable difference is antenna size. Antennas are designed to work best at a specific frequency; lower frequencies need a longer antenna compared to higher frequencies. Antennas used for HF can be extremely long – well over 100 feet end-to-end.

1.5. FRS AND GMRS RADIOS:

The Family Radio Service and General Mobile Radio Service are intended for personal communications and are meant to be used the same way as Citizens Band (CB) radio is used, but in a much more convenient form.

Unlike CB, which is very susceptible to natural and man-made interference, FRS and GMRS use frequency modulation (FM) as opposed to amplitude modulation (AM), and operate in the UHF region rather than HF. These differences make FRS/GMRS radios more enjoyable, but not necessarily more useful. FRS and GMRS share some channels – FRS use is free for anyone, but GMRS operation does require a license.

1.6. MURS: The license-free Multi Use Radio Service offers five channels in the VHF region and works well in outdoor environments. Besides two-way voice communications, MURS is used for several remote security devices; vehicle sensors that can be buried under a roadway, and passive infrared sensors to warn of approaching foot traffic are just a couple of examples.

MURS does have limited range due to its low power, but could still be a good choice for short-range group communications.

1.7. MARINE VHF RADIO: As the name suggests, this service is intended for maritime communications at sea, along the coasts and inland waterways; use on land is generally prohibited. Most radios are

➤ MURS radios are a great option for wooded areas that tend to block FRS and GMRS signals.



waterproof and submersible, and it is common for handheld versions to float if dropped overboard. If you intend to go offshore, take a Marine VHF radio.

1.8. HAM RADIO: For over a century, ham radio (Amateur Radio) has been synonymous with emergency communications – even today disaster response agencies and emergency coordinators rely heavily on Amateur Radio operators for communications. Why? Because it works. With frequency allocations spread throughout the RF spectrum, hams can always find a way to establish reliable communications, whether it is across town or around the planet.

Radio amateurs also have the option to use several methods of communication that are not feasible in other services, such as digital modes, sending images, file transfer and more, and are permitted to use much more output power than any other private radio service.

➤ A good plan for emergency communications for boaters includes several methods to contact others, but the best tool will always be a Marine VHF radio.

2. VISUAL COMMUNICATIONS

Anything that will attract the attention of others can be used to signal for help. Smoke, fire, flares and lights can be seen for miles.



Our communications plan should include items that will fill this need, and when possible these items should be carried directly on our person. In the event other means carried in a backpack are lost, or the radio batteries have died, this last ditch line of communications must always be available.

2.1. SIGNAL FLARES: Flares are available as highway flares, flare guns or specialty shotgun ammunition. Distress flares fired up into the sky, day or night, can be seen for several miles. Highway flares will light up a large area and are very good at starting fires in damp or wet conditions.

2.2. SIGNAL FIRES: Fires produce smoke during the day and light when it's dark. Dead, dry flammable materials thrown on a fire produce bright flames, while green or damp material produces more smoke. Three fires close together are considered a distress signal.

◀ Pyrotechnic flares can be seen from miles away. Just be sure to keep them away from flammable substances.



2.3. SIGNAL MIRRORS/FLASHLIGHTS: During the day, as long as there is some direct sunlight, it is hard to beat a good signal mirror for getting the attention of someone on a distant ridge or in a boat or aircraft. Of course, there are some things that have to be in your favor, such as direct sunlight coming from an angle between you and your rescuer and nothing that would block the light between the two of you. Flashlights can perform the same duty at night.

2.4. HAND SIGNALS/GESTURES: In close proximity, tactical hand signals are used by military and some law enforcement agencies to silently convey information and commands to their teams in situations that preclude the use of sound. American Sign Language allows detailed conversations to take place without a spoken word. Both of these skills would be worth learning.



◀ Above: A signal mirror and emergency whistle should already be part of your everyday kit.

➤ Right: Signal mirrors are included in life raft survival kits. They should be in yours, too. (Photo courtesy acratex.com.)



◀ FRS/GMRS radios are terrific for family outings, hiking and day trips, but their limited range means you need to stay fairly close to maintain contact.

3. AUDIBLE COMMUNICATIONS

Whistles, gunshots and air horns can be heard from great distances when visual sighting would be impossible.

3.1. SIGNAL WHISTLES: Losing one's voice from continuously shouting for help happens quite fast – having a whistle that is loud and shrill will not only save your voice, but can be heard much farther away. Many survival whistles available today will still produce a loud sound even when the user is too fatigued to give a stout blast. Some are just ear-splittingly loud when used at full force!

3.2. GUNSHOTS/CAR/AIR HORNS: In the United States, three gunshots or horn blasts in rapid succession are recognized distress signals (six shots/blasts in the UK and European Alps). Even in heavily wooded areas, the sound of a gunshot will carry a considerable distance.

Visual and audible communication methods are very effective and quite versatile, but they share one thing in common – they require proximity. If you aren't within sight or hearing distance with the other person, they don't work. **ASG**

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COMMUNICATION CRIB NOTES

TIPS AND TRICKS TO KEEP YOU IN TOUCH

BY: JIM JEFFRIES

For most of us, our cell phone is the most common comms platform we use and it provides all the communications we could possibly need; voice communications with our friends and family; instant messaging or texting; email; keeping tabs on the location of others – in real time no less; email and Internet access. Ever present and all powerful, the smart phone today does it all...until we lose the signal. Then what?

When phones are no longer an option, we'll be looking for the best all-around replacement for staying in touch with others. So, first we'll address the most likely stand-ins that will provide the closest compromise.

1. RADIO

Radio has been around since well before the cell phone and Internet age; today's smart phones are really nothing more than very complicated low power radio transceivers, but unlike their predecessors they are bound to the frail infrastructure. Many of the things we do with our cell phone can be done with the right radio equipment, maybe a bit slower but certainly doable; without any infrastructure.

1.1. CHOOSING A RADIO

There are many possibilities when it comes to radio. Simple short-range communications can be accomplished with FRS/GMRS radios; around-the-globe contacts are possible with a decent HF ham radio. One is as simple as popping in some batteries and turning it on, while the other requires possessing a somewhat complex skill set.

The main factors in selecting a radio are:

- How you intend to use it
- What you expect out of it
- What is expected of you

1.1.1. DISTANCE CONSIDERATIONS

1.1.1.1. UP TO A FEW MILES

VHF and UHF frequencies are great for short distances, with UHF having an edge in urban areas. The shorter wavelength of UHF is better at slipping through openings in and between buildings whereas VHF is often better in rural or wooded settings. As mentioned, FRS is reliable to one half mile at most, less in wooded or hilly terrain. GMRS radios and MURS may work; however terrain obstructions may be an issue.

1.1.1.2. GREATER THAN 10 MILES

VHF is the way to go for moderate distances. One hundred miles is normal for a powerful VHF base station and with proper antennas and placement, distances of over 200 miles between similarly well-equipped stations is possible.



1.1.1.3. ACROSS THE COUNTRY

Distances beyond 200 miles can be reliably accomplished with an HF radio, but are too far beyond the line of sight horizon for earth-bound VHF and UHF radios.

1.1.2. PORTABLE, MOBILE, OR STATIONARY USE?

1.1.2.1. PORTABLE

These are usually handheld transceivers, like walky-talkies. They have an attached battery and either a fixed or removable antenna. Handhelds provide the most freedom of movement, but are low powered.

1.1.2.2. MOBILE

Mobile radios are designed to be installed in a vehicle and derive their power from the auto's electrical system. Installation in a vehicle allows you to choose from many different types of antennas that can be connected. Mobile transceivers are typically much more powerful than portable stations and are often used as a base station.

1.1.2.3. BASE STATIONS

Base stations are sometimes too large and cumbersome to carry around or install in a vehicle. Many can be battery powered, like a

> Above: Off grid communications does not require much to accomplish very advanced tasks. Voice comms. Text messages. Send photos. Check the weather. Email - this station can do it all anytime, anywhere.

> Right top: A VHF-UHF handheld radio is at home in whatever environment you may find yourself. Cityscapes and farmlands are no problem for the versatile Yaesu FT-60.

> Right: HF communications are possible between two stations that can't "see" each other directly, due to distance only, because of the way the radio signals reflect off of the upper layers of the earth's atmosphere. The Yaesu FT-857D can do this as well as the shorter range VHF and UHF communications.



mobile, but very high powered base transceivers may require household AC power. Because they are larger, with room to spare for additional circuitry, base station transceivers often have more features than would fit in a portable or mobile radio.

1.1.3. LICENSE REQUIREMENTS FOR EACH SERVICE LEVEL

1.1.3.1. LICENSE-FREE

The license-free radio services such as FRS and MURS are intended for short-range personal communications and have low power output limits.

1.1.3.2. GMRS

GMRS allows up to 50 watts of power output and is vastly superior to FRS. The current FCC license fee for GMRS is \$70 for five years, covering you and your immediate family.



< Believe it or not, there are over a dozen separate radio services covered between these seven handhelds.



more current than a single small battery can provide; connecting multiple batteries in parallel will increase available current.

1.1.4.2.3. BATTERIES FOR FIELD STATIONS

Spill-proof sealed lead acid (SLA) and absorbed glass mat (AGM) are perfect for field use, but because they contain lead they are heavy. Common sizes, based on storage capacity, are seven to twenty ampere hours (Ah).

Advanced lithium-ion batteries are safer, lighter and quite suitable for communications use.

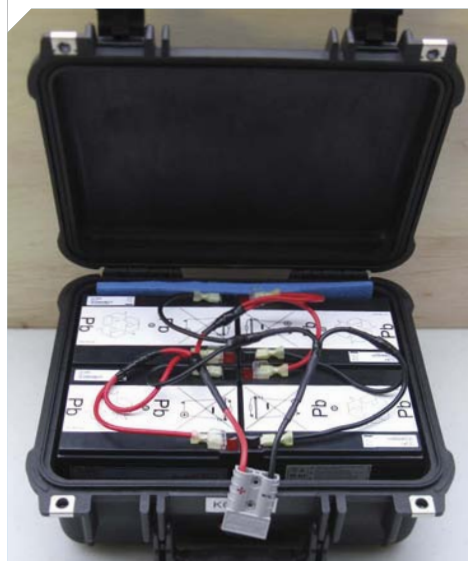
1.1.4.2.4. BATTERY SAFETY AND CARE

1.1.4.2.4.1. Never short a battery's terminals. Even small 12 volt batteries can provide a huge instantaneous current.

1.1.4.2.4.2. Always read and follow the manufacturer's instructions, recommendations and warnings concerning the charge times and storage information for battery packs. Constant or overcharging some battery types can reduce their lifespan.

1.1.4.2.4.3. Don't mix different types of batteries. Lead acid and lithium batteries have very different charge and discharge characteristics – mixing them within the same circuit can be disastrous.

1.1.4.2.4.4. To get the most life out of any rechargeable battery, avoid discharging it too deeply. A lead acid battery is considered DEAD at 11.8 volts! Unless it's an emergency, stop using it before it gets that low.



1.1.3.3. HAM RADIO

Ham radio has three different license levels, and requires you to pass a multiple choice exam for each.

1.1.3.3.1. TECHNICIAN

The entry-level Technician license gives you mostly local capability. It requires passing one 35-question exam that covers radio theory, regulations and operating practices. Technician level licenses allow access to all North American Amateur Radio frequencies above 30 megahertz. It also allows limited privileges on the HF (Short Wave) bands used for international communications.

1.1.3.3.2. GENERAL

You will need at least the General license to truly take advantage of what ham radio can provide: national and global communications. The General class license allows some operating privileges on all Amateur Radio bands and all operating modes. To earn the General class license, you must pass another 35 question examination in addition to the exam for the Technician level.

1.1.3.3.3. AMATEUR EXTRA

The third, and highest level is the Amateur Extra license and conveys all available U.S. Amateur Radio operating privileges on all bands and all modes. Earning the license is more difficult as it requires passing a thorough 50 question examination as well as passing the Technician and General exams.

1.1.4. POWER CONSIDERATIONS

For your communications plan to work in any situation, don't count on power from your local utility company. Battery power has to be

one of the primary considerations, preferably rechargeable types.

1.1.4.1. RADIOS WITH CHARGING CRADLES

1.1.4.1.1. CONNECTING TO 12 VEHICLES

Mobile radios typically depend on the vehicle's electrical system. Some charging cradles have a 12 volt DC input jack. These can be connected directly to a suitable battery to recharge the pack.

Some mobile radios can draw considerable current when operating on high power. Direct connection to the battery post terminals is preferred, but be sure to install fuse protection close to the battery. Temporary installations can be powered from the vehicle's 12 volt accessory outlet, but operate the radio at lower power to avoid blowing the outlet's fuse.

1.1.4.2. BATTERY POWER

1.1.4.2.1. BATTERY PACKS

Optional alkaline battery packs may be available and will keep the radio operating when there is no time or resource to recharge; be sure to carry plenty.

1.1.4.2.2. BATTERIES FOR BASE STATIONS

Some base station radios can operate on 12 volt power sources. If the station won't be moved, large deep cycle (Boat/RV) lead acid batteries can provide long operating time.

For field operation, they can be powered in the same manner as a mobile transceiver. Operating them at high power may require

◀ Above left: Having the ability to recharge a radio in the field is crucial for long stays in the backwoods, for whatever reason. The optional "AA" alkaline battery pack takes up very little room in your pocket or pack, handhelds.

◀ Above: Drawing power from the truck's 12 volt DC accessory outlet, this temporary installation will work fine as long as the radio does not draw more than the circuit can handle. This FT-8900 can be swapped from one vehicle to another in seconds!

➤ Right: The AGM (Absorbent Glass Mat) battery pack: Four 12 ampere hour batteries can provide well over 25 amperes with very little voltage sag. One of these batteries by itself would have a hard time providing more than 15 amps without considerable sag.

1.1.4.2.4.5. Use a good battery charger with multiple-stage charging capability (Bulk and Float at the minimum) for wet cell, SLA and AGM batteries. These batteries can also be charged directly from an automobile's charging system.

1.1.4.2.4.6. Lithium batteries have different charge parameters than do lead acid. Read the instructions that come with the battery!

1.1.4.2.4.7. Running out of battery power will put the radio out of commission, so be prepared to connect to any available suitable power by having battery terminal clamps, accessory outlet adapters and wire extenders in your pack.

1.1.4.3. SOLAR POWER

Adding solar power can greatly extend operational time.

1.1.4.3.1. Solar power systems consist of panels, a charge controller and storage batteries. A battery must be connected to the charge controller to prevent damage to the controller's circuitry. Your radio equipment can connect to the battery while it is charging.

1.1.4.3.2. Additional panels and/or batteries can be added to increase charge rate/storage capacity.

1.1.4.3.3. Never connect a solar panel directly to a battery or the equipment to be powered as the high output voltage from the panel can cause damage. A charge controller regulates the voltage to safe levels. Then, with a "Y" splitter, you can operate the radio while recharging the battery.

1.1.4.3.4. In some situations, AC power is necessary. Small power inverters can be connected to batteries and will provide silent power. Power hungry equipment may need a larger inverter or generator. Sensitive equipment may require a more expensive pure sine wave inverter.

1.2. ANTENNAS ,101

Radios must have suitable antennas. There are numerous options for most radios. Most antennas will work fine as long as they are made for the frequency in use.

In the case of a handheld, the one that comes with the radio is fine to get on the air.

A mobile radio needs an external antenna mounted somewhere on the vehicle.

A base station antenna can be very complex and elegantly simple at the same time.

1.3. ADVICE

I'll give you one last tip and my most considered recommendation: seriously consider Amateur Radio. There is no other radio service that even comes close. Find an Amateur Radio Club nearby and attend a couple of their meetings. You'll surely meet someone who will gladly "Elmer" you down the path to reliable, effective and virtually fail-proof communications.

To find clubs in your area, go to www.ARRL.org/Find-A-Club or do a search for "Radio club" and your town. If nothing else, visit an online club like mine – www.FaceBook.com/preppercomms

2. VISUAL AND AUDIBLE SIGNALING

2.1. KEEP THESE ITEMS CLOSE AT HAND AT ALL TIMES

Many of these communication tools are small enough for you to stash them in multiple places, either in kits or on your person.

2.1.1. DISTRESS WHISTLE Be sure you have real signal whistles and not children's noisemakers.

2.1.2. HORNS Compressed gas boating horns can exponentially increase your audible signature.



➤ Above: Different size panels can be used individually, or added together to meet the power requirement of the station.

➤ Right: The ACR Survival Whistle and Signal Mirror combo is the best I have ever seen.



2.1.2. SIGNAL MIRROR These are available in multiple sizes, materials, and with or without aiming method

2.1.3. FIRE STARTERS AND TINDER One of the most important tools to keep on hand, this is essential for multiple uses.

2.1.4. FLASHLIGHT With all the size and function options and price ranges available, there is no reason to be without an illumination tool.

2.1.5. FLARES Incendiary and LED flares are a great addition to your kit and many of the electronic models have multiple color or strobe pattern options.

3. CONCLUSION

No matter what methods you include in your Communications Plan, they are meaningless if you don't get out and practice – know their limits as well as their capabilities so there are no surprises when you need them most. **ASG**

◀ The author's own base station antenna is both simple and effective at reaching out to great distances.



COMMS TECH THAT KEEPS YOU CONNECTED

SELECTED TOOLS OF THE TRADE FOR STAYING IN TOUCH

BY: JIM JEFFRIES

Whether you're part of a group that's spread over a wide area or you need to be able to signal a rescue team when they draw near, communications devices and methods play a key role in your survival plan.

This roster of products includes gear that will help you communicate with others who are nearby or all the way across the globe. Knowing what you may need before you need it is at least half the battle. Take a look and see how your signals stash matches up.

1. FRS/GMRS COMBINATION RADIOS

These little radios are sold in many chain, sporting goods and discount stores, and they can be very handy for short range communications. They are good on playgrounds and small campgrounds, but don't bet your life on them if you are planning to go very far off the beaten path.

Usually sold in pairs; some with rechargeable batteries, others use AAA or AA alkaline batteries.

While there are some good quality models available from well-known manufacturers, most FRS/GMRS combo radios are very similar in respect to their capabilities. There are a couple of things to be aware of:

- The packaging may claim ranges from 20 to 35 miles, but real-life ranges are far less
- The term "Privacy Channels" only means you won't be annoyed by others using a different privacy code on the same channel – it does not mean your conversation will be private!

1.1. Midland X-Talker T10

A good low-cost, reliable model that has the basic features you need to stay in touch. Call Alert notifies you of incoming calls from other members of your group, and eVOX allows easy voice activation.

Specs and Features

- Stated range: Up to 20 miles
- 22 channels/38 privacy codes
- Uses three AAA batteries (not included)
- Weather alert
- Water resistant
- Dimensions: 5.5 inches high, 2 inches wide and 1.2 inches deep

www.MidlandUSA.com

MSRP: \$29.99 (Pair)



1.2. Motorola Talkabout T460

With a longer stated range and additional features, like an LED light and rechargeable batteries, the T460 is a solid value and handy comms tool.

Specs and Features

- Stated range: Up to 35 miles
- 22 channels/121 privacy codes
- Includes NiMH rechargeable batteries, will accept AA alkaline
- Weather alert
- IP54 weatherproof design
- Dimensions: 7.54 inches high, 2.26 inches wide and 1.37 inches deep

www.MotorolaSolutions.com

MSRP: \$79.99 (Pair)



2. GMRS RADIOS

Get the most out of the GMRS channels with real GMRS radios, not the FRS/GMRS combos.

2.1. TERA TR-505 GMRS Recreational Handheld Radio

Powerwerx is one of the few companies that manufactures these radios, and they are very good quality. The radio provides 15 GMRS direct handheld to handheld UHF channels out of the box and can be upgraded to access MURS VHF channels with the purchase of their USB programming cable.

Specs and Features

- Stated range up to 10 miles (UHF)
- 15 pre-programmed GMRS channels
- Lithium-ion battery and charger included
- 4W/1W selectable power settings
- Rugged design, 1 year warranty

www.Powerwerx.com

MSRP: \$99.99 (Each)

USB Programming cable

MSRP: \$19.99

3. MARINE VHF RADIOS

Use the right tool when you're out in the ocean. Marine VHF radio is the only service you can count on when you're outside the breakers!

3.1. Icom Marine VHF M424G Transceiver

The M424G is a fixed-mount VHF/DSC transceiver and includes an integrated GPS receiver to allow current position and time to be used for DSC calls. It features a white backlight LCD that improves visibility and also comes with their HM-205B speaker-microphone with a large speaker.

Specs and Features

- Built-in GPS gives your position on screen
- Instant access to NOAA weather frequencies
- IPX7 waterproof rating (submersible 1m/30min)
- 25 watt output power on High
- Usable channels: USA, CAN, INT, WX
- Built-in horn (through 10W PA output)

www.IcomAmerica.com

MSRP: \$349.99



3.2. Standard Horizon Explorer GX1600 Transceiver

The GX1600 packs a lot of features and capabilities into a small package and is well suited for easy and convenient mounting. The display is large and easy to read, and the ClearVoice noise reduction technology cleans up distracting background noises to improve transmissions.

Specs and Features

- GPS-compatible
- Includes DSC distress function
- Power output: Selectable 25W and 1W settings
- Includes USA, Canada and international bands
- Instant access to NOAA weather with alert
- Dual channel watch, scan

www.StandardHorizon.com

MSRP: GX1600 - \$169.99



4. AMATEUR RADIO

There are so many things you can do with ham radio. While the other services have their benefits, none can match Amateur Radio.

4.1. Yaesu FT-60R Dual-band VHF/UHF

The choice of Search and Rescue teams all over the world! The FT-60R includes wide receiver coverage, outstanding audio quality, the most CTCSS/DCS flexibility in the industry, and an Emergency Automatic Identification (EAI) feature for search-and-rescue work. (Shown with aftermarket antenna.)

Specs and Features

- Ham 2 meter/70 cm transmit capable
- Extended receive coverage: 108-520 MHz, 700-999 MHz (cellular blocked)
- Rechargeable Ni-MH battery
- One-touch access to NOAA weather stations
- Over 1,000 memory channels
- Direct programming through front key panel
- Three power settings up to 5 watts
- SMA antenna connector

www.Yaesu.com

MSRP: \$164.99



4.2. Yaesu FT-270R Amateur 2 meter (VHF) Transceiver

The FT-270R is a compact, high-performance FM hand-held with big audio output (800 mW) and unmatched weather protection. It is water resistant to IPX7 specifications for submersion for up to 30 minutes at a depth of 3 feet. The included 1400 mAh NiMH battery pack provides a long operating time.

Specs and Features

- Transmits on the ham 2 meter band
- 200 memory channels
- Rechargeable Ni-MH battery
- Up to 5 watts output power
- Waterproof and rugged
- SMA antenna connector

www.Yaesu.com

MSRP: \$164.99



4.3. Icom IC-V80HD Amateur 2 meter (VHF) Transceiver

Icom radios are built tough, and the IC-V80HD is no exception. This rugged rig offers water and dust resistance and superior protection, both of which are sure to be factors in the bush. Compact and powerful, this unit is ideal for basic, on-the-go ham operations.

Specs and Features

- Selectable 5.5/2.5/0.5 watt output
- 207 programmable memory channels
- Li-ion battery and rapid charger included
- Rugged construction with IP54 water/dust resistance
- BNC antenna connector

www.IcomAmerica.com

MSRP: \$150



5. AMATEUR MOBILE

5.1. Yaesu FT-2900R Amateur VHF 2 meter Transceiver

The FT-2900R provides high power output with no cooling fan required. Its huge, easy-to-read display and one-touch WIRES internet linking access capability are included in this very rugged unit.

Specs and Features

- Four power settings- 75, 30, 10 and 5 watts
- Massive heatsink means that no cooling fan is required
- Allows a total of 221 memory channels
- One-touch access to NOAA weather channels
- Includes mounting bracket and front feet for base use

www.Yaesu.com
MSRP: \$189



5.2. Yaesu FTM-3200DR Digital/Analog Amateur 2 Meter Transceiver

The digital Group Monitor function automatically checks whether members registered to a group are within the communication range, and displays distance and orientation information for each call sign on the screen. This useful function enables you to see which members are within communication range and it permits you to see where all group members are located. Additionally, this function can be used to send messages and image data between group members.

Specs and Features

- Analog and fusion digital capable
- Selectable power settings to 65 watts
- Front facing speaker for clear audio
- Automatic mode select (FM analog/ C4FM digital)
- Received call sign display (digital mode)
- 220 memory channels

www.Yaesu.com
MSRP: \$189



5.3. Yaesu FT-8900R Quad Band FM Transceiver

The FT-8900R is a ruggedly built, high quality Quad Band FM transceiver. It includes leading-edge features like cross-band repeat, dual receive, VHF-UHF Full Duplex capability and more than 800 memory channels. And its 10-meter FM coverage brings the possibility of world-wide communications to you in your vehicle.

Specs and Features

- 50 watts of power on 29/50/144/430 MHz Amateur bands
- 35 watts of power on 430 MHz
- Wide frequency coverage-
 - 28-29.7, 50-54, 108-180, 300-480 and 700-985 MHz (Cellular blocked)
- Over 800 memory channels
- Cross-Band Repeat capability
- Easy setup for Amateur Satellite operation
- Truly independent two-channel operation

www.Yaesu.com
MSRP: \$389



6. AMATEUR BASE STATION

6.1. Yaesu FT-450D HF/6 meter All Mode Transceiver

This is a compact HF/50MHz radio with tons of features and state-of-the-art IF DSP technology configured to provide world-class performance. Relatively speaking, this is an easy-to-operate package for new licensees, casual operators, DX chasers, contesters, portable/field enthusiasts and emergency service providers.

Specs and Features

- Covers all US Amateur HF bands and 6 meters
- Includes all modes: AM/FM/SSB/Data/CW
- Built-in CW Keyer for Morse code
- Power adjustable from 5 to 100 watts
- Built-in antenna tuner (SWR 3:1 max mismatch)
- 12 Volt DC power input, 25 amp max at full power
- Multiple rear connectors for accessories/PC control

www.Yaesu.com
MSRP: \$759



6.2. Icom IC-718 Amateur HF Transceiver

The HF bands allow you to communicate over long distances, even to the other side of the world. With features such as wide dynamic range, high S/N ratio and full duty operation you will find it easy to reach out over great distances. The IC-718 combines the latest RF and digital technology, along with its smaller size and simplified operation.

Specs and Features

- Guaranteed coverage range: 0.5-29.999999 MHz
- Built-in USB, LSB, CW, RTTY (FSK) and AM modes
- Front mounted speaker
- Built-in CW keyer
- 101 memory channels
- VOX operation
- Automatic notch filter

www.IcomAmerica.com
MSRP: \$699



7. ALL BANDS, ALL MODE TRANSCEIVERS

Ideal for Base or Mobile Amateur Stations, these units are robust enough and packed with features you can take advantage of in the field or from a base.

7.1. Yaesu FT-857D All HF Bands Plus 6m/2m/70cm

The FT-857D is touted as the world's smallest HF/VHF/UHF mobile transceiver. It provides base station-level performance from a very compact package that is applicable to use in mobile or portable external battery situations. It has wide frequency coverage, great receiver performance and allows the use of optional remote-head operation.

Specs and Features

- Big capabilities in a small size
- Rugged construction for mobile use
- 5-100 watts HF/6 meters 5-50w 2m, 20w 70cm
- AM/FM/SSB/CW/Data modes
- Built-in CW keyer
- Dual antenna connectors

www.Yaesu.com
MSRP: \$849



7.2. Icom IC-7100 All HF bands plus 6m/2m/70cm

This innovative unit features a unique glove-friendly touchscreen display that allows quick operation of various functions. The angled radio control head has a dot-matrix LCD display that is positioned for easy view and operation. The control head's rear panel includes an internal speaker plus jacks for external speaker/headphones, CW key and microphone.

Specs and Features

- Angled control face with touch-screen control
- Max output 100 watts HF/6m, 50w 2 meters, 35w 70 centimeters
- D-Star DV ready
- Built-in RTTY demodulator and decoder
- 495 regular memory channels

www.IcomAmerica.com
MSRP: \$1,600



8. FULLY EQUIPPED AND READY-TO-GO KIT

Preassembled communication kits from World Gone Silent include everything necessary to get on the air. With these cell-phone sized amateur radios you can keep in touch with others up to dozens of miles away by using "repeaters." These powerful stations are built by avid volunteers to boost their signals and send them out in all directions. Repeaters are often installed at the highest point in the area, ensuring that you'll be able to communicate over larger distances.

We tested these kits from WGS in the February issue of "American Survival Guide," and they are good to go. Additional kits are available on the World Gone Silent website.

8.1. WGS Ham Radio Deluxe Kit

The most valuable component in these kits is the expert knowledge contained in the Quick Start manual. With the instructions provided, no experience is necessary to get on the air in an emergency. Includes two subscriptions to Ham Test Online to learn the material and get licensed.

Specs and Features

- Pre-programmed BaoFeng radios with upgraded antennas
- Two (6) AAA battery cases
- Programming cable has been quality tested
- Includes military-style backpack
- This complete kit will serve two persons

www.WorldGoneSilent.com
MSRP: \$319



8.2. WGS Repeater Pack with Yaesu FT-8900

This pack gives you the ability to set up your own cross-band repeater system to greatly extend your communications range.

Specs and Features

- Yaesu FT-8900R Transceiver (repeater or mobile/base use)
- Four pre-programmed BaoFeng VHF/UHF handheld radios
- Antenna coax cable and roll-up Slim Jim antenna
- 12 volt SLA battery and charger
- Quick-start manual
- Discrete carry bag and belt pouches for radios

www.WorldGoneSilent.com
MSRP: \$899

8.3. WGS Portable HF Case featuring the Yaesu FT-857D

This HF case has all that's needed to use frequencies that circle the globe. The rugged aluminum travel case cradles the Yaesu FT-857 transceiver with 100 watts of power to connect you to all the HF bands and more local VHF and UHF frequencies. It also houses the battery, charger, and all the required cables and connectors.

Specs and Features

- Yaesu FT-857D transceiver
- LiFePO battery with charger
- Coaxial antenna feed line
- SOTA Beams superlight dipole antenna for 20 and 40 meter bands
- Roll-up Slim Jim antenna for VHF/UHF bands
- Full color instruction manual written by Chandler Friedman
- Manufacturer's user manual
- Ham Test Online subscription for both the Technician and General license exam study materials
- Also available in a rugged backpack

www.WorldGoneSilent.com
MSRP: \$1399



9. VISUAL/AUDIBLE SIGNALING DEVICES

Flares and flare guns are available from retailers that specialize in boat accessories, and that is where I recommend purchasing those type items. This way, you can be sure of the quality and condition of what you are putting in your kit. These devices have expiration dates, so it's best to buy them in person to ensure you're getting fresh products and to avoid hazardous-material shipping upcharges.



9.1. ORION Hand-Held Marine Smoke Signal

The ORION orange smoke hand-held marine signal is intended for daytime signaling on the water. A single-use pyrotechnic device, it produces a large amount of smoke that is readily visible from the air or other vessels.

Specs and Features

- US Coast Guard approved for marine use
- Burn time: 1 minute
- Visibility: 5 miles
- For use when aircraft or vessel is sighted

www.OrionSignals.com

MSRP: \$29.99



9.2. ORION Pocket Rocket Signal Kit

Designed for day or night use at sea or on land, this kit includes three meteor cartridges and a reusable hand-held launcher in a floating waterproof container. Perfect for carry in a backpack, PFD pocket or tackle box.

Specs and Features

- Red day or night aerial distress signal
- Reaches altitude of up to 300 feet
- Brightness: Up to 10,000 candela
- Burn time: 6.5 seconds
- Made in USA

www.OrionSignals.com

MSRP: \$24.99



9.3. ORION 12-Gauge Aerial Flares

Designed for use in 12-gauge flare guns for signaling at sea or on land. Packaged in a re-sealable plastic bag. Not intended for use in 12-gauge firearms. US Coast Guard approved for day or night signaling.

Specs and Features

- Reaches as high as 500 feet
- Brightness: 16,000 candela output
- Burn time: 7 seconds
- Made in USA

www.OrionSignals.com

MSRP: \$34.99



9.4. ORION Coastal Alert/Locate Signal Kit

Designed for maritime use, this signal kit includes aerial, handheld and smoke pyrotechnic devices for daytime and nighttime alerting and locating. It is a good kit for coastal and inland vessels. Packaged in a high-visibility floating neoprene case. Exceeds US Coast Guard requirements.

Specs and Features

- 12-gauge safety launcher is corrosion resistant
- Includes four 12-gauge flares (rise up to 500 feet)
 - Brightness: 16,000 candela
 - Burn time: 7 seconds
- Four handheld red signal flares
 - Brightness: 700 candela
 - Burn time: 3 minutes
- One handheld orange smoke device
 - Average burn time: 1 minute

www.OrionSignals.com

MSRP: \$129.99

10. PERSONAL LOCATOR BEACONS

Extreme situations call for extreme gear. Sometimes, life-threatening conditions can catch you off guard, with no radio communications and no one to see or hear your call for help.

When you're in a remote area, hours from the closest outpost, and in serious trouble, the best way to connect with assistance is to activate your PLB. It uses satellite technology to emit your distress alert so a Search and Rescue (SAR) team or other emergency responders can be dispatched to your location.



10.1. ACR ARTEX ResQLink+ PLB

The ACR ResQLink+ PLB is designed for those who venture well beyond the beaten path or breakers. Small, lightweight and buoyant, the ResQLink+ fits in your pack, pouch or pocket and is always ready to deploy in an instant.

The ResQLink+ has three levels of integrated signal technology - GPS positioning, a powerful 406 MHz signal and 121.5 MHz homing capability - to relay your position to a worldwide network of search and rescue satellites. A built-in strobe light provides visibility during night rescues.

Specs and Features

- Easy to secure to PFD
- Super bright LED strobe
- Onboard 66-channel GPS
- Self-test and GPS test features
- Typical performance: 30 hours
- Made in the USA

www.ACRartex.com

MSRP: \$269.99

ASB





HEALTHY IS HAPPY

BASIC MEDICAL CONSIDERATIONS FOR THE MODERN PREPPER

BY: WILL DABBS, MD

The trip into the wilds of Alaska had been months in the planning. A once-in-a-lifetime undertaking, the entire package had cost as much as a decent car. The insertion required three full days of motoring along ever-smaller Alaskan waterways in a boat to reach some world-class Northern Pike fishing. While cleaning dinner the first night in camp, our hero slipped with his filet knife, opening up the palm of his hand like a baked potato.

Unable to manage the injury on-site, the party reluctantly backtracked to civilization. The Fairbanks ER physician repaired the wound in less than 20 minutes. The man left Alaska dejected, disappointed and discouraged. Under darker circumstances, the cost could have been infinitely greater.

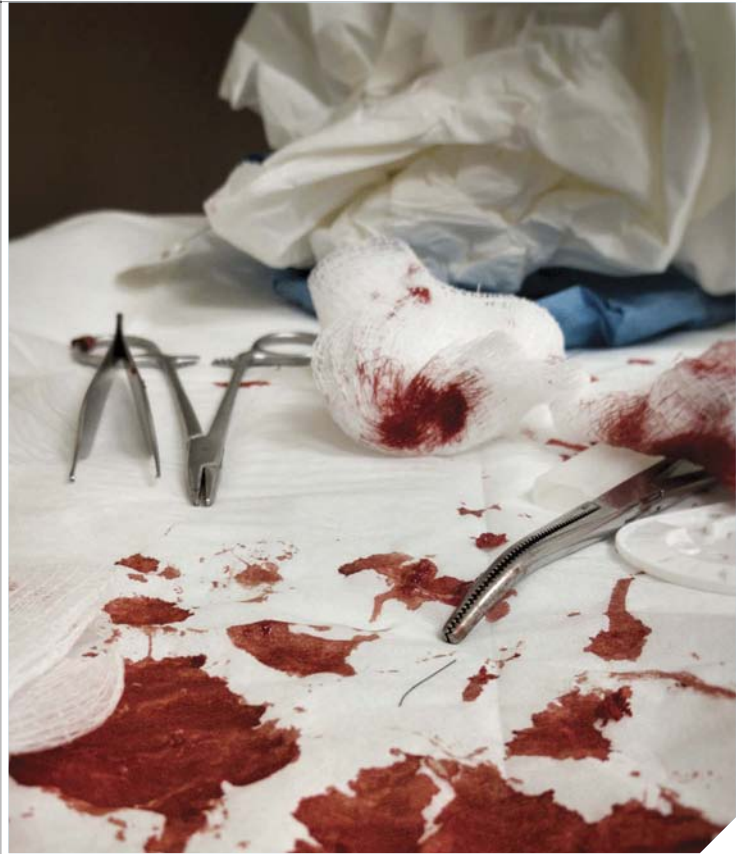
1 TRAUMATIC INJURY

■ When a ride to the ER is no longer an option, it becomes more important to know how to respond to and treat a multitude of traumatic and common injuries and illnesses. With some solid knowledge, a bit of training and the right equipment available, you will be able to handle more than you think.

1.1. GUNSHOT WOUNDS (GSWs): Gunshot wounds frequently look horrible, and when they don't look horrible, they often still are. Calm down and think. You can panic later when the crisis has passed. Most of the basic dogma concerning the management of GSWs applies to lacerations as well as penetrating trauma from other sources (e.g. blades, sticks, antlers, etc.)

1.2. KEEP THE PATIENT BREATHING: If the wound is to the face or neck you must clear the airway. Improvise a tube if necessary. This is potentially a do-or-die problem. If there is penetrating trauma to the chest, appreciate that the chest is a bellows. It functions via negative pressure. If you get a hole in the bellows such that air can enter from anywhere other than the top, the system will eventually fail. Be ready to seal penetrating chest trauma with an occlusive dressing to buy time. Entrance wounds frequently sport corresponding exit wounds.

◀ Right: Blood works better inside the body. Address bleeding wounds quickly and effectively.



◀ Below: What looks minor on the outside could be significant on the inside.



1.3. BEWARE THE TENSION PNEUMOTHORAX: If too much air escapes into the chest cavity from a perforated lung, the resulting pressure can compress the opposite healthy lung and interfere with breathing even if the external wounds are sealed. Signs can include severe shortness of breath, a lack of breath sounds on one side, unequal chest expansion, bulging neck veins, and blue lips or fingers.

Treatment involves relieving the pressure. Crack open your chest seal and see if air flows out or sucks in. The situation is dire at this point. Definitive treatment will inevitably be in a hospital with a chest tube.

1.4. CONTROL THE BLEEDING: This invariably starts with direct pressure. A healthy adult human has about 5 liters of blood. Lose about 1 liter and you compromise effectiveness. Lose about 2 liters, and it becomes lethal. That's a 2-liter cola bottle. Keep that in mind as a reference.

Arteries are high-pressure vessels that go away from the heart. Veins are low-pressure vessels that lead back to the heart. A little anatomical knowledge can go a long way. Learn roughly what runs where.

A teenaged friend saved another kid's life by shoving the finger of a glove into a neck wound after he was accidentally shot with an arrow. Tourniquets have saved a lot of lives over the centuries, but it is best to understand how and why they work before you slap one on.



1.5. MANAGE SHOCK: In the near term, this is as simple as keeping a patient warm and dry while maintaining blood in the torso. Keep the patient calm and treat their injuries as you are able. In the absence of orthopedic damage, simply elevating a patient's legs can be helpful when blood pressure drops.

1.6. MINOR WOUNDS: "Dilution is the solution to pollution." Irrigate the heck out of a wound with something clean and wet to help prevent infection. Basic suturing isn't terribly difficult, but you'll need a medical provider to teach you and provide access to the materials. Find a physician. Make a friend.



◀ Left: CPR is a basic, easy and essential first aid skill to learn. Check locally or online for classes provided by the American Red Cross or American Heart Association.



▶ Right: Irrigate open wounds to ensure they are clean before attempting to close them.



2. BROKEN BONES AND SPRAINS

There is a wide range of types of breaks and sprains, and care should be taken to properly evaluate and treat each specific injury. Resist the impulse to think of sprains as minor injuries that can be "walked off." Left unattended, some can develop into longer-lasting issues that will undermine your ability to perform at the level you will need in survival situations.

2.1. MOVEMENT: Don't let it move if you can help it. Grossly angulated limbs in an austere environment must be manipulated to facilitate transport, but be careful. Jagged bones can cut vessels if they are wiggled improperly or unduly. Try to keep everything pointing in the same direction God put it in the first place.

2.2. STABILIZE THE INJURY: Splint a sprain or fracture to maintain it in place until you can find help.

2.3. RICE: Treat sprains and fractures with Rest, Ice, Compression and Elevation. Do the best you can in a primitive environment.

◀ Left: X-rays, which you probably won't have access to, show that this wound could have been much worse.



◀ Left: Eye injuries are a constant hazard, especially when you're operating "off the beaten path". Get and use eye protection at all times.

◀ Below: These significant wounds look superficial but should be checked to ensure they're not more serious than they appear.

3. EYE INJURIES

Eye injuries are among the most preventable. By simply wearing good quality impact-rated eyewear (certified to meet ANSI Z87.1-2003 or -2010 or Military standards) you can protect your eyes from debris, damaging UV radiation and bright sunlight and glare. Basic protection can cost as little as a few dollars, but don't be afraid to spend some money to protect your vision.

3.1. CORNEAL ABRASIONS: These can range from scratches with a fingernail, to sand contamination, to the ever popular being poked in the eye with a stick. Corneal injuries are uniquely painful and will leave

you light sensitive. Irrigate the eye very gently with clean water if foreign material is suspected. Do not apply pressure and do not patch the eye. Bacteria and fungi love warm dark places.

3.2. CORNEAL BURNS: Alkali injuries such as toilet or oven cleaners or chalk dust are typically more dangerous than those caused by mild acids. All chemical injuries will cause redness and pain. Vigorously irrigate a contaminated eye with clean, mildly warm water for an extended period. With all eye injuries, seek medical help if pain persists, serious injury is suspected or visual acuity is markedly affected.





4. HEAD INJURIES

Your head is very important. A serious head injury in a remote environment means your day will be extra sucky.

In many cases, living in survival mode means performing physical tasks that increase the risk of head and other injuries. Borrowing from the old carpenter's adage of, "Measure twice, cut once," think twice before you engage in any activity that can result in serious injuries.

4.1. OPEN HEAD WOUND: An open head wound means the skull is compromised. Do not wash a head wound that is deep or bleeding vigorously. Do not apply pressure or remove foreign material if a skull fracture is suspected.

4.2. CLOSED HEAD INJURY: Closed head injuries occur when the brain is shaken but the skull is intact. A concussion is the most common form of closed traumatic brain injury.

4.3. SIGNS OF HEAD INJURY: Indicators of a serious head injury include sleepiness, abnormal behavior, unequal pupils, inability to move a limb, loss of consciousness, severe headache, stiff neck or vomiting.

4.4. TREATMENT: Try not to move a patient with a head injury if possible. Avoid alcohol for at least 48 hours after any suspected head injury. Do not remove a helmet when a head injury is suspected. Get help as soon as possible.

◀ Above: This patient's head injury is being treated by a nurse after being brought to the hospital by paramedics.



➤ Right: After falling and hitting his head, the gash in this man's forehead was sewn closed and he is being observed for a concussion or other possible head injuries.

5. SUNBURN

Sunburn is a form of a radiation burn that results from having too much exposure to ultraviolet rays, whether it's hot out or not. In addition to the hot painful red skin we're all familiar with, it can also cause mild dizziness and general fatigue.

5.1. AVOIDANCE TRUMPS

TREATMENT: Wear a hat, long pants and sleeves in bright places. Use sunscreen whenever excessive sun exposure is a possibility. The worst sunburn the author ever had was to the bottom of his chin and nose from sunlight reflected off of snow. Water and other highly reflective surfaces can be just as harmful.



◀ Above: It's not uncommon for people to forget to apply sunscreen to their feet, resulting in burnt and swollen feet.

◀ Far left: Peeling skin after a sunburn is an indication that the skin is beginning to heal.

◀ Left: Applying a lotion can help relieve the pain, swelling and discomfort of sunburn and peeling skin.

◀ Below: If a heat-related injury is suspected, rest and begin hydration immediately and, if possible, move out of the sun.



6. HEAT INJURIES

Heat injuries occur when your body cannot regulate its temperature or when you are dehydrated or suffering from salt loss. Other causes include overexertion, exposure to excessive sun or an environment of high heat and humidity that reduces your body's ability to expel excessive heat. Being overdressed, especially in dark or tight clothing in hot weather, can also cause heat-related issues.

6.1. RECOGNIZE THE SYMPTOMS.

Dizziness, extreme thirst, fatigue, headache, weakness, and vomiting mean trouble is coming. Confusion and, sometimes, a lack of sweating mean things are desperate.

6.2. TREATMENT:

Loosen clothing, move to the shade, rest, and hydrate orally if conscious. Diligently hydrate at all times when in the field regardless of whether it is hot or cold.



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CAPTIONS (clockwise from top left) Retired Green Beret Craig Connor on right and Retired Green Beret Master Sergeant Brian Morris on left carry a human litter down a mountain inside in NC • Brian Morris is a retired Special Forces Master Sergeant and the Lead Instructor and Producer of American Survival Guide University • Retired Green Beret Craig Connor on the gun. Retired Green Beret Command Sergeant Major Brian Berry instructing • Retired Green Beret Captain Mykel Hawke cuts his way out of the bush in the Florida Everglades • Retired Sergeant Major EJ "Skull-Crusher" Snyder carves a spear out of a stick

<https://asgu.asgmag.com>



7 ANIMAL BITES

■ Animal bites are very common but, in a survival situation, you may not have the materials or treatment options that are available to you under normal circumstances.

With an estimated 4.7 million annual bite injuries in the US just from dogs, you should plan to have knowledge and supplies available for treating animal bites, especially since you may be encountering more wild animals in a true SHTF environment.

7.1. INFECTION PROTECTION. Irrigate the wound thoroughly and consider antibiotic prophylaxis. You'll have to hit up your new physician friend for the proper medicines. Some animal bites should be cleaned but left open to heal if the wound is stable, bleeding is controlled and the concern for infection is high.



◀ Above: In the US, dogs account for an estimated 4.7 million bites per year, most of which are suffered by children.

➤ Right: Poison ivy growing up a tree. Learn what this plant looks like and save yourself a lot of pain and aggravation.



8 BUGS AND ALLERGIC REACTIONS

8.1. AVOID IF POSSIBLE. Insect repellent and bug nets and good clothing coverage are your buddies. Keep Benadryl in your kit in case you do have a reaction to a bite or sting. Topical steroid cream can potentially make an intolerable situation tolerable. Maintain a stash of Epi-Pens if there is any concern about a catastrophic systemic reaction.

8.2. LEARN YOUR POISONOUS PLANTS. Clusters of three leaves are frequently bad. Yes, the author has treated a young man who wiped his butt with poison ivy. **ASG**

◀ The yellow fever mosquito can spread dengue fever and a host of other baddies. The less skin you leave exposed the better off you'll be when combating biting bugs.

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HINTS FOR STAYING HEALTHY

KNOWLEDGE, ADEQUATE SUPPLIES, AND CREATIVITY CAN KEEP YOU IN GOOD SHAPE

BY: WILL DABBS, MD

Mankind has had millennia to study human physiology and learn how to manage medical problems. The absolutely breathtaking volume of erudition accumulated on this subject is the reason medical school is such a uniquely wretched experience. Sometimes, however, a little basic knowledge can allow the layman to greatly improve an injured person's lot and prospects.

1. MANAGING TRAUMA

Traumatic injuries will occur in the field, especially if you're operating under survival conditions. If you don't have the skills to handle these events, get them, or make friends with someone who does.

1.1. CHEST WOUNDS

Most likely from projectiles, chest wounds should be taken seriously and provisions made for dealing with them, either on your own or within your network.

1.1.1. Chest Seals. You need something plastic that will not pass air. Purpose designed chest seals are inexpensive, readily available, and designed to adhere, even around blood and gore. Chest seals can be improvised out of plastic wrap, garbage bags, or any similar plastic sheeting. Secure this material with duct tape or have someone hold it in place to prevent air leakage. The plastic packaging your dressings came in can do in a pinch.

Sealing penetrating trauma to the chest will just buy time. That person must get to a hospital, but sealing the chest can still make a big difference.

1.2. BANDAGES AND WOUND MANAGEMENT

There is more to this than the basic materials found in most home first aid kits. Being pre-

pared for more complicated and advanced injuries will pay big dividends in the long run, especially since you may not be able to make do with what may be on hand when the need arises.

1.2.1. Tourniquets. The tourniquet is a staple for hemorrhage control on extremity wounds. You can improvise a tourniquet out of most any cord or cloth and a small stick. Use a tourniquet to either buy a little time to get to help or if the risk of blood loss outweighs the risk of further limb damage.

Apply the tourniquet between the wound and the heart and use the stick to twist it tight. Do not apply a tourniquet over a joint. Once the bleeding has stopped secure the stick in place and note the time of application.

1.2.2. Hemostatic Agents. These products employ a material called chitosan, a form of sugar, made from highly refined shrimp shells. This stuff gels in the presence of blood, enhances clotting, and helps staunch bleeding. It is safe, easy to use, and does not cause allergic reactions, even in those sensitive to shellfish.

Hemostatic agents do not slow wound healing and can be used on both minor and major wounds without causing additional harm. This material comes in powders and

granules, but the easiest to use are impregnated dressings or sponges. Simply mash this dressing into a wound to promote clotting. The surgeon will get rid of it later. In a pinch cornstarch will substitute.

1.2.3. Improvised Bandages. For minor wounds a good-sized sturdy fresh leaf wrapped around the wound and secured with cord or tape can be surprisingly effective. Obviously, know the sorts of leaves you are using to avoid allergic reactions.

Feminine hygiene products or disposable diapers make excellent improvised pressure dressings as well. Apply the diaper, pad, or tampon over the wound, cover it with gauze or clean cotton material, and wrap the entire affair with cotton strips torn from a clean t-shirt to apply and maintain pressure.

Obtain definitive management as soon as possible, but such stuff as this can stabilize an acute wound safely while buying time.

1.3. IRRIGATION

One of the first steps to ensuring the best possible opportunity for an open wound to heal is proper irrigation. By removing all foreign matter from such an injury, you'll reduce the potential for infection, which can often be more of a threat to the victim than the injury.

1.3.1. Cleaning Open Wounds. Sterile water is best and hydrogen peroxide is a close second. Urine from a healthy person is naturally sterile and comparably effective.

Once a wound is closed, keep it maintained with basic soap and clean water. Though it works well to clean fresh wounds, hydrogen peroxide actually kills healthy cells. Using it on a healing wound can slow recovery.

After a wound is stable for a few days, try to let it air dry so long as it can be kept safe and clean. Keep a wound bandaged any time there is risk of further trauma or contamination.



1.4. BASIC SUTURING

Suture kits are available online as are appropriate surgical instruments. However, injectable Lidocaine is a prescription drug, so you will need access to it through a physician, practitioner, pharmacist, or vet.

While basic suturing is fairly straightforward, managing severe bleeding and avoiding sensitive structures are acquired skills. Know your limitations and don't make things worse. I started out practicing on pig's feet from the supermarket. Just cut them up with a razor blade and sew the wounds back together.

1.5. IMPROVISED WOUND CLOSURE

You may not always have supplies specifically suited to closing wounds. In this case, improvisation is in order and may save the day.

1.5.1. Cyanoacrylate or Super Glue.

When combined with dental floss or similar strands or standard Band-Aids, cyanoacrylate adhesive can add strength to a wound closure.

Clean the wound and meticulously dry the surrounding area. Glue strands of cord to one side of the wound and ensure the glue sets. Then pull the strands gently across the wound such that the skin edges are approximated. Hold these threads in place and glue each one in sequence, maintaining tension until the glue sets. Trim the excess cord ends carefully.

I use sterile cyanoacrylate wound cement at work all the time. Using commercial Super Glue directly on a wound risks sealing in contaminants, so use good judgment.

1.6. IMPROVISED SCALP WOUND CLOSURE

There are ways to treat this injury that may not be found in traditional first aid manuals. As long as they're safe and effective, feel free to use your imagination to create a solution.

1.6.1. The Therapeutic Hair Weave.

Clean the wound well before separating hair on opposite sides of the wound into corresponding long clusters. Tie these clusters in a series of square knots so the hair tension pulls the wound edges closed. A drop of Super Glue on the knots can prevent slippage. A little antibiotic ointment can frequently help with oozing.

1.7. FISHHOOKS

They're not usually serious injuries but being snagged by a fishhook can be trouble de-



› Above: Use of a hemostatic agent in powder, granular, sponge or dressing form can stem the flow of a bleeding wound and buy time for providing appropriate medical attention.

› If needed, personal hygiene products can be used to dress bleeding wounds.



pending on the body part under attack and how you remove and dress the resulting wound.

1.7.1. Fishhook Injuries. I typically consider any fishhook injury contaminated and cover them with antibiotics.

The most common method for removing a fishhook involves cutting the eye of the hook away and pushing the hook through in the direction of the original injury with pliers until it emerges back through the skin.

This procedure is easier with the wound site anesthetized as it can be difficult to get the end of the hook to poke back out of the skin. However, my father, a card-carrying man among men, has

› Right: Fishhook injuries are almost universal among outdoorsmen and, chances are, you'll see and experience more of them if you're depending on fish for a significant part of your protein supply.



◀ Left: Proper application of the tourniquet is crucial to its being effective and not further endangering the health of the casualty.

performed this procedure on his fishing boat on more than one occasion and kept right on fishing.

1.8. NAIL INJURIES

As you perform more manual work and add miles to your day's travel, injuries to finger and toe nails are more likely. Part of prevention is to keep nails trimmed to reduce snagging and a higher risk of splitting or breaking. Keeping nails clean is also a good way to reduce injury-related infections.

1.8.1. Relieving a Subungal

Hematoma. This situation can occur with traumatic injury to a finger or toenail. This injury manifests as a dark area underneath the nail that corresponds to a blood collection. It can be terribly painful.

To treat this injury you must relieve the pressure. Clean the nail well and bore a hole through the affected portion of the nail by either heating up a paperclip and pressing it over the discoloration to melt through the nail or twirling the point of a sharp knife blade until a hole forms.

If done properly, this procedure is painless and offers fast relief. Elevating the finger and applying something cool will frequently make it feel better.

2. ORTHOPEDIC INJURIES

Dislocations and broken and fractured bones are a real possibility when you're roughing it in a survival environment. For those that aren't too complicated or serious, a splint can stabilize injured appendages to reduce the chance of further damage. If you're knowledgeable and skilled, you may be able to set them well enough to forego seeking professional medical help.

2.1. IMPROVISED SPLINTS

There are lots of materials that can work as a temporary splint. Just be sure that whatever you use meets the needs of the injury and the environment.

2.1.1. Field Expedient Splints.

Wrapping an injured limb in one or more magazines (the sort you are currently clutching, not the kind that carries ammunition) or cardboard and securing it with duct tape makes for a decent improvised splint. Belts or large handkerchiefs become arm slings.

Affixing a length of cardboard circumferentially around an injured knee and securing it with duct tape will immobilize the knee

nicely. The same contrivance cut such that it forms a boot underneath and around an ankle and foot immobilizes those joints as well.

Most anything stiff can be used to improvise a splint. Pad the limb well with soft cloth before applying the splint. Apply duct tape as necessary to maintain shape.

2.1.2. Buddy Taping. Scads of purpose designed aluminum and foam splints are available commercially, but buddy taping is frequently comparably effective.

Simply align the injured digit alongside its uninjured neighbor and secure the two along their length with tape. Surgical tape works best, but most any tape will do in a pinch. However, keep in mind that the adhesive in a lot of commercial non-medical products can be very irritating on bare skin.

Securing these two digits alongside each other effectively immobilizes the injured digit and protects against further injury.

2.2. IMPROVISED STRETCHERS.

In general, try not to move a severely injured casualty. However if the circumstances necessitate movement, a stretcher can be improvised in a variety of ways.

2.2.1. Basic Stretchers. A passable stretcher can be improvised out of nothing more than a pair of poles and a large blanket or tarp. Arrange the material on the ground with the two poles roughly centered an appropriate distance apart atop the material. Fold one side back over the top of the poles such that it completely covers the stretcher footprint. Then fold the material from the opposite side across this first layer such that they overlap. The weight of the patient will keep the material in place.

Interwoven rope can also be used to improvise a stretcher. Find the center of your rope and lay it out in a zigzag pattern that is roughly one foot longer and one foot wider than your victim. Tie the ends of each loop with a clove hitch, and then run the loose ends of the rope through the series of clove hitches in a loop that describes the perimeter of the stretcher. Tie off the loose ends. The resulting contrivance should look something like a 19th century rope mattress. A pair of poles may be slipped through the clove hitches as well for added stability.



› Top: Blood that collects under a nail needs to be released. In the field, this can be done by boring a hole through the nail over the discolored part of the nail.

› Above: Wrapping and securing a magazine or two around an injured limb can work as a decent splint, if necessary.

3. EYE INJURIES

Injuries to the eyes can be serious, beyond the immediate pain and inconvenience. Loss of sight in a survival situation can be a game-ender, so be sure to exercise great caution when performing tasks that can cause eye injuries.

3.1. PROTECTING INJURED EYES. A small disposable drinking cup taped over an injured eye prevents further injury, dims the light and keeps you from rubbing the eye and making it worse. Keep in mind that surgical tape adhesive is less irritating on the face than duct tape. Ideally the cup will permit a little light to pass as infectious organisms thrive in darkness.

4. BURNS

You can suffer burns from a number of hazards, such as the sun and wind as well as fire and friction. All are painful and some can be quite serious, so take prevention seriously and, if that doesn't work, treat injuries early to ensure the quickest return to good health.

4.1. IMPROVISED TREATMENTS. You can fashion a sort of sunscreen by using a sludge

› In a pinch, buddy taping two adjacent fingers or toes can work as an effective splint.



made from wood or charcoal ash added to water or petroleum jelly. Axle grease helps a bit as well on its own or with added ash material.

Take care that you don't apply anything to your skin that might cause an allergic reaction, particularly if using automotive lubricants. Ideally you would apply a bit on a soft sensitive spot and verify that your skin will tolerate it prior to widespread use. Reapply this material as needed to maintain coverage.

5. INSECT BITES

■ Insect bites are an integral component of most austere environments. While you can be careful to not agitate bee hives and fire ant mounds, you won't be able to avoid all of the bugs in the bush.

5.1. MOSQUITOS. Mosquitos are most active at dawn and dusk. Note that mosquito toes are attracted to stinky feet.

The subsequent itching from non-poisonous bites like mosquitoes can be treated with topical steroid creams and lotions as well as cold compresses and oral Benadryl. A paste made from either baking soda or meat tenderizer applied directly to the bite will also help relieve itching.



6. SAVING LIVES WITH YOUR HANDS

Take the time to learn how to use them as lifesaving equipment. This kind of skill and knowledge should be on the top of your list for maintaining good health in emergencies.

6.1. TAKE A CPR CLASS. You can find them online and they are usually offered through hospitals, schools or work.

The basic CPR class teaches Cardio Pulmonary Resuscitation as well as the Heimlich maneuver and a variety of handy incidentals.

Every able-bodied adult should have some familiarity with these lifesaving techniques. The basics are easy to learn and fairly intuitive.

7. PHARMACEUTICALS

■ Every emergency kit should have these components to help ensure good health and safety in tough times. The more components you have that can multi-task, the better prepared you'll be.

7.1. HYDROGEN PEROXIDE. It is inexpensive, ubiquitous and painless if used carefully.

Hydrogen peroxide can be used as a mouth rinse to treat minor oral maladies. Mix hydrogen peroxide equally with vinegar to treat swimmer's ear. Spray some hydrogen peroxide onto produce to kill dangerous microbes that might be living on the surface.

7.2. CHLORINE BLEACH. Unscented bleach is one of the most versatile materials in any survival loadout.

Using bleach that contains 8.25 percent sodium hypochlorite, add six drops per gallon of clear water to sanitize drinking water. Add one-half cup of unscented bleach to a gallon of water to make an effective disinfection solution for contaminated surfaces. This solution will kill most malevolent bacteria or viruses on exposed surfaces.

Do not wash children, bare skin or wounds with this solution, however. If possible, store chlorine bleach in an opaque container in a cool spot.

7.3. ISOPROPYL ALCOHOL. Used for generalized disinfection purposes in medical environments, isopropyl alcohol is effective against most bacteria and fungi but it is painful when applied to open wounds.

Isopropyl alcohol's flammable properties can be handy for fire starting and in improvised stoves. It can also be used to remove imbedded ticks as well as windshield frost from your car in the

➤ Hydrogen peroxide is a multi-role weapon that should be included in your survival kit.



winter. Mixing one part alcohol to three parts water in a sealable freezer bag makes for a conformable ice pack that will wrap around an injured limb.

7.4. OTC MEDICATIONS. Here are some core products to have on hand. Pepto Bismol helps manage nausea and upset stomach. Imodium treats diarrhea and can be a literal lifesaver in grim environments.

Acetaminophen is a pain reliever. Ibuprofen and Naproxen are anti-inflammatory medications. BC Powders include aspirin and caffeine and have a fast onset of action. BC's and anti-inflammatories are hard on your stomach and should always be taken with food. Both acetaminophen as well as these anti-inflammatory medications will reduce fevers.

Benadryl treats runny nose and congestion due to hay fever as well as generalized allergic reactions. Benadryl can also be used as a sleep aid.

A mushy paste made out of crushed aspirin and water makes a good topical treatment for insect bites.

◀ Left: A small disposable drinking cup can help prevent additional injury to the eye.

◀ Below: a good selection of basic over the counter medications to keep on hand in case of emergencies.



7.5. PRESCRIPTION MEDICATIONS.

If your medical condition requires chronic medications, try to keep at least a month's worth in reserve; many experts recommend keeping up to a 90-day supply. You may have to ask your physician for an extra prescription and pay for this out of pocket. Rotate your stock to keep it fresh.

Antibiotics and prescription drugs for gastrointestinal maladies are a good idea. Hit up your family doctor for these prescriptions when next you see him or her. **ASG**



TO YOUR HE

CRITICAL KIT FOR THE PREPPER MEDIC

BY: WILL DABBS, MD

The modern prepper movement has spawned a vast universe of specific equipment designed to help you stay alive in a hostile environment. Available gear spans the spectrum from cheap and easy stuff like a bottle of isopropyl alcohol up to complex machines like portable Automatic External Defibrillators. That which sets us apart from lesser creatures is our magnificent capacity to contrive tools. Here are a few that can make your lot better when life goes sideways.



ALTH!

1. TREATMENT SUPPLIES

In emergencies, some materials used for treating injuries and illnesses can be replaced with alternative materials in the field. We feel it's a better idea to prepare with mission-specific supplies that will give you the best chance of success in an already-challenging environment.



1.1



1.2



1.4



1.3

1.1. Israeli Battle Dressings (IBDs)

The Israelis know combat better than arguably anybody else on the planet. Israeli Battle Dressings display a pictogram on the packaging demonstrating proper use. They include a plastic pressure bar that secures the bandage and keeps pressure on the wound. They come in robust vacuum-sealed packages and weigh only 88 grams. Pick up a spare so you can practice.

Specs and Features

- Inexpensive and effective
- Easy to use
- Can be applied one-handed if necessary
- Proven in combat

www.IsraeliFirstAid.com

MSRP: \$6.35

1.2. HALO Chest Seals

You can improvise chest seals to treat penetrating chest trauma, but HALO chest seals are purpose-built and easy to use, even in icky places. Each seal covers roughly 6 inches and creates an occlusive seal on skin that prevents air ingress. HALO seals incorporate a hydrogel that sticks around blood, dirt, sand and hair. HALO chest seals also reseal after venting.

Specs and Features

- Packaged in pairs for entrance and exit wounds
- Easy to use, even in a rush
- Lightweight and foldable
- Inexpensive and effective

www.IsraeliFirstAid.com

MSRP: \$18.83

1.3. RATS Tourniquet

The Rapid Application Tourniquet System was designed by an American Special Forces soldier to be lightweight, compact, easy to use and effective. The RATS design is patented and orbits around its unique locking cleat. The tourniquet material consists of a vulcanized rubber core encased within a nylon sheath. Application of the RATS is easy and fast with minimal practice. I keep a RATS in the treatment room at my medical clinic.

Specs and Features

- Simple and easy to use
- Versatile and effective, even under stress
- Proven in combat
- Available in three colors

www.RATSMedical.com

MSRP: \$15.99

1.4. The Itch Eraser

The Itch Eraser is a spray-on compound of tea tree oil, vitamin E, oat complex and baking soda designed to soothe itches and help heal damaged skin. Useful on insect bites, allergic reactions, poison oak and sumac, and sunburn as well as minor cuts and scrapes, the Itch Eraser can help take the edge off when faced with minor skin ailments in the field. The Itch Eraser is safe and inexpensive.

Specs and Features

- Gentle and instant topical relief
- Available as a cream, spray or gel
- Promotes healing

www.AdventureMedicalKits.com

MSRP: \$4.99



2.1

2.1. Echo-Sigma Trauma Kit

The Echo-Sigma Trauma Kit is a basic first aid trauma kit from a respected source. Compact and lightweight, the E-S Trauma Kit comes with a combat tourniquet, Celox hemostatic gauze, a 6-inch emergency trauma dressing, compressed gauze, trauma shears, adhesive tape and gloves all in a handy rip-away EMT pouch. The kit is also available with either a suture kit or basic compact first aid kit.

Specs and Features

- Compact and easy to carry
- Organized and equipped for trauma management
- Designed to manage bleeding in an austere environment
- Available in three colors

www.Echo-Sigma.com
MSRP: \$149.99

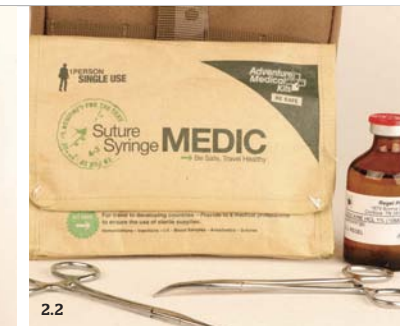
2.4. Vehicle Trauma Kit

The Vehicle Trauma Kit (VTK) by Solutions Group International is designed to ride on the back of the headrest in a vehicle and provide all the gear you might need to stabilize traumatic emergencies in the field or on the road. The VTK includes CELOX gauze, a RATS tourniquet, HALO chest seals, a nasopharyngeal airway and more, all in a compact Cordura pouch.

Specs and Features

- Designed for motor vehicle accidents and similar remote emergencies
- Easy to carry and retrieve
- Red handle makes locating easy, even after an accident

www.SolutionsGroupInternational.com
MSRP: \$97



2.2

2.2. Adventure Medical Suture/Syringe Kit

The Adventure Medical Suture/Syringe kit includes everything you need to suture basic wounds in the field, except a needle driver, a cutting instrument and injectable Lidocaine, all in a handy pouch. Gloves, wound cleaning supplies and appropriate syringes are included along with a length of sterile 5-0 Nylon suture material. This single use kit offers expanded wound management capabilities for those versed in basic suturing.

Specs and Features

- Packed in a robust, lightweight, re-sealable pouch
- Designed for use while traveling or in the field
- Keeps all the separate bits together and organized

www.Echo-Sigma.com
MSRP: \$24.99



2. MEDICAL RESPONSE KITS

Unless you're trained and skilled in first aid response, it may be best to invest in kits to round out your medical supplies. While you can often pack your own kits for less money, you may not be able to replace the expertise that's required to create a useful kit that's loaded with the appropriate materials for given emergencies



2.3. Echo-Sigma Compact Active Shooter Response System

Active shooter scenarios are a lamentable part of modern life. Echo-Sigma designed the CASRS to provide the medical gear you might need to address the immediate demands of such a dire scenario along with enough tactical gear to keep you prickly. The CASRS includes the Echo-Sigma Advanced Trauma Kit along with magazine pouches for handgun magazines, a Tac-Med Phantom Poleless casualty evacuation litter and restraints.

Specs and Features

- A compact MOLLE-compatible tactical pack
- Basic trauma management gear along with essential tactical equipment
- Easily accessible in a crisis

www.Echo-Sigma.com
MSRP: \$279.99



2.5. SOL Traverse Survival Kit

The SOL Traverse from Adventure Medical Kits is a compact basic survival kit that includes a Heatsheets emergency blanket, Katadyn Micropur MP1 water purification tablets, a Fire Lite Sparker, a slim rescue Howler Whistle, and survival instructions. The entire kit fits neatly into a pressed metal box that itself has dozens of uses in a survival situation. The SOL Traverse covers water, shelter, fire and signaling, and can go anywhere you can.

Specs and Features

- Dimensions: 6.25 X 4 X 1.5 inches
- Weight: 6.1 ounces
- Versatile

www.AdventureMedicalKits.com
MSRP: \$20



3. SURVIVAL MEDIC'S ACCESSORIES

In addition to all of the materials, treatments and equipment you're gathering, you'll need supplies that organize this stuff, provide some level of injury or illness prevention, and some other goodies to serve a host of health-related needs.



3.1. Brazos Concealed Carry Backpack

You'll need something in which to tote all your medical gear, and the Brazos Concealed Carry Backpack from Flying Circle Gear is the top of the heap. Sporting 20 separate pockets, a pass-through zippered compartment for a weapon and exceptional quality that grabs you as soon as you pick it up, the Brazos pack is a cut above every other pack I own. Made from heavy-duty 900 denier polyester fabric and monkey nuts-tough zippers, the Brazos pack will last longer under hard use than you will.

Specs and Features

- Plenty of space for all of your medical gear as well as a defensive firearm
- Compression straps on the sides
- Grab handles on the top and sides
- Accepts hydration systems up to 3 liters

www.FlyingCircleGear.com
MSRP: \$134.95

3.2. The Coast HP3R Penlight

The Coast HP3R is my favorite portable light source. Roughly the same size as a writing pen, the rechargeable HP3R can also use standard AAA batteries. The LED is about indestructible and lasts essentially forever. The light sports high and low power settings as well as a universal twist focus head that adjusts the light from flood to spot. I recharge mine every couple of months whether it needs it or not.

Specs and Features

- Charges via standard AC/DC connections or a USB connector
- Rugged and dependable
- Runtime: 90 minutes (High), 6 hours (Low)
- Adjustable between spot and flood
- Light output: 245 lumens (High), 26 lumens (Low)

www.CoastPortland.com
MSRP: \$94.99

3.3. Tweezers

In a survival situation you are much more likely to be removing splinters than treating penetrating chest trauma. Broken glass, slivers and contaminated wounds all demand quality tweezers. A decent pair of high-end tweezers can be lifesavers in the field. They are available everywhere for practically nothing. Buy a nice instrument with a fine point. I keep two—one with a needle point and the other with a slant tip.

Specs and Features

- Dirt cheap
- Indispensable
- Compact

www.Walmart.com
MSRP: \$5.57

3.4. Ben's UltraNet

The Ben's UltraNet from Adventure Medical Kits provides comprehensive protection to the face and neck from biting insects like mosquitoes and no-see-ums. An elasticized crown keeps the net in place, and this headnet packs into its own stuff sack. Lightweight and easy to both pack and tote, Ben's UltraNet can make the difference between comfort and misery as well as health and disease.

Specs and Features

- Compact and packable
- A critical piece of gear in mosquito-infested areas
- Inexpensive and effective

www.AdventureMedicalKits.com
MSRP: \$12

4. MEDICAL EQUIPMENT

Your collection of medical equipment should be suited to the situations you expect to be most likely. The items in this group are almost universal in necessity and none requires a medical degree to operate effectively. That said, be sure you know how to use anything in your kit before it's time to use it.

4.1. Automatic External Defibrillator (AED)

For the truly prepared survivor, AEDs are available online and are easy to use, even by the layman. An AED sports a rechargeable battery as well as an automatic computer algorithm that assesses an unresponsive patient and administers a shock to the heart if needed. Electrical cardioversion is not something you would need often, but AEDs do indeed save lives. I have used them for real and they work.

Specs and Features

- Easy to use
- Safe and foolproof
- Verbally talks you through a cardiac emergency

www.ZOLL.com

MSRP: \$1699



4.1

4.2. Welch Allyn 22820 PocketScope Otoscope

An otoscope is a lighted tool that allows you to see into the ear canal. This device is handy for diagnosing ear infections or locating foreign objects in the ear. The focused light can be used to assess the throat as well. Diagnosing ear illnesses or injury requires a bit of professional knowledge, but the Internet can provide more images than you could ever need. This may not be the most useful tool in your loadout, but it makes a huge difference should you ever really need it.

Specs and Features

- Includes AA handle
- Wide angle viewing lens
- Easy to use

www.Amazon.com

MSRP: \$149.99



4.2

4.3. Littmann Classic II SE Stethoscope

You will probably never need a stethoscope in a survival situation. However, if you are trying to assess a patient with pneumonia, penetrating chest trauma or cardio-pulmonary arrest, a stethoscope comes in really handy. You can hear examples of both normal chest sounds as well as pathological chest manifestations online. A stethoscope is a useful tool in a narrow set of circumstances that does require a little skill to master, but it can potentially be critical.

Specs and Features

- 28 inch black tube
- Two sides: Tunable diaphragm and traditional bell
- Simple, proven technology

www.Amazon.com

MSRP: \$68.95 ASG



4.3

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1100 on his web series, Knifemaking
Tuesdays, at www.tormach.com/kmt.



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PREPPER'S CHECKLIST

BY: BRIAN M. MORRIS
LEAD INSTRUCTOR/PRODUCER, AMERICAN SURVIVAL GUIDE UNIVERSITY

Empowering you to survive any adverse situation, no matter what the odds, is the ultimate goal and driving force behind every lesson taught by American Survival Guide University (ASGU). Whether you're concerned about a wilderness or urban survival scenario, an emergency or disaster preparedness situation, or even a catastrophic societal collapse, ASGU is dedicated to making sure that you have the knowledge to develop the skills to not only survive, but to thrive!

This comprehensive checklist will help you ensure you have what you need to survive almost any situation. It is organized according to our Six Pillars of Survival: Food, Water, Shelter, Security, Communications and Health so you can organize and track your level of preparedness in each area more easily. We encourage you to customize it to better meet your specific requirements.

**FOR MORE INFORMATION ABOUT
AMERICAN SURVIVAL GUIDE UNIVERSITY,
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NOTES

1. FOOD PILLAR

ASGU recommends keeping a 30-day food supply on hand for each person. Remember that, on average, men need about 2,500 calories a day and women need around 2,000. Depending on the level of stress and physical exertion, you may need more.

1.1. Foodstuffs

- ☐ Cooking oils (Coconut, vegetable, olive, etc.)
- ☐ Cooking powders (Flour, baking powder/soda, etc.)
- ☐ Dairy products, dry
- ☐ Eggs, dry
- ☐ Freeze-dried entrees and meals
- ☐ Fruit (dried, canned, preserves)
- ☐ Grains and cereals
- ☐ MREs and other ready-to-eat packaged foods
- ☐ Pasta
- ☐ Protein, animal (fish, meat, poultry)
- ☐ Protein, plant (beans, lentils, nuts, powdered mixes)
- ☐ Rice
- ☐ Salt, iodized
- ☐ Seeds (for both consumption and planting)
- ☐ Soups and stews
- ☐ Sweeteners (agave, honey, sugar, etc.)
- ☐ Vegetables (dried, canned, preserves)

1.2. Food Procurement Needs

1.2.1. Hunting and Trapping

- ☐ .22 air pellet gun and pellets and gas cartridges
- ☐ .22 rifle and ammo
- ☐ Compound bow/crossbow and arrows
- ☐ Maintenance materials for items in this group
- ☐ Rifle and ammo
- ☐ Shotgun and ammo
- ☐ Traps and snares

1.2.2. Fishing

- ☐ Compact fishing kit
- ☐ Full size fishing rod and tackle

2. WATER PILLAR

You should have enough potable water to support each person with 2 gallons per day for 30 days for hydration, food preparation and hygiene. Water should be stored away from light and away from chemicals or pesticides. Always use FDA-approved DOT #34 opaque containers to store your water. ASGU recommends that you cycle your water supply every six months unless you treat your water supply with a water preservative.

2.1. Water Storage Options

- ☐ Individual bottles or cans
- ☐ Portable water containers (1-, 5- or 7-gallon sizes)
- ☐ Static water containers; 30- and 50-gallon drums, larger tanks or blivets, cistern
- ☐ Water resupply plan

2.2. Preservation and Treatment

- ☐ Chemical disinfectant supplies
- ☐ Heat source and fuel for boiling water
- ☐ Ultraviolet water sterilizer
- ☐ Water filter/purifier (one filter/purifier per person)
- ☐ Water flavor enhancer to improve the taste of treated water

3. SHELTER PILLAR

In an emergency, you are usually better off hunkering down in your home, but there may come a time when you need to seek shelter elsewhere. In addition to knowing where local emergency shelters are, you need to have a Bug-Out plan for a safe location where you can take shelter.

3.1. Hunkering Down at Home

- ☐ Fire extinguishers
- ☐ Generator and fuel and maintenance tools and materials
- ☐ Power inverter
- ☐ Smoke and carbon monoxide alarms and batteries.
- ☐ Wood or manufactured fireplace logs and kindling

3.2. Fabricated Shelter

- ☐ Sleeping bags and ground mats, appropriately sized and insulated
- ☐ Tarps, real 550 cord and bungee cords
- ☐ Tent(s) large enough for people, pets and weather-sensitive gear
- ☐ Tent replacement and repair parts

3.3. Local Emergency Shelter

- ☐ Know the location of the closest emergency shelter

3.4. Clothing and Equipment

- ☐ Base layer and street clothing suited to your environment at any time of the year
- ☐ Hunting/camouflage clothing and accessories
- ☐ Insect and snake-protective clothing
- ☐ Weather-resistant clothing, outerwear, headwear and footwear

4. SECURITY PILLAR

The Security Pillar includes safety issues along with self-defense, making it a very broad category. If you have additional security and safety preparations you should add them to this list.

4.1. Home Security/Early Warning System

- ☐ Home alarm
- ☐ Motion detectors
- ☐ Remote camera systems

4.2. Lethal Weapon Systems

- ☐ Handgun and spare mags or speed loaders, ammo and accessories
- ☐ Rifle and spare mags, ammo and accessories
- ☐ Shotgun and ammo

4.3. Less Lethal Weapon Systems

- ☐ Less lethal shotgun rounds
- ☐ Personal defense spray/tear gas dispenser and replacement cartridges
- ☐ Restraint systems
- ☐ Stun gun and batteries
- ☐ Taser and replacement cartridges, batteries and other accessories

5. COMMUNICATIONS PILLAR

- ☐ Amateur/HAM radio, CB radio Scanner and accessories
- ☐ Cell phone and accessories
- ☐ Chargers and batteries
- ☐ Faraday cage
- ☐ FM/AM/SW/Weather radio and accessories
- ☐ FRS/GMRS two-way radios and accessories
- ☐ Personal Locator Beacon/EPIRB
- ☐ Satellite phone and accessories
- ☐ Solar charging panel and accessories
- ☐ Television and power source

6. HEALTH PILLAR

- ☐ 90 to 180 day supply of all vital prescription medications
- ☐ Backboard or other litter
- ☐ Blankets/space blankets
- ☐ Emergency dental kit, per person
- ☐ Epinephrine pen kit
- ☐ Home first aid kit
- ☐ Individual first aid kit, per person
- ☐ Neck brace and splints
- ☐ Personal hygiene kit, per person
- ☐ Slings and cravats
- ☐ Snake bite kit, per person
- ☐ Special medical equipment; Defibrillator, CPAP, O2 machine and any accessories
- ☐ Suture kit
- ☐ Trauma kit, per person

ADDITIONAL ITEMS

- ☐ Assorted hand tools according to your needs
- ☐ Binoculars
- ☐ Bug-Out bag/3-day pack
- ☐ Bushcraft knife (we suggest carrying more than one knife)
- ☐ Candles
- ☐ Dependable transportation, fuel and repair and maintenance supplies
- ☐ Flashlights and hands-free lights and batteries
- ☐ GPS, compass, maps, protractor and marking pens
- ☐ Pace counter beads
- ☐ Road flares
- ☐ Wind/waterproof matches, fire starters and tinder
- ☐ Windproof lighter and fuel

EMERGENCY PLANS

- ☐ Bug-Out Plan and Leave-Behind note
- ☐ Group Emergency Preparedness Plan
- ☐ Local Community Emergency Response Team (CERT) point of contact
- ☐ Local FEMA/Homeland Security point of contact
- ☐ Local hospital phone number
- ☐ Phone number and address of local National Guard Armory
- ☐ Police and fire phone numbers

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